

iopsysWRT Manual

v4.3.x

Contents

[IopsysWRT 4](#__RefHeading___Toc127895_213817747)

[Introduction 5](#__RefHeading___introduction_7)

[Access web interface 6](#__RefHeading___access_web_interface_17)

[Login 6](#__RefHeading___login_22)

[User Modes 7](#__RefHeading___user_modes_24)

[Basic Mode 7](#__RefHeading___basic_mode_28)

[Expert Mode 8](#__RefHeading___expert_mode_30)

[User Roles 8](#__RefHeading___user_roles_32)

[Features 9](#__RefHeading___features_37)

[Menu 9](#__RefHeading___menu_39)

[Applying changes 10](#__RefHeading___applying_changes_47)

[Overview 11](#__RefHeading___Toc127897_213817747)

[Device Network Map 12](#__RefHeading___device_network_map_6)

[Details 13](#__RefHeading___details_9)

[Configuration Shortcuts 14](#__RefHeading___configuration_shortcuts_17)

[Status Panels 15](#__RefHeading___status_panels_19)

[WIFI 17](#__RefHeading___wifi_27)

[WPS settings 18](#__RefHeading___wps_settings_32)

[Edit 2.4GHz Wireless Interface 18](#__RefHeading___edit_2.4ghz_wireless_interface_34)

[Edit 5GHz Wireless Interface 20](#__RefHeading___edit_5ghz_wireless_interface_37)

[LAN 21](#__RefHeading___lan_40)

[Detailed Client Overview 22](#__RefHeading___detailed_client_overview_46)

[Edit LAN Settings 22](#__RefHeading___edit_lan_settings_48)

[Static DHCP 24](#__RefHeading___static_dhcp_50)

[Client 24](#__RefHeading___client_53)

[Status 26](#__RefHeading___status_62)

[Port Forwarding 26](#__RefHeading___port_forwarding_65)

[Static Leases 27](#__RefHeading___static_leases_69)

[Parental Control 28](#__RefHeading___parental_control_72)

[Add Parental Control 28](#__RefHeading___add_parental_control_74)

[WiFi Realtime Graphs 29](#__RefHeading___wifi_realtime_graphs_78)

[Realtime Graphs 31](#__RefHeading___realtime_graphs_81)

[Load 31](#__RefHeading___load_85)

[Traffic 32](#__RefHeading___traffic_87)

[WAN 33](#__RefHeading___wan_89)

[USB 34](#__RefHeading___usb_91)

[Voice 35](#__RefHeading___voice_93)

[Profile 35](#__RefHeading___profile_95)

[Voice 36](#__RefHeading___Toc127899_213817747)

[Call Log 37](#__RefHeading___call_log_12)

[SIP Accounts 37](#__RefHeading___sip_accounts_15)

[SIP Users 38](#__RefHeading___sip_users_18)

[Voice Lines 39](#__RefHeading___voice_lines_21)

[Advanced Settings 40](#__RefHeading___advanced_settings_23)

[Advanced SIP Settings 40](#__RefHeading___advanced_sip_settings_28)

[Advanced Line Settings 42](#__RefHeading___advanced_line_settings_31)

[Custom Dial Plan 42](#__RefHeading___custom_dial_plan_33)

[Number Blocking 42](#__RefHeading___number_blocking_35)

[Ringing Schedule 44](#__RefHeading___ringing_schedule_41)

[Speed Dialing 44](#__RefHeading___speed_dialing_43)

[DECT Radio 44](#__RefHeading___dect_radio_45)

[Network 46](#__RefHeading___Toc127901_213817747)

[Devices 47](#__RefHeading___devices_11)

[Network Devices 47](#__RefHeading___network_devices_16)

[Ethernet 48](#__RefHeading___ethernet_19)

[VLAN 49](#__RefHeading___vlan_26)

[Connections 50](#__RefHeading___connections_30)

[Create Connection Wizard 51](#__RefHeading___create_connection_wizard_41)

[Uplink 52](#__RefHeading___uplink_47)

[WWAN (LTE/HSPA+) 53](#__RefHeading___wwan_ltehspa_61)

[DHCP v4 54](#__RefHeading___dhcp_v4_69)

[DHCP v6 (Uplink) 55](#__RefHeading___dhcp_v6_uplink_75)

[Point-to-Point Protocol 55](#__RefHeading___point-to-point_protocol_81)

[Point-to-Point Protocol over Ethernet 56](#__RefHeading___point-to-point_protocol_over_ethernet_87)

[Point-to-Point Protocol over ATM 57](#__RefHeading___point-to-point_protocol_over_atm_93)

[3G 57](#__RefHeading___g_99)

[Point-to-point Tunnel 58](#__RefHeading___point-to-point_tunnel_105)

[IPv6 Tunnel in IPv4 59](#__RefHeading___ipv6_tunnel_in_ipv4_111)

[IPv6 Tunnel to IPv4 60](#__RefHeading___ipv6_tunnel_to_ipv4_117)

[IPv6 rapid deployment 60](#__RefHeading___ipv6_rapid_deployment_123)

[Dual-Stack Lite 61](#__RefHeading___dual-stack_lite_129)

[Point-to-Point Protocol over L2TP 62](#__RefHeading___point-to-point_protocol_over_l2tp_135)

[Downlink 62](#__RefHeading___downlink_142)

[Unmanaged 63](#__RefHeading___unmanaged_147)

[Connection Editor 64](#__RefHeading___connection_editor_152)

[LAN 66](#__RefHeading___lan_174)

[General 67](#__RefHeading___general_182)

[Physical Settings 68](#__RefHeading___physical_settings_187)

[Advanced 68](#__RefHeading___advanced_189)

[DHCP 69](#__RefHeading___dhcp_192)

[Advanced 69](#__RefHeading___advanced_198)

[IPv6 70](#__RefHeading___ipv6_201)

[Static DHCP 70](#__RefHeading___static_dhcp_203)

[WAN 71](#__RefHeading___wan_206)

[General 72](#__RefHeading___general_213)

[Physical Settings 72](#__RefHeading___physical_settings_215)

[Advanced 72](#__RefHeading___advanced_217)

[WAN6 73](#__RefHeading___wan6_221)

[General 74](#__RefHeading___general_228)

[Physical Settings 74](#__RefHeading___physical_settings_230)

[Advanced 75](#__RefHeading___advanced_232)

[Unmanaged 75](#__RefHeading___unmanaged_236)

[General 76](#__RefHeading___general_243)

[Physical Settings 76](#__RefHeading___physical_settings_245)

[Advanced 77](#__RefHeading___advanced_247)

[Static Address 77](#__RefHeading___static_address_249)

[General 78](#__RefHeading___general_257)

[Physical Settings 79](#__RefHeading___physical_settings_263)

[Advanced 79](#__RefHeading___advanced_265)

[DHCP 79](#__RefHeading___dhcp_267)

[DHCP v4 80](#__RefHeading___dhcp_v4_271)

[General 80](#__RefHeading___general_278)

[Physical Settings 81](#__RefHeading___physical_settings_280)

[Advanced 81](#__RefHeading___advanced_282)

[DHCP v6 82](#__RefHeading___dhcp_v6_286)

[General 83](#__RefHeading___general_293)

[Physical Settings 83](#__RefHeading___physical_settings_295)

[Advanced 83](#__RefHeading___advanced_297)

[Point-to-Point Protocol 84](#__RefHeading___point-to-point_protocol_301)

[General 85](#__RefHeading___general_307)

[Advanced 85](#__RefHeading___advanced_309)

[Point-to-Point Protocol over Ethernet 86](#__RefHeading___point-to-point_protocol_over_ethernet_313)

[General 87](#__RefHeading___general_320)

[Physical Settings 87](#__RefHeading___physical_settings_322)

[Advanced 87](#__RefHeading___advanced_324)

[Point-to-Point Protocol over ATM 88](#__RefHeading___point-to-point_protocol_over_atm_328)

[General 89](#__RefHeading___general_335)

[Physical Settings 89](#__RefHeading___physical_settings_337)

[Advanced 90](#__RefHeading___advanced_339)

[3G 91](#__RefHeading___g_343)

[General 91](#__RefHeading___general_349)

[Advanced 92](#__RefHeading___advanced_351)

[WWAN (LTE/HSPA+) 93](#__RefHeading___wwan_ltehspa_355)

[General 93](#__RefHeading___general_363)

[Advanced 94](#__RefHeading___advanced_366)

[4G 94](#__RefHeading___g_368)

[General 95](#__RefHeading___general_374)

[Advanced 95](#__RefHeading___advanced_376)

[Point-to-point Tunnel 96](#__RefHeading___point-to-point_tunnel_380)

[General 97](#__RefHeading___general_386)

[Advanced 97](#__RefHeading___advanced_388)

[IPv6 Tunnel in IPv4 98](#__RefHeading___ipv6_tunnel_in_ipv4_392)

[General 99](#__RefHeading___general_398)

[Advanced 99](#__RefHeading___advanced_400)

[IPv6 Tunnel to IPv4 100](#__RefHeading___ipv6_tunnel_to_ipv4_402)

[General 100](#__RefHeading___general_408)

[Advanced 101](#__RefHeading___advanced_410)

[IPv6 rapid deployment 101](#__RefHeading___ipv6_rapid_deployment_412)

[General 101](#__RefHeading___general_418)

[Advanced 102](#__RefHeading___advanced_420)

[Dual-Stack Lite 102](#__RefHeading___dual-stack_lite_422)

[General 103](#__RefHeading___general_428)

[Advanced 103](#__RefHeading___advanced_430)

[Point-to-Point Protocol over L2TP 104](#__RefHeading___point-to-point_protocol_over_l2tp_432)

[General 104](#__RefHeading___general_439)

[Advanced 105](#__RefHeading___advanced_441)

[Routes 105](#__RefHeading___routes_444)

[IPv4 Routes 106](#__RefHeading___ipv4_routes_449)

[IPv6 Routes 106](#__RefHeading___ipv6_routes_451)

[Firewall 107](#__RefHeading___firewall_453)

[General Settings 107](#__RefHeading___general_settings_460)

[Zones 107](#__RefHeading___zones_462)

[Rules 109](#__RefHeading___rules_469)

[Default Firewall Rules 111](#__RefHeading___default_firewall_rules_477)

[Forwarding 111](#__RefHeading___forwarding_478)

[Add or Edit Port Mapping 112](#__RefHeading___add_or_edit_port_mapping_482)

[DMZ / Exposed Host 113](#__RefHeading___dmzexposed_host_486)

[Parental Control 113](#__RefHeading___parental_control_489)

[Add / Edit MAC Filter Scheduling 114](#__RefHeading___addedit_mac_filter_scheduling_493)

[Quality Of Service 115](#__RefHeading___quality_of_service_496)

[Workflow 116](#__RefHeading___workflow_509)

[1: Class 117](#__RefHeading___class_516)

[2: Classify/Reclassify 121](#__RefHeading___classifyreclassify_536)

[3: Class Group 124](#__RefHeading___class_group_544)

[4: Enable 124](#__RefHeading___enable_548)

[Class 125](#__RefHeading___class_552)

[Add Class 126](#__RefHeading___add_class_554)

[Class 126](#__RefHeading___class_556)

[Interface 129](#__RefHeading___interface_564)

[Add Interface 129](#__RefHeading___add_interface_566)

[Classification Group 130](#__RefHeading___classification_group_568)

[Add Classification Group 130](#__RefHeading___add_classification_group_570)

[Classify 131](#__RefHeading___classify_572)

[Add Classification Group 132](#__RefHeading___add_classification_group_575)

[Order 132](#__RefHeading___order_577)

[Reclassify 132](#__RefHeading___reclassify_579)

[Order 133](#__RefHeading___order_582)

[Add WAN 134](#__RefHeading___add_wan_586)

[MultiWAN 134](#__RefHeading___multiwan_587)

[Workflow 136](#__RefHeading___workflow_600)

[1: WAN Interfaces 136](#__RefHeading___wan_interfaces_607)

[2: Members 138](#__RefHeading___members_614)

[3: Policies 139](#__RefHeading___policies_619)

[4: Rules 139](#__RefHeading___rules_623)

[Settings 140](#__RefHeading___settings_627)

[Add WAN 141](#__RefHeading___add_wan_631)

[Members 141](#__RefHeading___members_633)

[Add Member 142](#__RefHeading___add_member_635)

[Policies 142](#__RefHeading___policies_637)

[Add Policy 142](#__RefHeading___add_policy_639)

[Rules 143](#__RefHeading___rules_641)

[Add Rule 143](#__RefHeading___add_rule_643)

[Services 144](#__RefHeading___services_645)

[Printer Server 145](#__RefHeading___printer_server_655)

[MiniDLNA 145](#__RefHeading___minidlna_657)

[Status 146](#__RefHeading___status_662)

[General 146](#__RefHeading___general_666)

[Advanced 147](#__RefHeading___advanced_668)

[UPnP 147](#__RefHeading___upnp_670)

[General 148](#__RefHeading___general_676)

[Advanced 148](#__RefHeading___advanced_678)

[ACL 149](#__RefHeading___acl_680)

[DDNS 149](#__RefHeading___ddns_682)

[IPTV 150](#__RefHeading___iptv_686)

[DHCP 151](#__RefHeading___dhcp_688)

[General 151](#__RefHeading___general_694)

[Advanced 152](#__RefHeading___advanced_696)

[Hostname Entries 153](#__RefHeading___hostname_entries_698)

[Classifications 153](#__RefHeading___classifications_701)

[DNS Tags 155](#__RefHeading___dns_tags_705)

[SNMP 155](#__RefHeading___snmp_708)

[System 156](#__RefHeading___system_717)

[Agent 157](#__RefHeading___agent_719)

[Com2Sec 157](#__RefHeading___com2sec_722)

[Group 158](#__RefHeading___group_725)

[View 158](#__RefHeading___view_728)

[Access 159](#__RefHeading___access_731)

[Pass 159](#__RefHeading___pass_734)

[Samba 160](#__RefHeading___samba_737)

[General 160](#__RefHeading___general_742)

[Samba Users 161](#__RefHeading___samba_users_745)

[Samba Shares 161](#__RefHeading___samba_shares_748)

[WIFI 163](#__RefHeading___Toc127903_213817747)

[General 163](#__RefHeading___general_6)

[Radios 163](#__RefHeading___radios_10)

[Wireless 164](#__RefHeading___wireless_12)

[Band Steering 165](#__RefHeading___band_steering_15)

[AP Steering 166](#__RefHeading___ap_steering_18)

[WPS Settings 166](#__RefHeading___wps_settings_21)

[WPS-PIN: Another Device provides PIN 167](#__RefHeading___wps-pinanother_device_provides_pin_27)

[WPS/REG: Device provides PIN 167](#__RefHeading___wpsregdevice_provides_pin_29)

[General WPS Settings 168](#__RefHeading___general_wps_settings_32)

[WPS-PBC: Push Button on Device 168](#__RefHeading___wps-pbcpush_button_on_device_34)

[MAC Filter 168](#__RefHeading___mac_filter_37)

[System 170](#__RefHeading___Toc127905_213817747)

[General Settings 171](#__RefHeading___Toc127907_213817747)

[Time Servers 171](#__RefHeading___Toc127909_213817747)

[Configuration 171](#__RefHeading___Toc127911_213817747)

[Log Settings 172](#__RefHeading___Toc127913_213817747)

[Connectivity Test 172](#__RefHeading___Toc127915_213817747)

[Menu Access 173](#__RefHeading___Toc127917_213817747)

[Passwords 173](#__RefHeading___Toc127919_213817747)

[Firmware Upgrade 174](#__RefHeading___Toc127921_213817747)

[Upgrade Options 174](#__RefHeading___Toc127923_213817747)

[Backup/Restore 175](#__RefHeading___Toc127925_213817747)

[Backup Configuration 175](#__RefHeading___Toc127927_213817747)

[Save Backup 175](#__RefHeading___Toc127929_213817747)

[Load Backup 176](#__RefHeading___Toc127931_213817747)

[Factory Reset 176](#__RefHeading___Toc127933_213817747)

[Backup Settings 177](#__RefHeading___Toc127935_213817747)

[IUP 177](#__RefHeading___Toc127937_213817747)

[TR69 179](#__RefHeading___Toc127939_213817747)

[ICE 180](#__RefHeading___Toc127941_213817747)

[Management 180](#__RefHeading___Toc127943_213817747)

[OWSD 181](#__RefHeading___Toc127945_213817747)

[SSH 182](#__RefHeading___Toc127947_213817747)

[Accepted SSH Keys 182](#__RefHeading___Toc127949_213817747)

[CATV 183](#__RefHeading___Toc127951_213817747)

[Services 183](#__RefHeading___Toc127953_213817747)

[Hardware 184](#__RefHeading___Toc127955_213817747)

[Configure Buttons 184](#__RefHeading___Toc127957_213817747)

[LEDs 185](#__RefHeading___Toc127959_213817747)

[Power Management 185](#__RefHeading___Toc127961_213817747)

[Services 186](#__RefHeading___Toc127963_213817747)

[Restart 186](#__RefHeading___Toc127965_213817747)

[Status 187](#__RefHeading___Toc127967_213817747)

[System 188](#__RefHeading___system_11)

[System 188](#__RefHeading___system_15)

[System Memory 189](#__RefHeading___system_memory_17)

[System Storage 189](#__RefHeading___system_storage_19)

[Processes 190](#__RefHeading___processes_21)

[Details 190](#__RefHeading___details_24)

[Network 191](#__RefHeading___network_26)

[Status 191](#__RefHeading___status_34)

[Clients 192](#__RefHeading___clients_39)

[Routing Tables / Status 192](#__RefHeading___routing_tablesstatus_41)

[ARP 193](#__RefHeading___arp_47)

[IPv4 193](#__RefHeading___ipv4_49)

[IPv6 194](#__RefHeading___ipv6_51)

[IPv6 Neighbors 194](#__RefHeading___ipv6_neighbors_53)

[UPnP 195](#__RefHeading___upnp_56)

[DHCP 195](#__RefHeading___dhcp_57)

[NAT 196](#__RefHeading___nat_60)

[WiFi 196](#__RefHeading___wifi_63)

[General 197](#__RefHeading___general_68)

[Client 197](#__RefHeading___client_71)

[Utilization 198](#__RefHeading___utilization_73)

[WiFi Scan 199](#__RefHeading___wifi_scan_75)

[Band Steering 200](#__RefHeading___band_steering_80)

[DSL 201](#__RefHeading___dsl_83)

[IGPM TV 203](#__RefHeading___igpm_tv_96)

[USB 203](#__RefHeading___usb_98)

[CATV 203](#__RefHeading___catv_100)

[SFP 204](#__RefHeading___sfp_102)

[Diagnostics 205](#__RefHeading___diagnostics_106)

[Ping 205](#__RefHeading___ping_111)

[Trace 206](#__RefHeading___trace_114)

[Speed Test 206](#__RefHeading___speed_test_117)

[Realtime Graphs 207](#__RefHeading___realtime_graphs_123)

[Load 208](#__RefHeading___load_128)

[Traffic 209](#__RefHeading___traffic_130)

[Connections 210](#__RefHeading___connections_132)

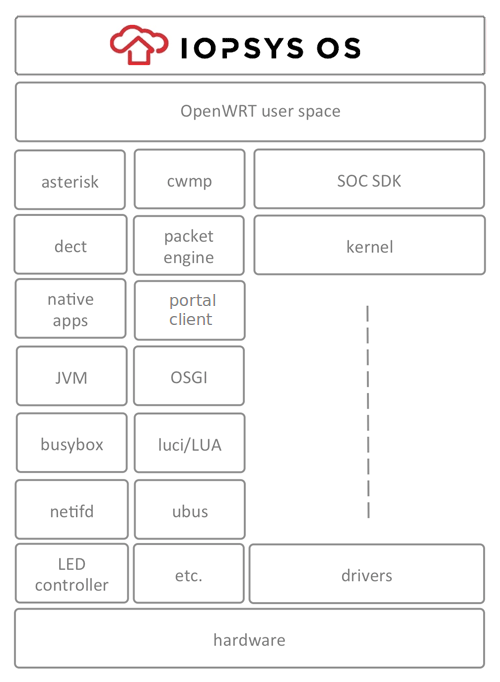
[Voice 211](#__RefHeading___voice_134)

[Event Log 212](#__RefHeading___event_log_138)

[Enable Online Help 213](#__RefHeading___Toc127969_213817747)

# IopsysWRT

### iopsys Operating System

Iopsys provides the first truly open source gateway software suited for the operator market. It supports all features required by modern business critical Gateway software. To improve the ease of field upgrades and service deployment, the Iopsys operating system contains a packet engine which provides modular installation/removal of native programs and application bundles. If Java is preferred, any OSGi framework can be installed. The iopsys SDK will enable both the operator and third party developers to develop functions and applications that may be downloaded and installed in the OS.

### iopsys Portal

The iopsys Portal is a standalone software suite composed of a back-end management server and a portal front end. The management server handles the account administration and the communication with the iopsys communication engine residing in the registered devices. The portal front end handles device registration, customer triggered installation and running of applications, software updates and manages the gateway functions. Once powered-on the gateway will connect to a portal were the customer can register his account and get access to services beyond triple play.

### iopsys Client

The iopsys communication engine is an embedded client software that can be integrated into any device that should be cloud connected. Typical devices are Gateways, Smart Phones, Tablets and Web Cameras but it could be just about anything that should be part of “The Internet of Things”. The client connects any device, for example a gateway, via an encrypted XMPP tunnel to a specific portal. A Smart Phone running a Home Control application including the client can now communicate to the gateway via the portal from anywhere at any time using the encrypted XMPP tunnel. The communication works behind any NAT and also provides for file transfers and proxy tunnel communication.

### iopsys Ecosystem

Iopsys offers one of the first true ecosystem program for residential gateways. Third party software providers may port their existing or new applications to the iopsys operating system using the iopsys SDK. By running multiple applications on the gateway the in-home box count is reduced and as a side effect this becomes positive to the environment. In order to keep tab of the gateways available resources, iopsys has a built-in resource manager, managing the resources and priorities of the different applications.

# Introduction

Administration of the gateway is done through a web interface. All settings are accessible through an address on your local network.

## Requirements

To access the web interface, you need the following:

An installed gateway device.

A computer connected to the LAN or WLAN port on the device.

A web browser installed on the computer.

The default address for the web interface is [http://192.168.1.1](http://192.168.1.1/).

## Overview

### Access web interface

To access the web interface you need to use your web browser. There are multiple ways of accessing the interface.

### Login

To login to the web interface, you use a user name and a password.

### User Roles

The web interface uses Roles to provide and restrict access to the various features in the device.

There are four pre-defined roles: User, Support, Admin, and Root.

### User Modes

In addition to User Roles, the User Modes may provide further constraints on what settings and features are displayed in the web interface.

Note: The mode affects display only, the features are still available and operational.

### Features

Depending on your device and/or geographical region, certain features may be unavailable in the interface.

### Menu

The menu contains a number of items, which provide access to various parts of the web interface.

### Applying changes

When you change a setting or a value in the interface, it gets added to a list of changes. The changes will not take effect until you click apply.

# Access web interface

To access the web interface you need to use your web browser. There are multiple ways of accessing the interface.

#### IPv4

The standard IPv4 address for the interface is http://192.168.1.1.

#### Hostname

The web interface can be accessed through a default hostname, for example inteno.lan/ or routerlogin.net/, or through custom hostnames set up by the provider.

#### IPv6

An IPv6 address or IPv6 hostname can also be used to access the web GUI. The exact address will vary with your provider.

## Open GUI

* Launch your web browser
* Enter the address (for example: [http://192.168.1.1](http://192.168.1.1/)) / http://(inteno.lan/ or <http://routerlogin.net/> / http://2001:0:0:0:DB8:800:200C:417A
* Press [Enter].

You are taken to the web interface .

# Login

To login to the web interface, you use a user name and a password.

## Configuration

(For default passwords see: ).

Note: Your operator may have specified different passwords and user levels. If so, you need to request those from your operator.

Log in to the web interface:

* Enter a user name
* Enter the password
* Click OK.

You are taken to the web interface [Overview](http://juci.iopsys.eu/v4.2.x/en/ade/overview/start) page.

# User Modes

In addition to User Roles, the User Modes may provide further constraints on what settings and features are displayed in the web interface.

Note: The mode affects display only, the features are still available and operational.

## Overview

### Basic Mode

Basic mode provides access to a selected set of settings and aspects of features, displaying a reduced set of options. This mode is suitable for the most common tasks and configurations.

### Expert Mode

Expert mode provides access to a larger number of settings and aspects of features. This mode is suitable when you have deeper technical knowledge and want to do specific customizations or troubleshooting.

# Basic Mode

Basic mode provides access to a selected set of settings and aspects of features, displaying a reduced set of options. This mode is suitable for the most common tasks and configurations.

## Features

In basic mode, all Expert mode settings and views are hidden from the interface. However, if you select a particular task in basic mode that requires expert mode settings, they will automatically be displayed.

# Expert Mode

Expert mode provides access to a larger number of settings and aspects of features. This mode is suitable when you have deeper technical knowledge and want to do specific customizations or troubleshooting.

## Features

In expert mode, all Basic mode settings and views are also shown.

# User Roles

The web interface uses Roles to provide and restrict access to the various features in the device.

There are four pre-defined roles: User, Support, Admin, and Root.

### User

The User role has restricted access to basic set of features.

login: user

password: user

### Support

The Support role has elevated access to basic and a set of advanced features.

login: support

password:support

### Admin

The Admin role has unrestricted access to all basic and advanced features.

login: admin

password:admin

### Root

The Root role has unrestricted access to the device, and can be used for command line access to the device via [ssh](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssh).

login: root

password:root

# Features

Depending on your device and/or geographical region, certain features may be unavailable in the interface.

## Availability

Certain features may not be available in your interface, depending on several factors:

Device - Your device may be limited in which ports are avaible.

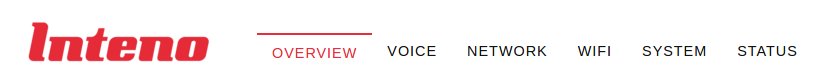
Geographical region - Features might not be offered in some regions or countries.

Operator Settings - Your operator may have restricted, altered or added features in the software.

# Menu

The menu contains a number of items, which provide access to various parts of the web interface.

## 

Menu

### Overview

The Overview page shows the most important statuses and settings for your device.

### Voice

The Voice provides access to settings relating to voice communications through the device.

### Network

The Network view provides access to the devices, connections and available configurations in the network.

### WIFI

The WiFi view shows you information about your wireless network.

### System

The System view provides access to device information, management, provisioning and settings.

### Status

The Status area provides an overview of the current situation for your device, network and services, and also contains diagnostic tools.

# Applying changes

When you change a setting or a value in the interface, it gets added to a list of changes. The changes will not take effect until you click apply.

## Configuration

The unapplied changes and apply button are shown at the bottom of the window.

Changes

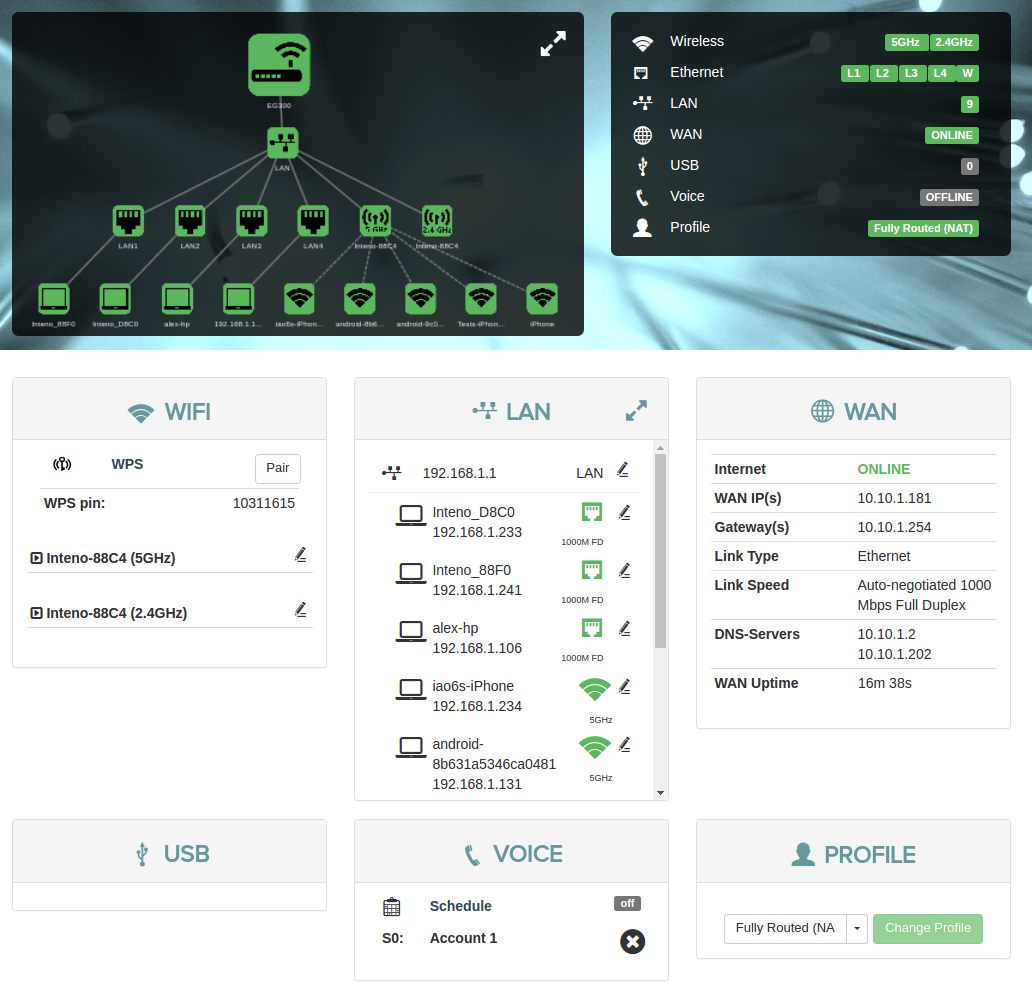
To make the changes take effect click Apply.

To keep the current state without any changes click Cancel.

# Overview

The Overview page shows the most important statuses and settings for your device.

## Parts

Main image

The overview has three parts: a , , and .

### Device Network Map

The device map shows how your device is connected to the LAN and the WAN, as well as other devices in the local network.

### Configuration Shortcuts

The configurations show status for and provide shortcuts provide quick access to various common settings.

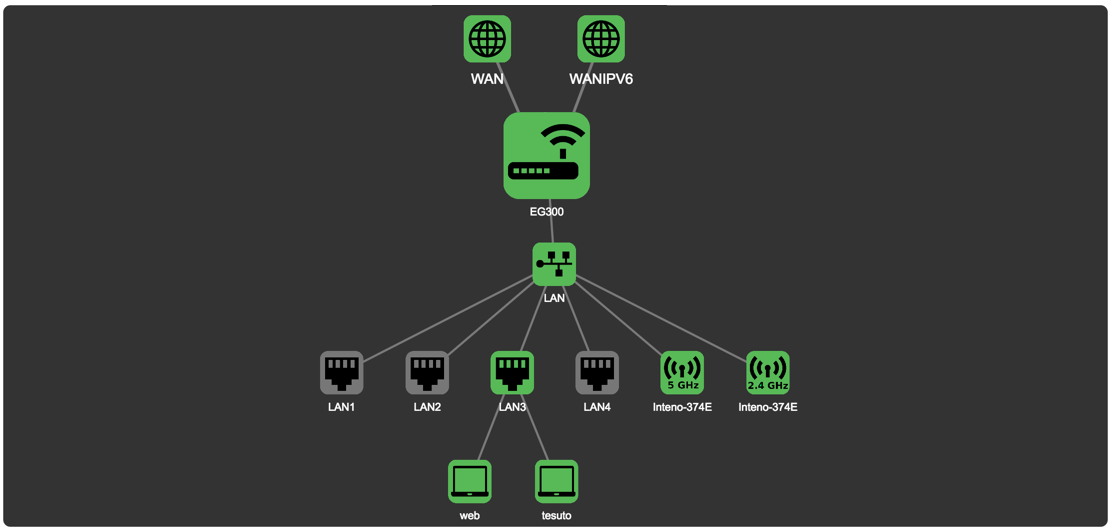
### Status Panels

The status panels display status information about selected features. They also allow you quick access to configuration of the most common features.

# Device Network Map

The device map shows how your device is connected to the LAN and the WAN, as well as other devices in the local network.

## View

Map

#### Colors

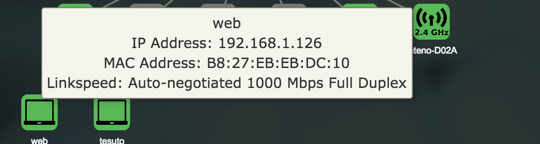
The status of a device is indicated by the color of the icon.

|  |  |
| --- | --- |
| Color | Status |
| Green | Enabled and active |
| Black | Enabled, not active |
| Yellow | Active, with warnings. |
| Red | Active, not functional. |

# Details

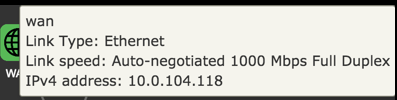
More detailed Information about the status of an item in the map is availabe by pointing the cursor at an icon in the map.

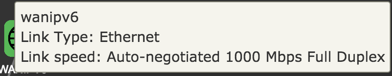
## View

Details

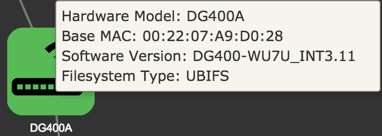
The information displayed in the popups varies with the item being viewed.

#### WAN

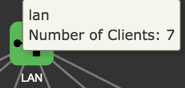
Wan

Wan

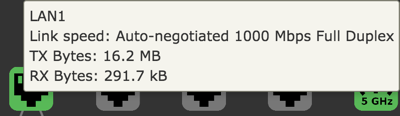
#### Device

Device

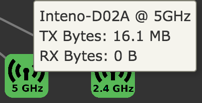
#### LAN

Lan

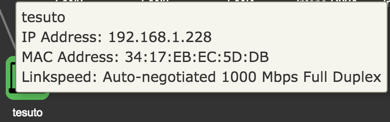
#### Port

Port

#### Wifi

Wifi

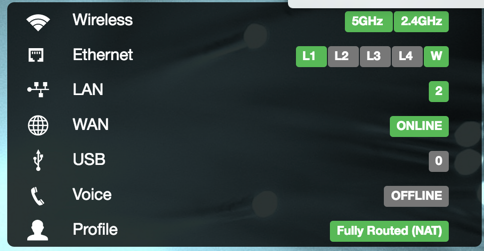
#### Client

Client

# Configuration Shortcuts

The configurations show status for and provide shortcuts provide quick access to various common settings.

## Configuration

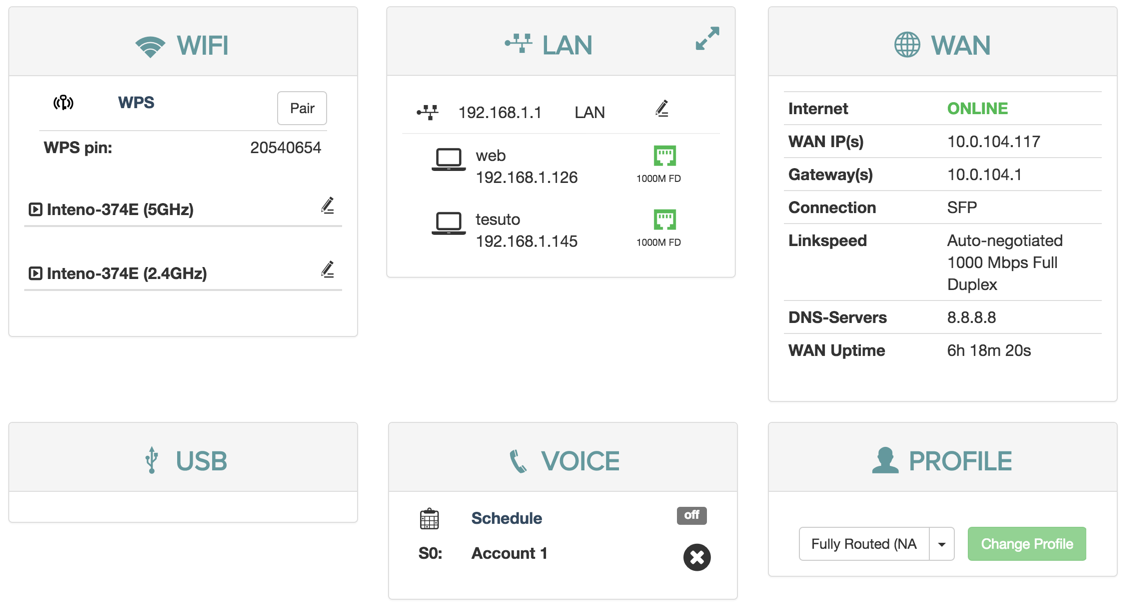
Shortcuts

|  |  |
| --- | --- |
| Option |  |
| Wireless | Active [wireless radios](http://juci.iopsys.eu/v4.2.x/en/ade/wifi/general/wireless/start). |
| Ethernet | [LAN ports](http://juci.iopsys.eu/v4.2.x/en/ade/network/devices/base/start) in use on the device. |
| LAN | Active [LAN](http://juci.iopsys.eu/v4.2.x/en/ade/network/devices/ethernet/start) |
| WAN | Status of [WAN connection](http://juci.iopsys.eu/v4.2.x/en/ade/network/devices/ethernet/start). |
| USB | Connected [USB devices](http://juci.iopsys.eu/v4.2.x/en/ade/status/usb/start), if any. |
| Voice | [Voice port status](http://juci.iopsys.eu/v4.2.x/en/ade/voice/start), if any. |
| Profile | Selected , if any. |

# Status Panels

The status panels display status information about selected features. They also allow you quick access to configuration of the most common features.

## 

Panels

### WIFI

The WiFi status panel lets you change the default wireless security settings to make your network more secure.

You can also view the wifi status and edit the [wireless interface](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface).

Additonally, you can [WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps) to set up clients.

### LAN

The LAN panel shows basic information about the device and connected clients IP addresses.

From the [LAN](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lan) status panel you can configure the [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) settings for the device.

### WAN

The WAN panel displays the status of your [WAN](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wan). It also lets you configure [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) servers.

### USB

The USB panel displays the status of any connected [USB](http://juci.iopsys.eu/v4.2.x/en/glossary/u/usb) devices.

### Voice

The Voice panel shows the status of the ringing schedule connected phone lines.

### Profile

The Profile panel shows the [network profiles](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_profile) configured on your device, if any.

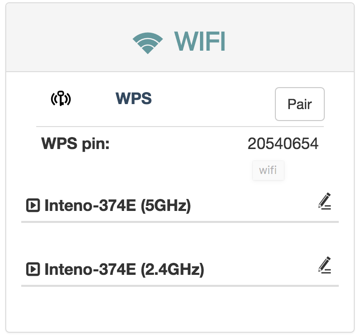
# WIFI

The WiFi status panel lets you change the default wireless security settings to make your network more secure.

You can also view the wifi status and edit the [wireless interface](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface).

Additonally, you can [WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps) to set up clients.

## View

WiFi panel

### WPS settings

WPS makes it easier to connect other wireless devices to your device on an encrypted channel.

### Edit 5GHz Wireless Interface

In the edit wireless interface view you can change different aspects of your interface.

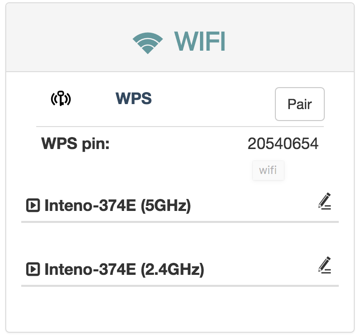
### Edit 2.4GHz Wireless Interface

In the edit wireless interface view you can change different aspects of your interface.

# WPS settings

WPS makes it easier to connect other wireless devices to your device on an encrypted channel.

## 

WPS

To open the [WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps) view:

* Click WPS

To [pair](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pairing) a device via WPS:

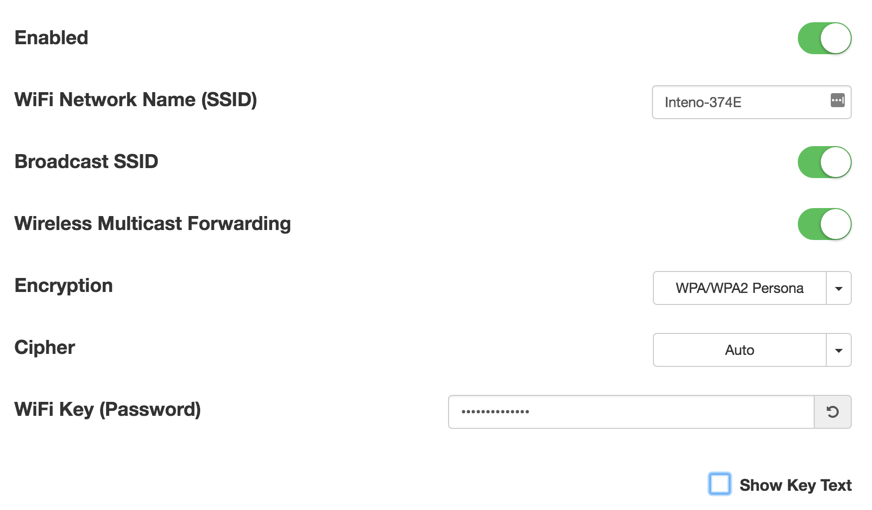
* Click Pair
* Press the corresponding button on the device you wish to connect

Your device will be open for pairing for two minutes.

# Edit 2.4GHz Wireless Interface

In the edit wireless interface view you can change different aspects of your interface.

## Configuration

Wireless interface

|  |  |
| --- | --- |
| Item | Comment |
| Enabled | Turn on or off. |
| WiFi Network Name | Edit name of [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid) network |
| Broadcast SSID | Toggle to make the network [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid) visible or invisible |
| Encryption | Selected [encryption](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_encryption) method |
| Cipher | Form of [Cipher](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cipher) |
| WiFi Key (Password) | Text to use as [wifi key](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_key) |
| Show Key Text | Displays the [wifi key](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_key) text |

## Wireless Settings

To open The wifi status view for 2.4GHZ:

* Click 2.4 GHz to open the wifi status view

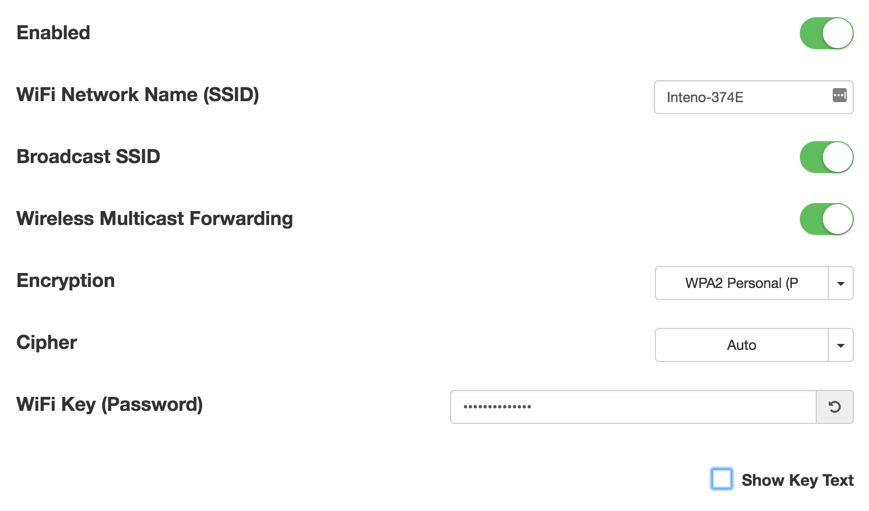
To edit the wireless interface for a radio:

* Click the  edit button to open up the wireless interface settings
* Edit the wireless interface
* Click Save

# Edit 5GHz Wireless Interface

In the edit wireless interface view you can change different aspects of your interface.

## Configuration

Wireless interface

|  |  |
| --- | --- |
| Item | Comment |
| Enabled | Toggle interface on or off. |
| WiFi Network Name | Edit name of [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid) network. |
| Broadcast SSID | Toggle to make the network [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid) visible or invisible. |
| Encryption | Selected [encryption](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_encryption) method. |
| Cipher | Form of [Cipher](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cipher). |
| WiFi Key (Password) | Text to use as [wifi key](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_key). |
| Show Key Text | Displays the [wifi key](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_key) text. |

## Wireless Settings

To open the wifi status view for GHZ:

* Click 5GHz to open the wifi status view

To edit the wireless interface for a radio:

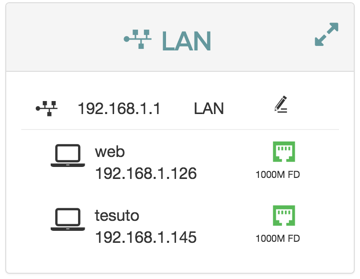
* Click the  edit button to open up the wireless interface settings
* Edit the wireless interface
* Click Save

# LAN

The LAN panel shows basic information about the device and connected clients IP addresses.

From the [LAN](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lan) status panel you can configure the [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) settings for the device.

## Configuration

LAN panel

To open the Edit LAN Settings dialog, click the  edit button.

To view a more detailed overview of the clients, click the  expand button

To view details about a client click the client in the list.

## Overview

### Detailed Client Overview

In The Detailed Client Overview, information about the clients in the LAN is displayed.

### Edit LAN Settings

In The Edit LAN settings view you can change different features about your network.

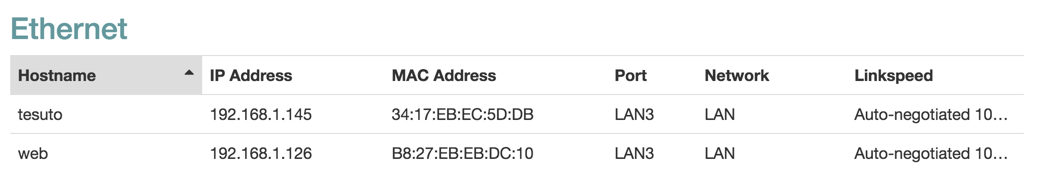
### Client

The Client dialog displays information about the connected clients and allows you to edit their configuration.

# Detailed Client Overview

In The Detailed Client Overview, information about the clients in the LAN is displayed.

## 

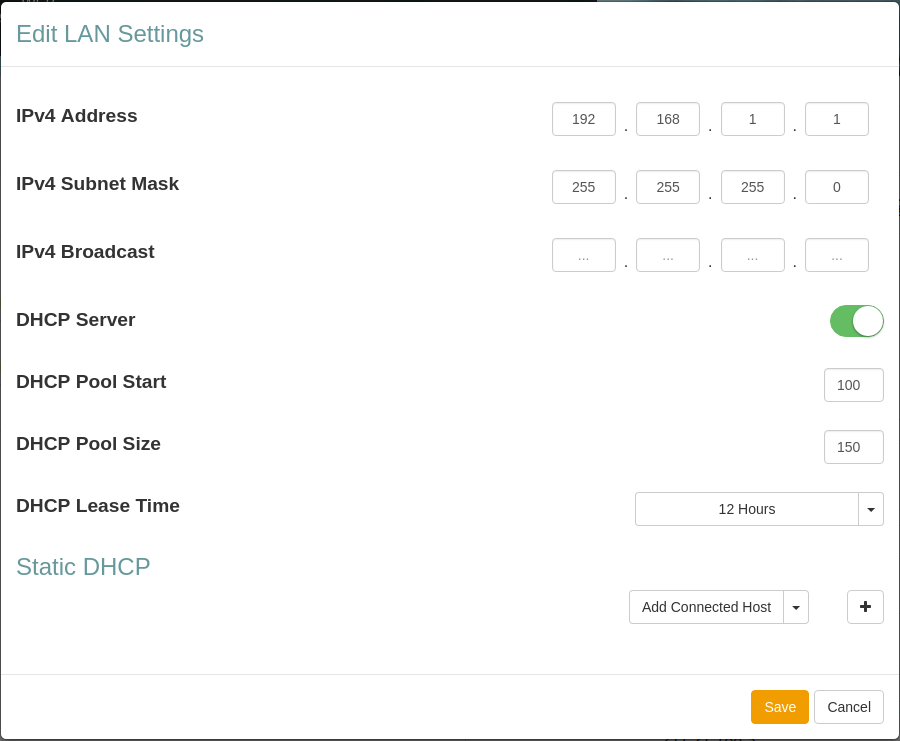
Overview

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
| Hostname | Client [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |  |
| IP Address | Client [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| MAC Address | Client [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) . |  |
| Port | Device [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |  |
| Network | Network interface for the client. |  |
| Link Speed | Type of [negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation), [speed](http://juci.iopsys.eu/v4.2.x/en/glossary/l/link_speed) and [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex) for the connection. |  |

# Edit LAN Settings

In The Edit LAN settings view you can change different features about your network.

## Configuration

LAN Settings

|  |  |
| --- | --- |
| Item | Description |
| IPv4 Address | Device [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) address |
| IPv4 Subnet Mask | IPv4 [Subnet Mask](http://juci.iopsys.eu/v4.2.x/en/glossary/s/subnet_mask) |
| IPv4 Broadcast Mask | IPv4 [Broadcast Mask](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4_broadcast) |
| DHCP Server | Turn [DHCP Server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server) on or off. |
| DHCP Pool Start | Start IP number for the [DHCP Pool](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_pool) start number [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) |
| DHCP Pool Size | Number of IP addresses in the [DHCP Pool](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_pool) |
| DHCP Lease Time | DHCP [Lease Time](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lease_time) for the LAN. |
| Static DHCP | Reserve an IP address [DHCP Lease](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) for a connected device. |

# Static DHCP

The Static DHCP section lets you configure IP address [DHCP Leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) for connected devices.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
|  | Add a device to the static [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) list |  |
| Device Name | [Hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) |  |
| MAC Address | Client [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac). |  |
| IP Address | IP address for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) |  |
| DUID | [DUID](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duid) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |  |
| Host ID | [Host ID](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostid) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |  |

## Add Static DHCP Lease

To add a static DHCP lease:

* Add an existing client or create a lease from scratch:
  + To select an existing client:
    - Click Add connected host to open the list
    - Select the desired client
    - Click the  add button
  + To add a static DHCP lease manually:
    - Only click the  add button

The information for existing client is added automatically.

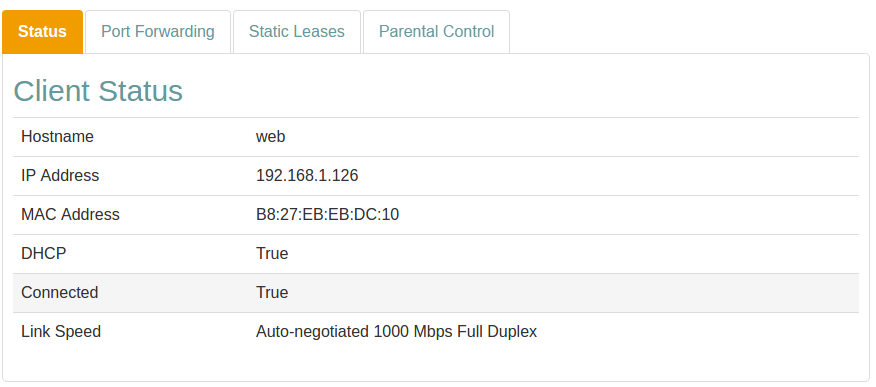
* Add or edit the client information as neeed.
* Click Save

# Client

The Client dialog displays information about the connected clients and allows you to edit their configuration.

## View

Information about the client is divided into several tabs.

Client

## Overview

### Status

The Status tab shows information about the client and the connection.

### Port Forwarding

In the Port Forwarding tab you can map incoming connections on different [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to ports on the client.

### Static Leases

The Static Leases tab allows you to assign a static [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) [dhcp lease](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) to the client.

### Parental Control

Parental control is used to restrict access to the network for particular devices.

### Realtime Graphs

The Realtime Graphs view provides access to graphical representations of status for the device. The graphs scroll as time progresses and lines indicate the current status.

### WiFi Realtime Graphs

For WiFi clients (it is not shown for regular LAN clients), the Realtime Graphs tab you can map incoming connections on different [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to ports on the client.

# Status

The Status tab shows information about the client and the connection.

## Status Information

|  |  |
| --- | --- |
| Item | Description |
| Hostname | The client [Hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |
| IP Address | Assigned [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |
| MAC Address | [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. |
| DHCP | [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) status. |
| Connected | Connection status. |
| Link Speed | Type of [negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation), [speed](http://juci.iopsys.eu/v4.2.x/en/glossary/l/link_speed) and [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex) for the connection. |

## Wireless Details

For WiFi clients, the Wireless Details section shows detailed information about the wireless connection. All data is measured since last downtime.

|  |  |  |
| --- | --- | --- |
| Item | Description | Example |
| Frequency | [WiFi frequency band](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_band) for the access point. | 2.4GHz |
| RSSI | [RSSI](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) strength for the signal. | -64 dBm |
| SNR | [Signal-To-Noise-Ratio](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snr). | 21 dBm |
| Idle | Time idle. | 1 s |
| In Network | Time in network. | 1813 s |
| WME | Status of [WMM](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wmm). | True |
| Power Save | Is Power save enabled? | False |
| N Mode | Is [802\_11n](http://juci.iopsys.eu/v4.2.x/en/glossary/0/802_11n) supported? | True |
| VHT Mode | Is [802\_11ac](http://juci.iopsys.eu/v4.2.x/en/glossary/0/802_11ac) supported? | False |
| TX Bytes | Transmitted bytes. | 2438426 |
| RX Bytes | Recieved bytes. | 347988 |
| TX Rate | Transmission rate. | 58 Mbps |
| RX Rate | Recieve rate. | 6 Mbps |

# Port Forwarding

In the Port Forwarding tab you can map incoming connections on different [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to ports on the client.

## Mapping Section

|  |  |
| --- | --- |
| Item | Description |
| Name | Port name. |
| Excluded ports | Protected ports that can't be mapped. |
| Public port | Public (external) port. |
| Private port | Private (client) port. |
| Protocol | Protocol. |

### Protocol

The protocol setting filters traffic by protocol for the port forward.

|  |  |
| --- | --- |
| Protocol | Description |
| TCP + UDP | Both [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) and [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp). |
| TCP | [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) only. |
| UDP | [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) only. |
| All | Any protocol. |

## Mapping Settings

To map incoming connections:

* Click Add mapping to open the mapping section

The mapping section lets you add configuration settings for the mapping.

Ports can be added one by one (80), as comma-separated lists (8080, 8090) or as ranges (21-22).

* Add information:
  + Add a name as identification
  + Add ports:
    - Add public/incoming port(s)
    - Add private/client port(s)
  + Select protocol
* Click Save
* Click Close

Your information has now been saved and is visible in the mapping list.

# Static Leases

The Static Leases tab allows you to assign a static [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) [dhcp lease](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) to the client.

## Static Leases Section

|  |  |
| --- | --- |
| Item | Description |
| Device Name | [Hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) |
| IP Address | IP address for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) |
| Tag | Tag with further [DHCP Options](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) as configured in the [DHCP/DNS](http://juci.iopsys.eu/v4.2.x/en/ade/network/services/dhcp/tags) settings. |
| DUID | [DUID](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duid) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |
| Host ID | [Host ID](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostid) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |

## Static Leases Settings

To assign a static address to the client:

* Click the  add button to open the section
* Add information for the type of network(s) you use

# Parental Control

Parental control is used to restrict access to the network for particular devices.

## Internet Access Scheduling

Parental control is handled by setting schedules where access is restricted to explicitly named [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) addresses.

|  |  |
| --- | --- |
| Item | Description |
| Weekdays | List of days the filter applies. |
| Start Time | Time of day to start filtering. |
| Stop Time | Time of day to stop filtering. |
|  | Edit filtering rule. |
|  | Delete filtering rule. |

# Add Parental Control

The Internet Access Schedule rules you add from the client panel will only apply to that client.

## Internet Access Scheduling

Parental control is handled by setting schedules where access is restricted to explicitly named [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) addresses.

When adding a parental control filter from the client panel, the [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) is automatically selected from the client.

### Add an Internet Access Schedule

* Select a Time Frame from the menu
* Edit the selected Days as needed
* Enter a time:
  + From
  + To
* Click Save
* Click Close

### Start and Stop Times

The start time for a rule has to be lower than the end time.

If you want to have a rule that goes over midnight, you need to add two rules, one up until midnight, and one from midnight to when you want the rule to end.

For example:

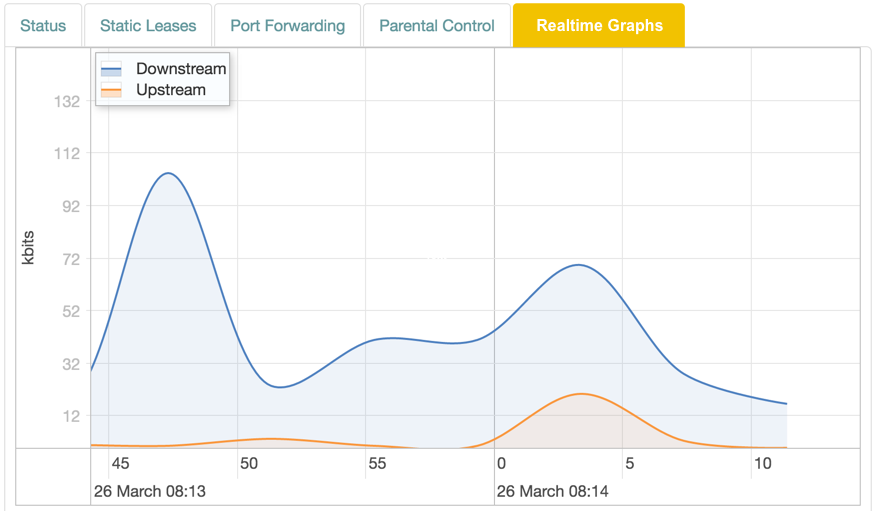
Rule one: From 21:00 To 23:59 Rule two: From 00:00 To 06:00

A single rule of From 21:00 To 06:00 will not be saved.

# WiFi Realtime Graphs

For WiFi clients (it is not shown for regular LAN clients), the Realtime Graphs tab you can map incoming connections on different [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to ports on the client.

## Graph

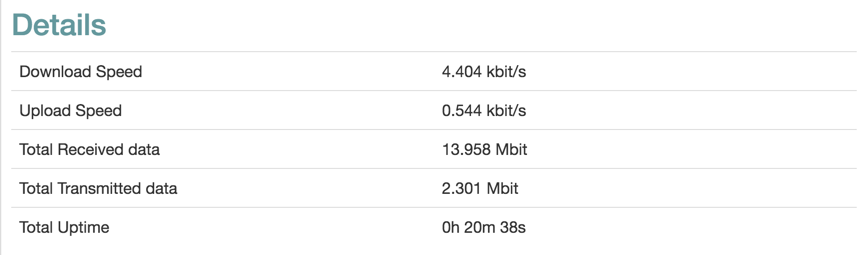
Graph

The display is shown in realtime, with lines representing traffic in kbit/s:

|  |  |
| --- | --- |
| Color | Traffic |
| Blue | Downstream. |
| Red | Upstream. |

## Table

The table below the graph displays collected data since the tab was opened, and the total connection uptime since last downtime.

Table

|  |  |
| --- | --- |
| Item | Description |
| Download Speed | Current download speed. |
| Upload Speed | Current upload speed. |
| Total Received Data | Downloaded data since the tab was opened. |
| Total Transmitted Data | Transmitted data since the tab was opened. |
| Total Uptime | Connection uptime since last downtime. |

# Realtime Graphs

The Realtime Graphs view provides access to graphical representations of status for the device. The graphs scroll as time progresses and lines indicate the current status.

## Overview

### Load

The Load graph shows device load averages for different time recent periods.

### Traffic

The Traffic graph shows upload and download traffic for the interfaces.

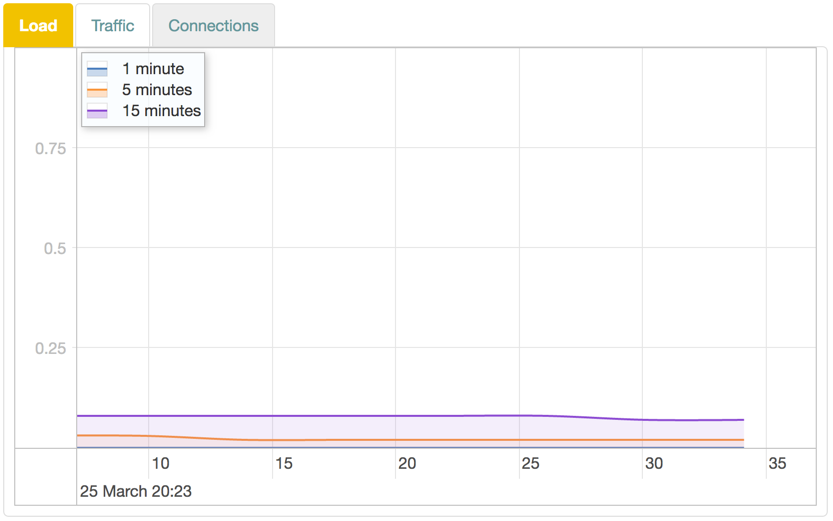
# Load

The Load graph shows device load averages for different time recent periods.

## Graph Lines

The display is shown in realtime, and the lines represent the average over different intervals:

|  |  |
| --- | --- |
| Color | Time |
| Blue | 1 minute |
| Red | 5 minutes |
| Purple | 15 minutes |

Load

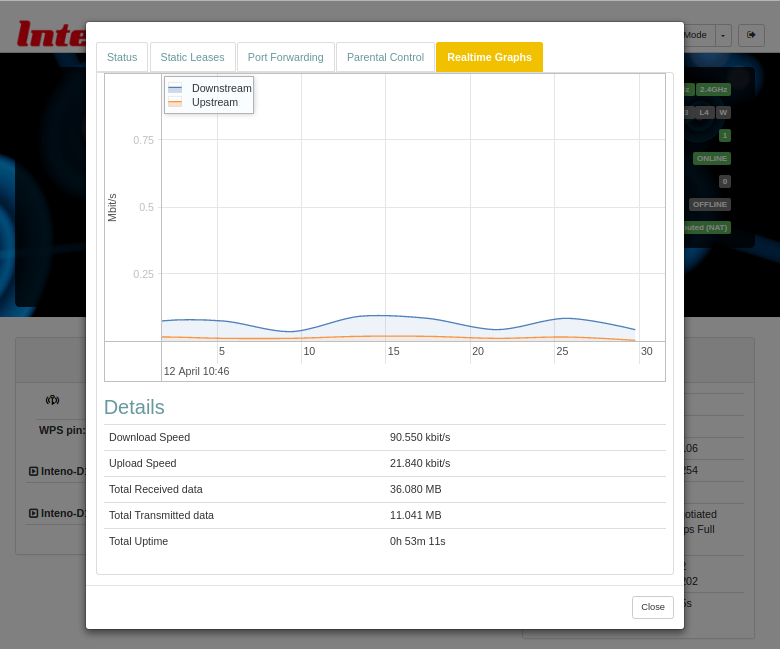
# Traffic

The Traffic graph shows upload and download traffic for the interfaces.

## Graph Lines

Each interface is available in its own tab. The display is shown in realtime, with lines representing traffic in kbit/s:

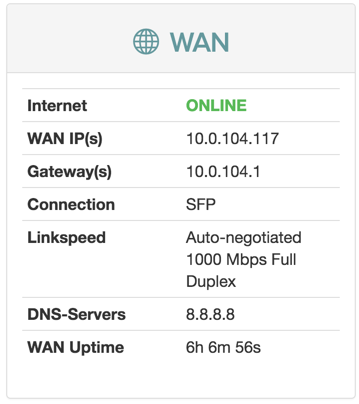
|  |  |
| --- | --- |
| Color | Traffic |
| Blue | Downstream. |
| Red | Upstream. |

Traffic

# WAN

The WAN panel displays the status of your [WAN](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wan). It also lets you configure [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) servers.

## Configuration

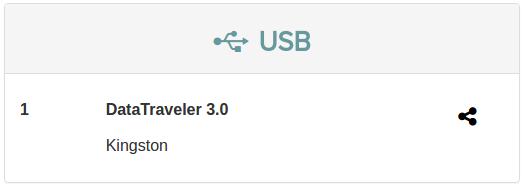
WAN panel

|  |  |
| --- | --- |
| Item | Description |
| Internet | Status of Internet connection. |
| Link | Status of link. |
| WAN IP(s) | IPv4 and [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) to the device. |
| Gateway(s) | IPv4 and [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) to [gateway](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway). |
| Link Type | Ethernet |
| Link Speed | Auto-negotiated 1000 Mbps Full Duplex |
| DNS-Servers | IPv4 and IPV6 addresses to [DNS servers](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns_server). |
| WAN uptime | Time since last disconnect for IPv4 and IPV6 WAN connection. |

# USB

The USB panel displays the status of any connected [USB](http://juci.iopsys.eu/v4.2.x/en/glossary/u/usb) devices.

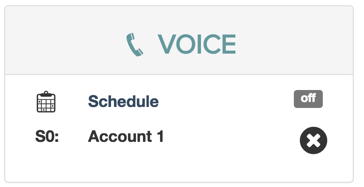
## 

USB panel

# Voice

The Voice panel shows the status of the ringing schedule connected phone lines.

## 

Voice panel

The Voice panel is [not available](http://juci.iopsys.eu/v4.2.x/en/ade/intro/features/start) in certain regions.

# Profile

The Profile panel shows the [network profiles](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_profile) configured on your device, if any.

## 

The network profiles are configured by the manufacturer for each device type.

Depending on the network profile selected, additional panels may be displayed in the overview.

# Voice

The Voice provides access to settings relating to voice communications through the device.

## Overview

### Call Log

The Call Log view shows a list of the recent calls handled through the device.

### SIP Accounts

The SIP Accounts view shows information about configured [SIP accounts](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_account) for the device.

### SIP Users

The SIP Users view shows information about configured [SIP users](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_user) for the device.

### Voice Lines

The Voice Lines view shows a list of available voice lines for the device and allows you to configure them.

### Advanced Settings

The Advanced Settings view contains advanced settings for SIP , voice lines and dial plans.

### Number Blocking

The Number Blocking view allows you to block outgoing calls to specific numbers or or number ranges.

### Ringing Schedule

The Ringing Schedule view lets you define when telephones should be allowed to ring.

### Speed Dialing

The Speed Dialing view lets you configure a set of shortcode numbers that convert to the specified numbers when dialled.

### DECT Radio

The Dect Radio view allows you to configure [DECT](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dect) radio settings.

# Call Log

The Call Log view shows a list of the recent calls handled through the device.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Date | Date for the call. |
| Time | Time for the call. |
| External Number | Calling number. |
| Internal Number | Receiving number. |
| Duration | Duration of the call. |

### Arrow Indicators

The arrow indicators next to the log items indicate the status of the connection.

|  |  |  |  |
| --- | --- | --- | --- |
| Icon | Color | Status | Description |
|  | Green | 'ANSWERED' | Connection has been established. |
|  | Red | 'NO ANSWER' | Connection was not established. |
|  | Black | Any other state (for example 'BUSY'). |  |

# SIP Accounts

The SIP Accounts view shows information about configured [SIP accounts](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_account) for the device.

## Configuration

At the top of the page is a list of selectable accounts.

When a particular account is selected, details about it is shown in the configuration section.

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn account on or off. |
| Account Name | Name of [SIP account](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_account). |
| SIP domain name | Name of [SIP domain](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_domain). |
| SIP Username | The [SIP account username](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_user) for the account. |
| SIP Authentication Name | [SIP Authentication Name](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_auth) used with password to register with SIP server. |
| SIP Password | Enter new password to change. |
| Show Key Text | Display the password. |
| Display Name | Display name used in Caller ID. |
| SIP Server/Registrar | Address for [SIP server](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_server). |
| SIP Server/Registrar Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) for [SIP server](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_server). |
| SIP Outbound Proxy | Address for outbound [proxy](http://juci.iopsys.eu/v4.2.x/en/glossary/p/proxy). |
| SIP Outbound Proxy Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) for outbound [proxy](http://juci.iopsys.eu/v4.2.x/en/glossary/p/proxy). |
| Incoming Phone Lines | Check boxes for connected phone line ports. |
| Preferred codecs | Order of preference for [SIP codecs](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_codec). |
| G.711MuLaw Packetization | [Packetization](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packetization) setting for [G.711MuLaw](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_codec). |
| G.726 Packetization | [Packetization](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packetization) setting for [G.726](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_codec). |
| G.729a Packetization | [Packetization](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packetization) setting for [G.711ALaw](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_codec). |
| G.G.729a Packetization | [Packetization](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packetization) setting for [G.729a](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_codec). |
| Autoframing | Negotiate [packetization](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packetization) when call is established. |
| SIP Transport | [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [TLS](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tls) |
| Encryption | Use [Secure Real-time Transport Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/s/srtp). |
| Use as Fax | Indicate that this SIP account will be used for a fax machine. This will force some settings. |
| Mailbox | Voicemail inbox. |

### Add account

You can add as many accounts as you needed.

To add a account:

* Click the Add button
* Enter a Name for the account
* Enter values as needed.
* Click Apply

# SIP Users

The SIP Users view shows information about configured [SIP users](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_user) for the device.

## View

At the top of the page is a list of selectable accounts.

When a particular account is selected, details about it is shown in the configuration section.

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn user on or off. |
| Name | Display name used in Caller ID. |
| Extension | Extension for this user. |
| User Name | [SIP user name](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_user). |
| User Password | Enter new password to change. |
| Show Key Text | Display the password. |
| Call out using SIP provider | [SIP account](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_account) for outbound calls. |
| Mailbox | Voicemail inbox. |
| Preferred codecs | Order of preference for [SIP codecs](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_codec). |
| Host | Specific host for this user. |
| Qualify | Check that the user is reachable. |

### Add user

You can add as many users as you needed.

To add a user:

* Click the Add button
* Enter a Name for the user
* Enter values as needed.
* Click Apply

# Voice Lines

The Voice Lines view shows a list of available voice lines for the device and allows you to configure them.

## 

Each available voice line has its own panel. Detailed information about each line is shown when you expand the panel.

The panels allow you to configure individual voice lines.

|  |  |
| --- | --- |
| Item | Description |
| Name | Identifier for the DECT line. |
| Internal Number | Diect call number. |
| Outgoing Calls Number | [SIP account](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_account) for external calls. |
| Call Waiting | Enable call waiting notification. |
| Call ID Restriction | Hide caller ID. |
| Voice Activity Detection | Detect voice (Transparent / Aggressive / Conservative). |
| Comfort Noise Generation | Generated noise (White / Hot / Spectrum estimate). |
| Echo cancellation | Remove echoes. |
| Transmit gain | Increase transmitted signal. |
| Receive gain | Increase received signal. |

# Advanced Settings

The Advanced Settings view contains advanced settings for SIP , voice lines and dial plans.

## Overview

### Advanced SIP Settings

The Advanced SIP Settings view lets you configure detailed parameters for your [SIP](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip) services.

### Advanced Line Settings

The Advanced Line Settings view lets you configure detailed parameters for your voice lines .

### Custom Dial Plan

The Custom Dial plan view allows you to configure dialling digits for various services and networks.

# Advanced SIP Settings

The Advanced SIP Settings view lets you configure detailed parameters for your [SIP](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip) services.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Sip Proxy servers | [Proxies](http://juci.iopsys.eu/v4.2.x/en/glossary/p/proxy) to allow incoming calls from. |
| Bind Interface | Restrict listening to particular WAN interface. |
| Bindport | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to use for [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) listening. |
| User Agent | Custom User-Agent information in the SIP header. |
| RTP Port Range | [Ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to use for [RTP](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rtp) |
| DTMF Mode | Mode for [DTMF](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dtmf_mode) (Compatibility / RFC 2833 / SIP INFO / Inband). |
| Register Interval | Time in seconds between registration attempts. |
| Realm | [SIP Realm](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_realm) for digest authentication. |
| Localnet | Network addresses that are considered inside of the [NAT](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat) network. |
| Register Attempts | Number of registration attempts before giving up. |
| Register Timeout | Time before giving up a registration attempt. |
| Register Back-off Attempts | Number of attempts before [back-off](http://juci.iopsys.eu/v4.2.x/en/glossary/b/backoff). |
| Register Back-off Timeout | Time in [back-off](http://juci.iopsys.eu/v4.2.x/en/glossary/b/backoff) before giving up attempt to register. |
| Remote Hold | Send hold events to proxy (Let network handle music on hold). |
| SRV Lookup | Enable DNS [SRV](http://juci.iopsys.eu/v4.2.x/en/glossary/s/srv) lookup. |
| DNS Manager | Enable [Asterisk](http://juci.iopsys.eu/v4.2.x/en/glossary/a/asterisk) DNS manager. |
| DNS Manager Refresh Interval | Refresh interval for the DNS manager. |
| Line suffix in contact header | Add suffix to SIP contact header with information about called lines. |
| SIP DiffServ | [Differentiated services](http://juci.iopsys.eu/v4.2.x/en/glossary/d/diffserv) type of service for SIP data. |
| Audio DiffServ | [Differentiated services](http://juci.iopsys.eu/v4.2.x/en/glossary/d/diffserv) type of service for audio data. |
| Congestion tone | Tone to play on congestion. (Congestion / Info) |
| STUN server | [STUN](http://juci.iopsys.eu/v4.2.x/en/glossary/s/stun) service provider. |
| TLS/SSL Version | [TLS v1](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tls) / [TLS v2](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssl) / [TLS v3](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssl). |
| Cipher string | [Cipher](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cipher) identifier string. |
| Trusted CA | Public key for a trusted [Certificate Authority](http://juci.iopsys.eu/v4.2.x/en/glossary/c/ca). |

### Trusted CA Certificate

To add a Trusted CA Certificate key:

* Click Add
* Copy the public key
* Paste the key into the window
* Click Save
* Click Apply

# Advanced Line Settings

The Advanced Line Settings view lets you configure detailed parameters for your voice lines .

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Locale selection | Country for device location. |
| Enable Jitter Buffer | Turn jitter prevention buffer on or off. |
| Force Jitter Buffer | Forces the receiver to use a [jitter buffer](http://juci.iopsys.eu/v4.2.x/en/glossary/j/jitter_buffer). |
| Jitter Buffer implementation | The type of [jitter buffer](http://juci.iopsys.eu/v4.2.x/en/glossary/j/jitter_buffer) Fixed / Adaptive. |
| Maximum Jitter Buffer size | Size of [jitter buffer](http://juci.iopsys.eu/v4.2.x/en/glossary/j/jitter_buffer) (ms). |
| Enable Packet Loss Concealment | Turn [PLC](http://juci.iopsys.eu/v4.2.x/en/glossary/p/plc) on or off. |
| Inter-digit timeout | Time between dialled digits before timing out (ms). |

# Custom Dial Plan

The Custom Dial plan view allows you to configure dialling digits for various services and networks.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Enable incoming | Turn dial plan on or off for incoming calls. |
| Enable outgoing | Turn dial plan on or off for outgoing calls. |
| Enable custom hangup | Turn custom hang up on or off. |
| All Ports Extension | Port test extension. |
| Test Audio Extension | Audo tests the audio quality. |
| Test Echo Extension | Echo returns the outgoing audio from a channel back to the channel. |

# Number Blocking

The Number Blocking view allows you to block outgoing calls to specific numbers or or number ranges.

## 

## Outgoing

|  |  |
| --- | --- |
| Item | Description |
| Outgoing Number Blocking | Turn blocking on or off for outgoing calls. |
| Do not allow connections to these numbers | List of blocked numbers. |
| Block connections to all foreign numbers | Block calls to different locales. |
| Block connections to all special rate numbers | Block calls to premium rate or pay services. |

## Incoming

|  |  |
| --- | --- |
| Item | Description |
| Incoming Number Blocking | Turn blocking on or off for incoming calls. |
| Do not allow connections from these numbers | List of blocked numbers. |

### Block number

To block a number:

* Click the  add button
* Click in the Phone extension box
* Enter the number
* Click outside of the Phone extension box
* Click Apply

### Block number range

You can use # as wildcard to define number ranges. For example “0160#” blocks all numbers starting with “0160”.

To block a sequence of numbers:

* Click the  add button
* Enter digits
* Add '#' as wildcard
* Enter the number
* Click outside of the Phone extension box
* Click Apply

# Ringing Schedule

The Ringing Schedule view lets you define when telephones should be allowed to ring.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Ringing Schedule | Turn the schedule on or off. |
| During the times below ringing is | Enabled / Disabled. |
| Day | List of days when status applies. |
| Time | Time interval when status applies. |
| Status | Enabled / Disabled. |

# Speed Dialing

The Speed Dialing view lets you configure a set of shortcode numbers that convert to the specified numbers when dialled.

## 

The speed dialling list consists of the numbers 0 to 9. For each of these, you can add a number or extension that will be called when somebody dials the number.

|  |  |
| --- | --- |
| Item | Description |
| Speed Dialing | Turn speed dialling on or off. |
| Remove all entries from speed dial list | Clears the list |

# DECT Radio

The Dect Radio view allows you to configure [DECT](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dect) radio settings.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| DECT Radio | Auto / On / Off. |
| Radio Status | Current status for the DECT Radio. |
| Pair DECT Device | Button to start [pairing](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pairing) for a DECT device. |
| Codecs | DECT [codecs](http://juci.iopsys.eu/v4.2.x/en/glossary/c/codec) available for the device. |

At the bottom of the page is a list of currently [paired](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pairing) devices.

|  |  |
| --- | --- |
| Item | Description |
| ID | Pairing ID. |
| IPUI | [IPUI](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipui) number. |
| Codecs | DECT [codecs](http://juci.iopsys.eu/v4.2.x/en/glossary/c/codec) available for the device. |

# Network

The Network view provides access to the devices, connections and available configurations in the network.

## Overview

### Devices

The Devices view allows you to configure settings for various network types.

### Connections

The Connections view allows you configure various connection interfaces to use in your device.

### Routes

Static routes are useful if you have several networks accessible from your router and you want to correctly route packets between them.

### Firewall

The firewall lets you filter traffic, set up port forwarding or expose particular services to the outside world.

### Parental Control

Parental control is used to restrict access to the network for particular devices.

### Quality Of Service

The Quality Of Service view allows you to configure parameters for [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) through applying [groups](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) of [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class) to interfaces.

### MultiWAN

The MultiWAN view allows you to create and configure WAN traffic divisions for [load balancing](http://juci.iopsys.eu/v4.2.x/en/glossary/l/load_balancing) and [failover](http://juci.iopsys.eu/v4.2.x/en/glossary/f/failover) and applying traffic .

### Services

The Services view allows you to configure the services connected device.

# Devices

The Devices view allows you to configure settings for various network types.

## Overview

### Network Devices

The Network Devices view shows you a list of devices that are used to access the network.

### Ethernet

In the Ethernet Ports view, you can define parameters for the LAN ports and select which, if any port should be UPLINK.

### VLAN

The VLAN view allows you to configure [VLAN](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vlan) devices.

# Network Devices

The Network Devices view shows you a list of devices that are used to access the network.

## Configuration

|  |  |
| --- | --- |
| Option | Description |
| Type | Type of device |
| Name | Name of device |
| Adapter | Adapter name |
| MAC | [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address |
| MTU | Number of [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) bytes |
| Status | Device Status |

#### Device Status

The status of a device is indicated by the color of the icon.

|  |  |
| --- | --- |
| Color | Status |
| Green | Enabled and active |
| Black | Enabled, not active |

Note: These are the default colors. Your operator may use a different coloring scheme.

# Ethernet

In the Ethernet Ports view, you can define parameters for the LAN ports and select which, if any port should be UPLINK.

## Ethernet Ports

The Ethernet Portss view shows a list of selectable ports.

### Configuration

When a particular port is selected, details about it is shown in the configuration section.

### Properties for unspecifed/untagged VLAN

|  |  |  |
| --- | --- | --- |
| Section | Description | Comment |
| Port Speed | Configuration of transmission speed, [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex) setting and [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation). | Available values depend on port capacity. |
| Pause Frame | Enable [Pause Frame](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pause_frame) for [flow control](http://juci.iopsys.eu/v4.2.x/en/glossary/f/flow_control). |  |

### Port Speed Examples

In the Port Speed dropdown, you can select a combination of [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex) setting and [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation) settings for the interface.

For example:

|  |  |
| --- | --- |
| Option | Description |
| Full [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation) | Applies to both [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation) and [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex) setting. |
| Max 100Mb [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation), full [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Max 100Mb [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation), half [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Max 10Mb [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation), full [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Max 10Mb [auto-negotiation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/auto_negotiation), half [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Only 100Mb, full [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Only 100Mb, half [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Only 10Mb, full [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Only 10Mb, half [duplex](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duplex). |  |
| Disabled | Interface is disabled. |

## Uplink

The Uplink section view allows you to select which interface to use as [uplink](http://juci.iopsys.eu/v4.2.x/en/glossary/u/uplink) for the device.

### Configuration

|  |  |
| --- | --- |
| Section | Description |
| Uplink Port | Port to use as [uplink](http://juci.iopsys.eu/v4.2.x/en/glossary/u/uplink) for the device. |

Note: Selecting None will disable uplink traffic.

# VLAN

The VLAN view allows you to configure [VLAN](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vlan) devices.

## Configuration

At the top of the page is a list of selectable devices.

When a particular device is selected, details about it is shown in the configuration section. The exact options depend on type.

### Properties for unspecifed/untagged VLAN

|  |  |  |
| --- | --- | --- |
| Section | Description | Comment |
| Vlan Name | Name of the device. |  |
| Vlan Type | Type of device. | untagged / 802.1Q |
| Base Device | Base [DSL](http://juci.iopsys.eu/v4.2.x/en/ade/network/devices/dsl/start) device to create interface for. |  |
| Name | [802 1q](http://juci.iopsys.eu/v4.2.x/en/glossary/0/802_1q) identifier. |  |

### Properties for specifed/tagged VLAN

|  |  |  |
| --- | --- | --- |
| Section | Description | Comment |
| Vlan Name | Name of the device. |  |
| Vlan Type | Type of device. | 802.1Q |
| Base Device | Base [DSL](http://juci.iopsys.eu/v4.2.x/en/ade/network/devices/dsl/start) device to create interface for. |  |
| VLAN ID | Vlan ID number. |  |
| Priority | Traffic priority level. |  |
| Name | [802 1q](http://juci.iopsys.eu/v4.2.x/en/glossary/0/802_1q) identifier. |  |
| Override MTU | Specified [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) to use. |  |

# Connections

The Connections view allows you configure various connection interfaces to use in your device.

## View

This view allows to configure IP addresses used in your home network. In case DHCP is used, your router automatically assignes an IP address to devices connected to the network.

The page contains a list of interfaces, with one widget for each interface.

## Connection Buttons

### Connect

To turn a connection on:

* Select the connection you are interested in
* Click Connect button

### Disconnect

To turn a connection off:

* Select the connection you are interested in
* Click Disconnect button

### Edit

To change the settings for a connection:

* Select the connection you are interested in
* Click Edit button

The connection editor is shown below the connection list.

#### Connection Editor

You can view, manage and configure the settings for interfaces from the page.

## Main Buttons

### Delete

To change the settings for a connection:

* Select the connection you are interested in
* Click Edit button

### Add

To add new connection interface:

* Select the connection you are interested in
* Click Edit button

The new interface dialog is shown.

#### Create Connection Wizard

The Create New Network Interface wizard allows you to create a new [interface](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface) according to your needs through a number of dialogs.

# Create Connection Wizard

The Create New Network Interface wizard allows you to create a new [interface](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface) according to your needs through a number of dialogs.

## Create Connection

The dialog is a wizard where you add information in several steps.

The number of steps and their contents varies depending on the type of interface you create.

Note: As a last step you finalize the setup, but you can further from the page.

### Connection Types

In the first step, you can choose the type of interface: Uplink, Downlink, or Unmanaged.

Depending on your choice in the first step, different options become available.

#### Uplink

An uplink interface type is an interface to services.

#### Downlink

A Downlink interface is an interface to subscribers/clients.

#### Unmanaged

The interface protocol type Unmanaged means that the connection has no defined protocol.

# Uplink

An uplink interface type is an interface to services.

### Interfaces

#### DHCP v4

An DHCP v4 connection uses an IPv4 address provided by a DHCP server.

#### DHCP v6 (Uplink)

An DHCP v6 connection uses an IPv6 address provided by a DHCP server.

#### Point-to-Point Protocol

A Point-to-Point Protocol connection uses PPP to establish the network.

#### Point-to-Point Protocol over Ethernet

A Point-to-Point Protocol over Ethernet connection uses PPPoE to establish the network.

#### Point-to-Point Protocol over ATM

A Point-to-Point Protocol over ATM connection uses PPPoA to establish the network.

#### 3G

A 3G connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) over [GPRS](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gprs)/[EVDO](http://juci.iopsys.eu/v4.2.x/en/glossary/e/evdo)/[CDMA](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cdma)/[UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts).

#### Point-to-point Tunnel

A Point-to-Point Tunnel connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) across a [VPN](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) tunnel to establish the network.

#### IPv6 Tunnel in IPv4

A IPv6 Tunnel in IPv4 connection uses IPv4 to transmit IPv6 traffic.

#### IPv6 Tunnel to IPv4

A IPv6 Tunnel to IPv4 connection uses IPv4 to transmit IPv6 traffic.

#### IPv6 rapid deployment

A IPv6 rapid deployment interface for IPv4 infrastructures.

#### Dual-Stack Lite

A Dual-Stack Lite connection uses [DS-Lite](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ds_lite) through an [Address Family Transition Router](http://juci.iopsys.eu/v4.2.x/en/glossary/a/aftr) to establish the network.

#### Point-to-Point Protocol over L2TP

A Point-to-Point Protocol over L2TP connection uses PPP and L2TP server to establish the network.

# WWAN (LTE/HSPA+)

The WWAN connection uses [LTE](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lte) / [HSPA+](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hspa).

## Overview

### WWAN

A Wireless Wide Area Network (WWAN), is a wireless network that extends over a large geographical distance.

### LTE

Long-Term Evolution (LTE) is a standard for high-speed wireless communication for mobile phones and data terminals, based on [GSM](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gsm) and [UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts).

### HSPA / HSPA+

High Speed Packet Access (HSPA) is an extension of 3G mobile networks utilizing [WCDMA](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wcdma).

Evolved High Speed Packet Access (HSPA+) is a furhter improvement on HSPA allowing for higher speeds.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# DHCP v4

An DHCP v4 connection uses an IPv4 address provided by a DHCP server.

## Overview

### IPv4

Internet Protocol Version 4 - IPv4 - is the first major version of the [Internet Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip).

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol, adapter and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |
| Ethernet Adapter | to create interface for. |
| Add network to a firewall zone | Connects interface to . |

# DHCP v6 (Uplink)

An DHCP v6 connection uses an IPv6 address provided by a DHCP server.

## Overview

### IPv6

Internet Protocol Version 6 - IPv6 - is the the successor to [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6).

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol, adapter and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |
| Ethernet Adapter | to create interface for. |
| Add network to a firewall zone | Connects interface to . |

# Point-to-Point Protocol

A Point-to-Point Protocol connection uses PPP to establish the network.

## Overview

### PPP

Point-to-Point Protocol (PPP) is a protocol for providing a direct data link connection with authentication, encryption and compression.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# Point-to-Point Protocol over Ethernet

A Point-to-Point Protocol over Ethernet connection uses PPPoE to establish the network.

## Overview

### PPPoE

PPP over Ethernet (PPPoE) is a protocol using [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) to provide an [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl) Internet connection over [Ethernet](http://juci.iopsys.eu/v4.2.x/en/glossary/e/ethernet), by putting PPP frames inside Ethernet [frames](http://juci.iopsys.eu/v4.2.x/en/glossary/f/frame).

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Ethernet Adapter | to create interface for. |
| Add network to a firewall zone | Connects interface to . |

# Point-to-Point Protocol over ATM

A Point-to-Point Protocol over ATM connection uses PPPoA to establish the network.

## Overview

### PPPoA

PPP over ATM (PPPoA) is a protocol using [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) to provide an [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl) Internet connection over [ATM](http://juci.iopsys.eu/v4.2.x/en/glossary/a/atm).

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Ethernet Adapter | to create interface for. |
| Add network to a firewall zone | Connects interface to . |

# 3G

A 3G connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) over [GPRS](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gprs)/[EVDO](http://juci.iopsys.eu/v4.2.x/en/glossary/e/evdo)/[CDMA](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cdma)/[UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts).

## Overview

### 3G

Third-generation wireless telephone technology (3G), is a cellular network for digital mobile data communication for broadband traffic.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# Point-to-point Tunnel

A Point-to-Point Tunnel connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) across a [VPN](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) tunnel to establish the network.

## Overview

### Point-to-Point Tunneling Protocol

Point-to-Point Tunneling Protocol (PTPT) is a technology for [virtual private networks](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) through [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) and a [GRE](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gre) with [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) packets.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# IPv6 Tunnel in IPv4

A IPv6 Tunnel in IPv4 connection uses IPv4 to transmit IPv6 traffic.

## Overview

### 6in4

6in4 is a method to transmit [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) traffic over explicit [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) connections.

The traffic is sent over the IPv4 Internet inside IPv4 packets whose IP headers have the IP protocol number set to 41.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# IPv6 Tunnel to IPv4

A IPv6 Tunnel to IPv4 connection uses IPv4 to transmit IPv6 traffic.

## Overview

### 6to4

6to4 is a method to transmit [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) traffic over [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) networks without having to configure explicit tunnels.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# IPv6 rapid deployment

A IPv6 rapid deployment interface for IPv4 infrastructures.

## Overview

### 6rd

6rd is a method for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) rapid deployment on Internet Service Provider [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) infrastructures, operating within the ISP's network.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# Dual-Stack Lite

A Dual-Stack Lite connection uses [DS-Lite](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ds_lite) through an [Address Family Transition Router](http://juci.iopsys.eu/v4.2.x/en/glossary/a/aftr) to establish the network.

## Overview

### DS-Lite

Dual-Stack Lite (DS-Lite) is a method for sharing of [IPv4 addresses](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) by combining [IPv4-in-IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/0/4in6) and [NAT](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat).

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# Point-to-Point Protocol over L2TP

A Point-to-Point Protocol over L2TP connection uses PPP and L2TP server to establish the network.

## Overview

### PPP

Point-to-Point Protocol (PPP) is a protocol for providing a direct data link connection with authentication, encryption and compression.

### L2TP

Layer 2 Tunneling Protocol (L2TP) is a protocol used to support [VPNs](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn), where security is provided in the transmitted packages rather than in the tunneling.

## Wizard

### Step 1

In the first step you select basic settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Interface Name | Name for the interface. |
| Interface Type | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Select [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol). |
| Add network to a firewall zone | Connects interface to . |

# Downlink

A Downlink interface is an interface to subscribers/clients.

## Finalize

In the final step you select protocol and firewall settings for the interface.

|  |  |  |
| --- | --- | --- |
| Item | Description | Applies to |
| Interface Type | Select [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type) (Standalone / Anywan / Bridge). |  |
| Physical Device | Device(s) to use for the connection. |  |
| Add network to a firewall zone | Connects interface to . |  |

### Physical Device

For Standalone, you need to select the to use for the connection.

For Anywan and Bridge, you need to add a physical device to use for the connection.

|  |  |  |
| --- | --- | --- |
| Item | Description | Applies to |
| Ethernet Adapter | Selector for to use for the connection. | Standalone |
| Add Device | Dialog to select network device to use for the connection. | Anywan / Bridge |

#### Ethernet Adapter

* Select a base device from the dropdown menu.

#### Add Device

* Click Add

The Select Network Device dialog is shown.

* Select a network device from the dropdown menu

# Unmanaged

The interface protocol type Unmanaged means that the connection has no defined protocol.

## Step 1

In the first step you select basic settings for the interface.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Interface Type | Select [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Add/Remove Devices | Select [interface protocol type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_protocol_type). |

* Select Interface Type
* Add as many devices as needed

### Add Device

* Click Add

The Add Device dialog is shown.

* Select a network device from the dropdown menu
* Click OK

## Finalize

* Click OK again
* Click Apply

# Connection Editor

You can view, manage and configure the settings for interfaces from the page.

### Edit Connections

To edit a connection:

* Click Edit button

The Connection Section is displayed at the bottom of the page.

The connection section consists of a number of tabs, showing details the connection.

Depending on connection type the tabs will be different, but the standard tabs are General, Physical Settings, and Advanced.

Additional tabs become visible as they are needed.

### Default Connections

#### LAN

The default LAN connection is a DHCP v4 connection using a static IPv4 address.

#### WAN

The default WAN connection uses an IPv4 address provided by a DHCP server.

#### WAN6

The default WAN6 connection is a IPv6 address provided by a DHCP server.

### Connection Types

#### Unmanaged

An unmanaged connection has no predefined protocol for the connection.

#### Static Address

A static address uses a fixed IP address for the connection.

#### DHCP v4

An DHCP v4 connection uses an IPv4 address provided by a DHCP server.

#### DHCP v6

An DHCP v6 connection uses an IPv6 address provided by a DHCP server.

#### Point-to-Point Protocol

A Point-to-Point Protocol connection uses PPP to establish the network.

#### Point-to-Point Protocol over Ethernet

A Point-to-Point Protocol over Ethernet connection uses PPPoE to establish the network.

#### Point-to-Point Protocol over ATM

A Point-to-Point Protocol over ATM connection uses PPPoA to establish the network.

#### 3G

A 3G connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) over [GPRS](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gprs)/[EVDO](http://juci.iopsys.eu/v4.2.x/en/glossary/e/evdo)/[CDMA](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cdma)/[UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts).

#### 4G

A 4G connection uses [4G](http://juci.iopsys.eu/v4.2.x/en/glossary/0/4g) interface over [LTE](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lte) / [HSPA+](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hspa).

#### Point-to-point Tunnel

A Point-to-Point Tunnel connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) across a [VPN](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) tunnel to establish the network.

#### IPv6 Tunnel in IPv4

A IPv6 Tunnel in IPv4 connection uses IPv4 to transmit IPv6 traffic.

#### IPv6 Tunnel to IPv4

A IPv6 Tunnel to IPv4 connection uses IPv4 to transmit IPv6 traffic.

#### IPv6 rapid deployment

A IPv6 rapid deployment interface for IPv4 infrastructures.

Edit (ade:network:connections:6rd:start)

#### Dual-Stack Lite

A Dual-Stack Lite connection uses [DS-Lite](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ds_lite) through an [Address Family Transition Router](http://juci.iopsys.eu/v4.2.x/en/glossary/a/aftr) to establish the network.

#### Point-to-Point Protocol over L2TP

A Point-to-Point Protocol over L2TP connection uses PPP and L2TP server to establish the network.

# LAN

The default LAN connection is a DHCP v4 connection using a static IPv4 address.

## Overview

### IPv4

Internet Protocol Version 4 - IPv4 - is the first major version of the [Internet Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### DHCP

The DHCP tab allows you to enable and use a specific DHCP server for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |

### Protocol

The protocol section contains detailed settings for the connection.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Connection protocol setting. |
| Interface Type | [Downlink](http://juci.iopsys.eu/v4.2.x/en/glossary/d/downlink) / [Uplink](http://juci.iopsys.eu/v4.2.x/en/glossary/u/uplink) |

### IPv4

The IPv4 section contains IP configuration.

|  |  |
| --- | --- |
| Item | Description |
| IPv4 Address | Device [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) address |
| IPv4 Subnet Mask | IPv4 [Subnet Mask](http://juci.iopsys.eu/v4.2.x/en/glossary/s/subnet_mask) |
| IPv4 Broadcast Mask | IPv4 [Broadcast Mask](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4_broadcast) |

### IPv6

The IPv6 section contains IP configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| IPv6 Assignment Length |  | Number betwen 48 and 64. |
| IPv6 Assigned Prefix Hint |  | Hexadecimal number between 1 and FFFF |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Interface type | The connection [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |

### Add/Remove custom DNS Servers

These DNS entries will be applied on the interface

You can add as many custom DNS servers as you like, but they must be unique.

Note: These custom DNS entries only affect the interface where they are added.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

# DHCP

The DHCP tab allows you to enable and use a specific DHCP server for the connection.

## View

|  |  |
| --- | --- |
| Item | Description |
| DHCP Server | Turn [DHCP Server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server) on or off. |
| DHCP Pool Start | Start IP number for the [DHCP Pool](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_pool) start number [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) |
| DHCP Pool Size | Number of IP addresses in the [DHCP Pool](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_pool) |
| DHCP Lease Time | DHCP [Lease Time](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lease_time) for the LAN. |

### Additional Sections

To view more details for a section, click the expand button.

#### Advanced

The advanced tab contains settings for management of advanced features for the connection.

#### IPv6

In the IPv6 section you can configure IPv6 properties for the server.

#### Static DHCP

The Static DHCP section lets you configure IP address [DHCP Leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) for connected devices.

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
| DHCP options | [DHCP option ID:s](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) to apply. |  |
| Dynamic DHCP | Dynamically allocate client addresses. | If disabled, only configured static clients are served. |
| Force | Forces DHCP serving on the specified interface even if another DHCP server is detected on the same network segment. |  |

## Add DHCP Option

To add DHCP option as needed:

* Click the Add option button
* Select the ID value
* Enter Option value
* Click Apply

# IPv6

In the IPv6 section you can configure IPv6 properties for the server.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| DHCPv6-Service | Type of service. | [Server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server), [Relay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_relay) or Disabled. |
| Router Advertisement-Service | Type of advertisement service. | [Server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server), [Relay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_relay) or Disabled. |
| NDP-Proxy | Behavior for [Neighbor Discovery Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ndp). | [Relay](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ndp_relay) or Disabled. |

# Static DHCP

The Static DHCP section lets you configure IP address [DHCP Leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) for connected devices.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
|  | Add a device to the static [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) list |  |
| Device Name | [Hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) |  |
| MAC Address | Client [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac). |  |
| IP Address | IP address for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) |  |
| DUID | [DUID](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duid) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |  |
| Host ID | [Host ID](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostid) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |  |
| Tag | Tag with further [DHCP Options](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) as configured in the settings. |  |

## Add Static DHCP Lease

To add a static DHCP lease:

* Add an existing client or create a lease from scratch:
  + To select an existing client:
    - Select the desired client
    - Click the  add button
  + To add a static DHCP lease manually:
    - Only click the  add button

The information for existing client is added automatically.

* Add or edit the client information as neeed.
* Click Save

# WAN

The default WAN connection uses an IPv4 address provided by a DHCP server.

## Overview

### IPv4

Internet Protocol Version 4 - IPv4 - is the first major version of the [Internet Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Hostname | Hostname to use for DHCP requests. |
| Create default route | Automatically generated routing information. |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Interface type | The connection [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Add/Remove Devices | Devices to associate with the connection. |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use broadcast flag | Add broadcast flag to traffic. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### DHCP Options

|  |  |
| --- | --- |
| Item | Description |
| Additional DHCP options to request from the server | [DHCP option ID:s](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) for additional options. |
| Client ID to send when requesting DHCP | Custom ID to use for DHCP requests. |
| Vendor Class to send when requesting DHCP | Use for device-specific DHCP options. |

# WAN6

The default WAN6 connection is a IPv6 address provided by a DHCP server.

## Overview

### IPv6

Internet Protocol Version 6 - IPv6 - is the the successor to [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Request IPv6 Address | Try / Force / None |
| Request Prefix Length | 48 / 52 / 56 / 60 / 64 / Auto / Disabled |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Interface type | The connection [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Add/Remove Devices | Devices to associate with the connection. |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### DHCP Options

|  |  |
| --- | --- |
| Item | Description |
| Custom delegated IPv6-prefix | Prefix for [prefix delegation](http://juci.iopsys.eu/v4.2.x/en/glossary/p/prefix_delegation). |
| Client ID to send when requesting DHCP | Custom ID to use for DHCP requests. |

# Unmanaged

An unmanaged connection has no predefined protocol for the connection.

## Overview

### Unmanaged

The interface protocol type Unmanaged means that the connection has no defined protocol.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Bridge Devices

The bridge devices section lets you add or remove bridged devices to the connection.

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |

# Static Address

A static address uses a fixed IP address for the connection.

## Overview

### Static address

A static IP address is an address that doesn't change, unless manually changed by the administrator.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

### DHCP

The DHCP tab allows you to enable and use a specific DHCP server for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |

### Protocol

The protocol section contains detailed settings for the connection.

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Connection protocol setting. |
| Interface Type | [Downlink](http://juci.iopsys.eu/v4.2.x/en/glossary/d/downlink) / [Uplink](http://juci.iopsys.eu/v4.2.x/en/glossary/u/uplink) |

### IPv4

The IPv4 section contains IP configuration.

|  |  |
| --- | --- |
| Item | Description |
| IPv4 Address | Device [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) address |
| IPv4 Subnet Mask | IPv4 [Subnet Mask](http://juci.iopsys.eu/v4.2.x/en/glossary/s/subnet_mask) |
| IPv4 Broadcast Mask | IPv4 [Broadcast Mask](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4_broadcast) |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### IPv6

The IPv6 section contains IP configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| IPv6 Assignment Length |  | Number betwen 48 and 64. |
| IPv6 Assigned Prefix Hint |  | Hexadecimal number between 1 and FFFF |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Interface type | The connection [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |

# DHCP

The DHCP tab allows you to enable and use a specific DHCP server for the connection.

## Basic

|  |  |
| --- | --- |
| Item | Description |
| DHCP Server | Turn [DHCP Server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server) on or off. |
| DHCP Pool Start | Start IP number for the [DHCP Pool](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_pool) start number [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) |
| DHCP Pool Size | Number of IP addresses in the [DHCP Pool](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_pool) |
| DHCP Lease Time | DHCP [Lease Time](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lease_time) for the LAN. |
| Static DHCP | Reserve an IP address [DHCP Lease](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) for a connected device. |

## Advanced

## IPv6

# DHCP v4

An DHCP v4 connection uses an IPv4 address provided by a DHCP server.

## Overview

### IPv4

Internet Protocol Version 4 - IPv4 - is the first major version of the [Internet Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Hostname | Hostname to use for DHCP requests. |
| Create default route | Automatically generated routing information. |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Interface type | The connection [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Add/Remove Devices | Devices to associate with the connection. |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use broadcast flag | Add broadcast flag to traffic. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### DHCP Options

|  |  |
| --- | --- |
| Item | Description |
| Additional DHCP options to request from the server | [DHCP option ID:s](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) for additional options. |
| Client ID to send when requesting DHCP | Custom ID to use for DHCP requests. |
| Vendor Class to send when requesting DHCP | Use for device-specific DHCP options. |

# DHCP v6

An DHCP v6 connection uses an IPv6 address provided by a DHCP server.

## Overview

### IPv6

Internet Protocol Version 6 - IPv6 - is the the successor to [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Request IPv6 Address | Try / Force / None |
| Request Prefix Length | 48 / 52 / 56 / 60 / 64 / Auto / Disabled |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Interface type | The connection [interface type](http://juci.iopsys.eu/v4.2.x/en/glossary/i/interface_type). |
| Add/Remove Devices | Devices to associate with the connection. |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### DHCP Options

|  |  |
| --- | --- |
| Item | Description |
| Custom delegated IPv6-prefix | Prefix for [prefix delegation](http://juci.iopsys.eu/v4.2.x/en/glossary/p/prefix_delegation). |
| Client ID to send when requesting DHCP | Custom ID to use for DHCP requests. |

# Point-to-Point Protocol

A Point-to-Point Protocol connection uses PPP to establish the network.

## Overview

### PPP

Point-to-Point Protocol (PPP) is a protocol for providing a direct data link connection with authentication, encryption and compression.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Hostname | Hostname to use for DHCP requests. |
| Create default route | Automatically generated routing information. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Enable IPv6 on the PPP link | Enables IPv6 connection from the provider. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### LCP Options

The LCP options section contains [LCP](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lcp) configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| LCP echo failure threshold | Number of echo failures before peer is considered dead. | Use 0 to ignore failures. |
| LCP echo interval | How often to send echo-requests. | Used together with failure threshold. |
| Inactivity timeout | Time until inactive connection is closed. | Use 0 to persist connection. |

# Point-to-Point Protocol over Ethernet

A Point-to-Point Protocol over Ethernet connection uses PPPoE to establish the network.

## Overview

### PPPoE

PPP over Ethernet (PPPoE) is a protocol using [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) to provide an [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl) Internet connection over [Ethernet](http://juci.iopsys.eu/v4.2.x/en/glossary/e/ethernet), by putting PPP frames inside Ethernet [frames](http://juci.iopsys.eu/v4.2.x/en/glossary/f/frame).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| PAP/CHAP Username | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| PAP/CHAP Password | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Enable IPv6 on the PPP link | Enables IPv6 connection from the provider. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### LCP Options

The LCP options section contains [LCP](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lcp) configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| LCP echo failure threshold | Number of echo failures before peer is considered dead. | Use 0 to ignore failures. |
| LCP echo interval | How often to send echo-requests. | Used together with failure threshold. |
| Inactivity timeout | Time until inactive connection is closed. | Use 0 to persist connection. |

# Point-to-Point Protocol over ATM

A Point-to-Point Protocol over ATM connection uses PPPoA to establish the network.

## Overview

### PPPoA

PPP over ATM (PPPoA) is a protocol using [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) to provide an [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl) Internet connection over [ATM](http://juci.iopsys.eu/v4.2.x/en/glossary/a/atm).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Hostname | Hostname to use for DHCP requests. |
| Create default route | Automatically generated routing information. |

# Physical Settings

The physical settings tab contains settings for hardware management and devices for the connection.

## Configuration

|  |  |
| --- | --- |
| Section | Description |
| Ethernet Adapter | Selector for to use for the connection. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Enable IPv6 on the PPP link | Enables IPv6 connection from the provider. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### LCP Options

The LCP options section contains [LCP](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lcp) configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| LCP echo failure threshold | Number of echo failures before peer is considered dead. | Use 0 to ignore failures. |
| LCP echo interval | How often to send echo-requests. | Used together with failure threshold. |
| Inactivity timeout | Time until inactive connection is closed. | Use 0 to persist connection. |

# 3G

A 3G connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) over [GPRS](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gprs)/[EVDO](http://juci.iopsys.eu/v4.2.x/en/glossary/e/evdo)/[CDMA](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cdma)/[UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts).

## Overview

### 3G

Third-generation wireless telephone technology (3G), is a cellular network for digital mobile data communication for broadband traffic.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Modem device | Modem to use for 3G traffic. |
| Service Type | Both UMTS and GPRS / Only [UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts) / Only [GPRS](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gprs). |
| APN | [Access Point Name](http://juci.iopsys.eu/v4.2.x/en/glossary/a/apn). |
| PIN-Code | PIN code for identification. |
| PAP/CHAP Username | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| PAP/CHAP Password | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Enable IPv6 on the PPP link | Enables IPv6 connection from the provider. |
| Use default gateway | Use default route. |
| Modem Init timeout | Use DHCP DNS server. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### LCP Options

The LCP options section contains [LCP](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lcp) configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| LCP echo failure threshold | Number of echo failures before peer is considered dead. | Use 0 to ignore failures. |
| LCP echo interval | How often to send echo-requests. | Used together with failure threshold. |
| Inactivity timeout | Time until inactive connection is closed. | Use 0 to persist connection. |

# WWAN (LTE/HSPA+)

The WWAN connection uses [LTE](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lte) / [HSPA+](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hspa).

## Overview

### WWAN

A Wireless Wide Area Network (WWAN), is a wireless network that extends over a large geographical distance.

### LTE

Long-Term Evolution (LTE) is a standard for high-speed wireless communication for mobile phones and data terminals, based on [GSM](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gsm) and [UMTS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts).

### HSPA / HSPA+

High Speed Packet Access (HSPA) is an extension of 3G mobile networks utilizing [WCDMA](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wcdma).

Evolved High Speed Packet Access (HSPA+) is a furhter improvement on HSPA allowing for higher speeds.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Status

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device in use. |
| Protocol | Protocol in use. |

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Protocol | Protocol in use. |
| Modem device | Modem to use for WWAN traffic. |
| APN | [Access Point Name](http://juci.iopsys.eu/v4.2.x/en/glossary/a/apn). |
| PIN-Code | PIN code for identification. |
| Authentication type | [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) / [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap) / Both / None . |
| Username | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| Password | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| Modes | Comma-separated list of allowed network modes (all / [lte](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lte) / [umts](http://juci.iopsys.eu/v4.2.x/en/glossary/u/umts) / [gsm](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gsm) / [cdma](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cdma) / [td-scdma](http://juci.iopsys.eu/v4.2.x/en/glossary/t/td_scdma)). |
| Delay | Seconds to wait before trying to interact with the modem. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |

# 4G

A 4G connection uses [4G](http://juci.iopsys.eu/v4.2.x/en/glossary/0/4g) interface over [LTE](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lte) / [HSPA+](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hspa).

## Overview

### 4G

Fourth-generation wireless telephone technology (4G), is a cellular network for digital mobile data communication for high-speed broadband.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Modem device | Modem to use for 4G traffic. |
| APN | [Access Point Name](http://juci.iopsys.eu/v4.2.x/en/glossary/a/apn). |
| PIN-Code | PIN code for identification. |
| PAP/CHAP Username | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| PAP/CHAP Password | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| Hostname to send when requesting DHCP | Hostname to include in DHCP requests. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use broadcast flag | Add broadcast flag to traffic. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### DHCP Options

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Client ID to send when requesting DHCP | Custom ID to use for DHCP requests. |  |
| Vendor Class to send when requesting DHCP | Use for device-specific DHCP options. |  |

# Point-to-point Tunnel

A Point-to-Point Tunnel connection uses [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) across a [VPN](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) tunnel to establish the network.

## Overview

### Point-to-Point Tunneling Protocol

Point-to-Point Tunneling Protocol (PTPT) is a technology for [virtual private networks](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) through [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) and a [GRE](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gre) with [PPP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppp) packets.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| VPN Server | [Virtual Private Network](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn) server. |
| PAP/CHAP Username | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| PAP/CHAP Password | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Enable IPv6 on the PPP link | Enables IPv6 connection from the provider. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

### LCP Options

The LCP options section contains [LCP](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lcp) configuration.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| LCP echo failure threshold | Number of echo failures before peer is considered dead. | Use 0 to ignore failures. |
| LCP echo interval | How often to send echo-requests. | Used together with failure threshold. |
| Inactivity timeout | Time until inactive connection is closed. | Use 0 to persist connection. |

# IPv6 Tunnel in IPv4

A IPv6 Tunnel in IPv4 connection uses IPv4 to transmit IPv6 traffic.

## Overview

### 6in4

6in4 is a method to transmit [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) traffic over explicit [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) connections.

The traffic is sent over the IPv4 Internet inside IPv4 packets whose IP headers have the IP protocol number set to 41.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Local IPv4 address | IPv4 address to use instead of WAN address. |
| Remote IPv4 address | Address to use tunnel broker [Point of Presence](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pop) |
| Local IPv6 address | Endpoint provided by the tunnel broker. |
| IPv6 routed prefix | Prefix to be used by clients. |
| Dynamic tunnel | Dynamic update of endpoint. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use default gateway | Use default route. |
| Use TTL on tunnnel interface | Data [Time To Live](http://juci.iopsys.eu/v4.2.x/en/glossary/t/ttl). |

# IPv6 Tunnel to IPv4

A IPv6 Tunnel to IPv4 connection uses IPv4 to transmit IPv6 traffic.

## Overview

### 6to4

6to4 is a method to transmit [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) traffic over [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) networks without having to configure explicit tunnels.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Local IPv4 address | IPv4 address to use instead of WAN address. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use default gateway | Use default route. |
| Use TTL on tunnnel interface | Data [Time To Live](http://juci.iopsys.eu/v4.2.x/en/glossary/t/ttl). |

# IPv6 rapid deployment

A IPv6 rapid deployment interface for IPv4 infrastructures.

Edit (ade:network:connections:6rd:start)

## Overview

### 6rd

6rd is a method for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) rapid deployment on Internet Service Provider [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) infrastructures, operating within the ISP's network.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| Local IPv4 address | IPv4 address to use instead of WAN address. |
| Remote IPv4 address | Address to the relay. |
| IPv6 prefix | Prefix assigned to provider. |
| IPv6 prefix length | no or 48 to 64 |
| IPv4 prefix length | Up to 43 bits. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Use default gateway | Use default route. |
| Use TTL on tunnnel interface | Data [Time To Live](http://juci.iopsys.eu/v4.2.x/en/glossary/t/ttl). |

# Dual-Stack Lite

A Dual-Stack Lite connection uses [DS-Lite](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ds_lite) through an [Address Family Transition Router](http://juci.iopsys.eu/v4.2.x/en/glossary/a/aftr) to establish the network.

## Overview

### DS-Lite

Dual-Stack Lite (DS-Lite) is a method for sharing of [IPv4 addresses](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) by combining [IPv4-in-IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/0/4in6) and [NAT](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat).

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| DS-Lite AFTR address | Address to [Address Family Transition Router](http://juci.iopsys.eu/v4.2.x/en/glossary/a/aftr). |
| Local IPv6 address | [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) to use instead of WAN address. |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Tunnel Link | Connection to use as tunnel link. |
| Use TTL on tunnnel interface | Data [Time To Live](http://juci.iopsys.eu/v4.2.x/en/glossary/t/ttl). |

# Point-to-Point Protocol over L2TP

A Point-to-Point Protocol over L2TP connection uses PPP and L2TP server to establish the network.

## Overview

### PPP

Point-to-Point Protocol (PPP) is a protocol for providing a direct data link connection with authentication, encryption and compression.

### L2TP

Layer 2 Tunneling Protocol (L2TP) is a protocol used to support [VPNs](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vpn), where security is provided in the transmitted packages rather than in the tunneling.

## Overview

### General

The general tab contains status information and settings relating to the protocol.

### Advanced

The advanced tab contains settings for management of advanced features for the connection.

# General

The general tab contains status information and settings relating to the protocol.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Status | Connection status. |
| Device | Device for the connection. |
| Protocol | Protocol in use. |
| L2TP Server | Address to [Layer 2 Tunneling Protoco](http://juci.iopsys.eu/v4.2.x/en/glossary/l/l2tp) server. |
| PAP/CHAP Username | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |
| PAP/CHAP Password | For authentication with [PAP](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pap) or [CHAP](http://juci.iopsys.eu/v4.2.x/en/glossary/c/chap). |

# Advanced

The advanced tab contains settings for management of advanced features for the connection.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Bring up on boot | Start the connection when device starts. |
| Use gateway metric | [Gateway metric](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway_metric) to use. |
| Override MAC address | Enforced [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address to use. |
| Override MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |
| Enable IPv6 on the PPP link | Enables IPv6 connection from the provider. |
| Use default gateway | Use default route. |
| Use DNS servers advertised by peer | Use DHCP DNS server. |

### Add/Remove custom DNS Servers

You can add as many custom DNS servers as you like, but they must be unique.

To add a custom DNS server:

* Click the  add button
* Add the IP numbers to the DNS server
* Click Save

To remove a custom DNS server:

* Click the  delete button next to the item to delete
* Click Save

# Routes

Static routes are useful if you have several networks accessible from your router and you want to correctly route packets between them.

## Overview

### IPv4 Routes

The IPv4 section lets you add [static routes](http://juci.iopsys.eu/v4.2.x/en/glossary/s/static_route) for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) .

### IPv6 Routes

The IPv6 section lets you add [static routes](http://juci.iopsys.eu/v4.2.x/en/glossary/s/static_route) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) .

## Add Static Route

To add a static route:

* Click the add button
* Enter information for the route fields.
* Click Apply

# IPv4 Routes

The IPv4 section lets you add [static routes](http://juci.iopsys.eu/v4.2.x/en/glossary/s/static_route) for [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) .

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
| Interface | Affected for the route. |  |
| Target | Destination [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Netmask | Applicable [netmask](http://juci.iopsys.eu/v4.2.x/en/glossary/n/netmask). |  |
| Gateway | IP address to the internet [gateway](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway). |  |
| Metric | Route [metric](http://juci.iopsys.eu/v4.2.x/en/glossary/r/route_metric). |  |
| MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |  |
| Delete | Remove route. |  |

# IPv6 Routes

The IPv6 section lets you add [static routes](http://juci.iopsys.eu/v4.2.x/en/glossary/s/static_route) for [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) .

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
| Interface | Affected for the route. |  |
| Target | Destination [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6). |  |
| Gateway | IP address to the internet [gateway](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway). |  |
| Metric | Route [metric](http://juci.iopsys.eu/v4.2.x/en/glossary/r/route_metric). |  |
| MTU | [MTU](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mtu) size to use. |  |
| Delete | Remove route. |  |

# Firewall

The firewall lets you filter traffic, set up port forwarding or expose particular services to the outside world.

## Overview

### General Settings

The general settings view allows you to turn the firewall on or off.

### Zones

The Zones view lets you can configure [firewall zones](http://juci.iopsys.eu/v4.2.x/en/glossary/f/firewall_zone) to group your firewall rules.

### Rules

Firewall rules are more fine grained filtering rules for filtering your traffic.

### Forwarding

[Port Forwarding](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port_forwarding) allows remote computers to connect to a specific device within your private network.

### DMZ / Exposed Host

A local network device can be made an Exposed Host. It is placed in the [DMZ](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dmz) outside of the firewall, which provides unrestricted Internet access to the network device.

# General Settings

The general settings view allows you to turn the firewall on or off.

## Firewall Settings

To enable the firewall:

* Click Enable Firewall

# Zones

The Zones view lets you can configure [firewall zones](http://juci.iopsys.eu/v4.2.x/en/glossary/f/firewall_zone) to group your firewall rules.

## 

At the top of the page is a list of selectable zones.

By default this list contains the LAN and WAN zones, which contain default settings for local and Internet traffic.

When a particular interface is selected, details about it is shown in the configuration section.

## Zone configuration

|  |  |
| --- | --- |
| Item | Description |
| Name | Identifier for the zone. |
| Default policy | Default behavior for various traffic. |
| Masquerading | Enable firewall [masquerading](http://juci.iopsys.eu/v4.2.x/en/glossary/m/masquerading). |
| MSS Clamping | [MSS Clamping](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mss_clamping) limit. |
| Allow forward to destination zones | Check zones to permit forwarding. |
| Allow forward from source zones | Check zones to permit forwarding. |
| Zone members | Interfaces that are part of the zone. |

### Default Policy

The default policy setting defines firewall rules that apply unless specific rules override them.

|  |  |
| --- | --- |
| Item | Description |
| Input | Incoming traffic from WAN. |
| Output | Outgoing traffic to WAN. |
| Forward | Traffic from LAN to WAN. |

The different default policy values determine the firewall behavior, through the firewall actions:

#### Firewall Action

The firewall action defines how traffic is handled by the firewall.

|  |  |
| --- | --- |
| Item | Description |
| ACCEPT | Allow the traffic. |
| REJECT | Refuse the traffic. |
| DROP | Ignore the traffic. |
| FORWARD | Pass the traffic along. |

### Add Firewall Zone

To add a firewall zone:

* Click the Add button
* Enter information in the fields
* Click Apply

Once the zone has been created, you can use it with your .

### Add Zone Members

If you have networks/devices set up, you can add them to the zone.

To add a device as a zone member:

* Click the Add button

The Select network device dialog opens.

* Open the select network menu
* Select the device
* Click OK
* Click Apply

# Rules

Firewall rules are more fine grained filtering rules for filtering your traffic.

## View

The page shows the configured rules. Each rule can be modified by clicking the Edit button.

Once you have chosen to edit one rule, the edit view is shown consistently, and you can quickly switch between configured rules by selecting them in the list.

### Configuration

When a particular interface is selected, details about it is shown in the configuration section.

#### General

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Enabled | Turn firewall rule on or off. |  |
| Expose To | Users with access to the rule. |  |
| Name | Identifier for the rule. |  |

#### Source / Destination

Where applicable, the configuration is divided into separate sections for source and destination zones.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Zone | Device / Any / LAN / WAN |  |
| IP | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4_address) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6_address) address. |  |
| MAC | [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. |  |
| Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) affected. |  |

#### Parameters

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| IP version | Any / [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |  |
| Protocol | Protocol affected: ([UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) / TCP + UDP / [ESP](http://juci.iopsys.eu/v4.2.x/en/glossary/e/esp)) |  |
| Firewall action | to perform. |  |

### Add Firewall Rule

* Click the Add button

A new rule named new\_rule is added at the bottom of the list.

* Click the Edit button for the new rule
* Enter properties as needed.
* Click OK
* Click Apply

### Reorder Firewall Rules

The firewall rules are applied in order from top to bottom in the list.

You can rearrange the rules by using the buttons:

|  |  |  |
| --- | --- | --- |
|  | Move up |  |
|  | Move down |  |

# Default Firewall Rules

A number of sample firewall rules are enabled by default, providing a basic set of filtering for the network.

|  |  |
| --- | --- |
| Rule | Purpose |
| Allow-Ping | Permit ping from WAN to device. |
| Allow-DHCP-Renew | Permit traffic from WAN to any zone. |
| Allow-IGMP | Permit [IGMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp) traffic from WAN to IPv4 devices. |
| Allow-DHCPv6 | Permit IPV6 traffic from WAN to IPV6 device. |
| Allow-MLD | Permit MLD traffic over [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) from WAN to IPV6 devices. |
| Allow-ICMPv6-Input | Permit [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) traffic from WAN to IPV6 devices. |
| Allow-ICMPv6-Forward | Permit [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) traffic from WAN to any zone. |
| Allow-IPsec/ESP | Permit [IPsec](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipsec) over [ESP](http://juci.iopsys.eu/v4.2.x/en/glossary/e/esp) traffic from WAN to LAN. |
| Allow-ISAKMP-Passthrough | Permit [ISAKMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/isakmp) over [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) traffic from WAN to LAN. |

# Forwarding

[Port Forwarding](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port_forwarding) allows remote computers to connect to a specific device within your private network.

## Configuration

The forwarding list shows information about any configured port forwarding rules.

|  |  |
| --- | --- |
| Item | Comment |
| Name | Identifier for the mapping. |
| Direction | [zone](http://juci.iopsys.eu/v4.2.x/en/glossary/f/firewall_zone) involved |
| Dst. IP Address | Client [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |
| Protocol | Mapping [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol) ([UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / TCP + UDP ). |
| Public port(s) | Public (external) [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |
| Private port(s) | Private (client) [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |

## Overview

### Add or Edit Port Mapping

The Add or Edit Port Mapping view allows you to add or change [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) mapping settings.

# Add or Edit Port Mapping

The Add or Edit Port Mapping view allows you to add or change [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) mapping settings.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Rule Name | Rule name. |  |
| Source Zone | Incoming [zone](http://juci.iopsys.eu/v4.2.x/en/glossary/f/firewall_zone). |  |
| Destination Zone | Destination [zone](http://juci.iopsys.eu/v4.2.x/en/glossary/f/firewall_zone). |  |
| Source IP Address | Source [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) (for filtering). |  |
| Dst. Device | Client [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |  |
| Dst. IP Address | Client [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Protocol | Mapping [protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/p/protocol) | ([UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / TCP + UDP ). |
| Public port(s) | Public (external) [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |  |
| Private port(s) | Private (client) [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |  |
| NAT Loopback | Enable [NAT Loopback](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat_loopback) |  |

### Protocol

The protocol setting filters traffic by protocol for the port forward.

|  |  |
| --- | --- |
| Protocol | Description |
| TCP + UDP | Both [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) and [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp). |
| TCP | [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) only. |
| UDP | [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) only. |

## Port Mapping Settings

To map incoming connections:

* Click the  add button to open the settings

The port mapping dialog lets you add configuration settings for the mapping.

Ports can be added one by one (80) or as ranges (21:22).

* Add information:
  + Add a name as identification
  + Add ports:
    - Add public/incoming port(s)
    - Add private/client port(s)
  + Select protocol
* Click Save
* Click Close

Your information is saved and is visible in the mapping list.

# DMZ / Exposed Host

A local network device can be made an Exposed Host. It is placed in the [DMZ](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dmz) outside of the firewall, which provides unrestricted Internet access to the network device.

## Configuration

|  |  |
| --- | --- |
|  |  |
| WAN IP Address | Public [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) and [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) for the DMZ. |
| Host IPv4 Address | IPv4 of device to place in DMZ. |
| Host IPv6 Address | IPv6 of device to place in DMZ. |
| Select Existing Host | Dropmenu to select connected devices. |

## Add Exposed Host

To allow DMZ/exposed host:

* Click Enable to enable an exposed host
* Enter the local IP address to expose
* Alternatively, click select existing host

Note: You should also configure the DMZ IP address as static DHCP address for your device.

# Parental Control

Parental control is used to restrict access to the network for particular devices.

## Internet Access Scheduling

Parental control is handled by setting schedules where access is restricted to explicitly named [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) addresses.

|  |  |
| --- | --- |
| Item | Description |
| Weekdays | List of days the filter applies. |
| Start Time | Time of day to start filtering. |
| Stop Time | Time of day to stop filtering. |
| Host Names | List of devices / [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) addresses. |

## Overview

### Add / Edit MAC Filter Scheduling

The Add / Edit MAC Filter Scheduling view allows you to add or change parental control rules.

# Add / Edit MAC Filter Scheduling

The Add / Edit MAC Filter Scheduling view allows you to add or change parental control rules.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Comment | Comment |
| Time Frame | Quick select for time predefined time periods. | Individual Days/Every Day/Every Workday/All Weekend |

|  |  |
| --- | --- |
| Item | Description |
| Weekdays | List of days the filter applies. |
| Start Time | Time of day to start filtering. |
| Stop Time | Time of day to stop filtering. |
| Mac List | Dropdown to select list of devices / [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) addresses to include in the rule. |

### Start and Stop Times

The start time for a rule has to be lower than the end time.

If you want to have a rule that goes over midnight, you need to add two rules, one up until midnight, and one from midnight to when you want the rule to end.

For example:

Rule one: From 21:00 To 23:59 Rule two: From 00:00 To 06:00

A single rule of From 21:00 To 06:00 will not be saved.

# Quality Of Service

The Quality Of Service view allows you to configure parameters for [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) through applying [groups](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) of [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class) to interfaces.

## Interface views

### Interface

The interface tab lets you select interfaces and configure [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) profiles for them.

### Class

The class tab lets you manage QoS .

### Classification Group

The Classification Group tab lets you manage groupings of [QoS classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

classgroup blocks are used to define different class groupings. This is only really useful if you wish to have multiple interfaces with different class considerations, for example, you might want eth1 to have an ultrapriority class or something.

This is useful when you have multiple [interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface) and want to manage classes differently for them.

### Classify

The classify tab lets you configure filtering parameters in order to define types of traffic to include in which [Class](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

Classification assigns a to traffic in a connection, but only affect connections which have not been assigned a traffic class already.

### Reclassify

The Reclassify tab lets you configure filtering parameters in order to redefine types of traffic to include in which [Class](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

Reclassification can override the on a per packet basis without altering the defined .

## Workflow

### Workflow

In order to use [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) on the traffic for your device, you need to perform a number of configurations.

### 1: Class

The [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class) define how network traffic is to be prioritized and allocated.

There are a number of predefined classes, but you can add your own.

### 2: Classify/Reclassify

In order to direct traffic to the correct classes, you need to define classificaton rules in the Classify tab.

Since the classification only affects connections that haven't already been classified you may also need to apply filters in the Reclassify tab.

### 3: Class Group

With the classes defined, you can add and order them in a class group in the Class Group tab.

If you have multiple interfaces, and want different QoS settings for them, you can create multiple class groups.

### 4: Enable

As a final step, you enable QoS for the desired interface in the Interface tab.

# Workflow

In order to use [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) on the traffic for your device, you need to perform a number of configurations.

## Process

### Configuration steps

The order of operations involved in configuring QoS is different from the order in which the interface displays the setting tabs. Not all settings are needed in all cases.

#### 1: Class

The [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class) define how network traffic is to be prioritized and allocated.

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#### 2: Classify/Reclassify

In order to direct traffic to the correct classes, you need to define classificaton rules in the Classify tab.

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With the classes defined, you can add and order them in a class group in the Class Group tab.

If you have multiple interfaces, and want different QoS settings for them, you can create multiple class groups.

#### 4: Enable

As a final step, you enable QoS for the desired interface in the Interface tab.

# 1: Class

The [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class) define how network traffic is to be prioritized and allocated.

There are a number of predefined classes, but you can add your own.

## Predefined Classes

### Class

There are a number of predefined classes QoS [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class). Each class is a set of definitions for a [token bucket](http://juci.iopsys.eu/v4.2.x/en/glossary/t/token_bucket).

#### Default Settings

The predefined classes can be edited and all values changed, but they have default settings that should be suitable in normal cases.

##### Priority

The priority class is an upstream class for high priority traffic such as handshaking and ICMP packets.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 20 |
| Average Rate | Average target rate (%). | 10 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 400 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

##### Priority\_down

The Priority\_down class is an downstream class for high priority traffic.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 1 |
| Average Rate | Average target rate (%). | 10 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

##### Express

The Express class is for interactive applications that require bandwidth above standard services so that interactive apps run smoothly.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 10 |
| Average Rate | Average target rate (%). | 50 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

##### Normal

The Normal Class is the standard upstream class for all services.

This class will apply to all services not otherwise defined.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 5 |
| Average Rate | Average target rate (%). | 10 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1500 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 100 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

##### Normal\_down

The Normal\_down class is the standard downstream class for all services.

This class will apply to all services not otherwise defined.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 1 |
| Average Rate | Average target rate (%). | 20 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1500 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

##### Bulk

The bulk class is suitable for very low priority traffic. It will be allocated available bandwidth if other classes are idle. When other classes are active, it will be allocated bandwidth according to the priority setting.

It is suitable for transfer services such as (P2P and FTP).

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 1 |
| Average Rate | Average target rate (%). | 1 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1500 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 200 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

## Tab

### Class

The class tab lets you manage QoS .

#### Overview

At the top of the page is a list of selectable classes.

When a particular class is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Priority | Bandwidth allocation limit (%). |  |
| Average Rate | Average target rate (%). |  |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). |  |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | See note. |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | See note. |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). |  |

Note: Packet Size and Packet Delay rely on the Average Rate setting. The average rate is impacted by the maximum packet delay and the transfer time for the packet size. Generally the delay is lower for smaller packet sizes.

## Configuration Values

### Priority

The Priority indicates the bandwidth allocation limit as a percentage of total available bandwidth.

ls m2 = priority / sum (priority) \* max\_bandwidth

### Limit Rate

The Limit Rate provides a maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth), expressed as a percentage of the total available bandwidth.

ul rate = limitrate \* max\_bandwidth / 100

### Average Rate

The Average target rate is a percentage of the total available bandwidth.

Average rate for this class, value in % of bandwidth (this value uses for calculate vaues

'Nx' of 'tc … hfsc rt m1 N1 d N2 m2 N3'

Note: Packet Size and Packet Delay rely on the Average Rate setting. The average rate is impacted by the maximum packet delay and the transfer time for the packet size. Generally the delay is lower for smaller packet sizes.

#### Packet Size

Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes).

packetsize & packetdelay: (only works if avgrate is present)

rt d = max( packetdelay, 'time required for packetsize to transfer')  
ls d = rt d

#### Packet Delay

Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms).

### Max Size

The maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) indicates the maximum packet size in iptables.

# 2: Classify/Reclassify

In order to direct traffic to the correct classes, you need to define classificaton rules in the Classify tab.

Since the classification only affects connections that haven't already been classified you may also need to apply filters in the Reclassify tab.

## Tabs

### Classify

The classify tab lets you configure filtering parameters in order to define types of traffic to include in which [Class](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

Classification assigns a to traffic in a connection, but only affect connections which have not been assigned a traffic class already.

#### Overview

At the top of the page is a list of selectable classification groups.

When a particular group is selected, details about it is shown in the configuration section.

Adding a parameter will filter out traffic according to the parameters and assign it to the group.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description | Comment |  |
| Target | Classification [Group](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) to assign. | As configured in settings |  |
| Protocol | Protocol affected. | All / [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) |  |
| Source Host | Originating host(s) to affect. | All / Specific host |  |
| Destination Host | Receiving host(s) to affect. | All / Specific host |  |
| Ports | Settings for ports filtering. | Port/Source/Destination/Port range |  |
| Direction | Direction of traffic to be affected by the classificaton. | Both/In/Out |  |
| Connbytes | [Connection Bytes](http://juci.iopsys.eu/v4.2.x/en/glossary/c/connection_bytes) for when to start filtering. |  |  |

##### Ports Filtering

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Ports | List of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |
| Source | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in source. |  |
| Destination | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in destination. |  |
| Port Range | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |

### Reclassify

The Reclassify tab lets you configure filtering parameters in order to redefine types of traffic to include in which [Class](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

Reclassification can override the on a per packet basis without altering the defined .

#### Overview

At the top of the page is a list of selectable classification groups.

When a particular group is selected, details about it is shown in the configuration section.

Adding a parameter will filter out traffic according to the parameters and assign it to the group.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description | Comment |  |
| Target | Classification [Group](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) to assign. | As configured in settings |  |
| Protocol | Protocol affected. | All / [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) |  |
| Source Host | Originating host(s) to affect. | All / Specific host |  |
| Destination Host | Receiving host(s) to affect. | All / Specific host |  |
| Ports | Settings for ports filtering. | Port/Source/Destination/Port range |  |
| Direction | Direction of traffic to be affected by the classificaton. | Both/In/Out |  |
| Connbytes | [Connection Bytes](http://juci.iopsys.eu/v4.2.x/en/glossary/c/connection_bytes) for when to start filtering. |  |  |
| Precedence | Quality of service parameters relating for [precedence](http://juci.iopsys.eu/v4.2.x/en/glossary/p/precedence). |  |  |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) to match. | Minimum size From or From-To range. |  |
| Mark | Hexadecimal [mark code](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_mark) to att to the packets. (0x000000-0xFFFFFF) |  |  |
| TCP flags | [TCP Flags](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp_flags) to match. | SYN/ACK/FIN/RST/URG/PSH |  |

##### Ports Filtering

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Ports | List of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |
| Source | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in source. |  |
| Destination | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in destination. |  |
| Port Range | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |

# 3: Class Group

With the classes defined, you can add and order them in a class group in the Class Group tab.

If you have multiple interfaces, and want different QoS settings for them, you can create multiple class groups.

## Tab

### Classification Group

The Classification Group tab lets you manage groupings of [QoS classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

classgroup blocks are used to define different class groupings. This is only really useful if you wish to have multiple interfaces with different class considerations, for example, you might want eth1 to have an ultrapriority class or something.

This is useful when you have multiple [interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface) and want to manage classes differently for them.

#### Overview

At the top of the page is a list of selectable classification groups.

When a particular group is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Default Class | Class to use as fallback if packets don't match any other class. |  |
| Classes | Classes to include in the group. | Note: You need to for it to be available in the list. |

The Default Classgroup contains these : - Priority - Express - Normal - Bulk

# 4: Enable

As a final step, you enable QoS for the desired interface in the Interface tab.

## Tab

### Interface

The interface tab lets you select interfaces and configure [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) profiles for them.

#### Overview

At the top of the page is a list of selectable interfaces.

When a particular interface is selected, details about it is shown in the configuration section.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description |  |  |
| Enable QoS | Turn the [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) on for the interface. |  |  |
| Classification Group | [Classification group](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) to use for the interface. |  | Note: You need to for it to be available in the list. |
| Calculate Overhead | Include [overhead](http://juci.iopsys.eu/v4.2.x/en/glossary/o/overhead) in the packet calculations for [shaping](http://juci.iopsys.eu/v4.2.x/en/glossary/s/shaping) and [policing](http://juci.iopsys.eu/v4.2.x/en/glossary/p/policing). |  |  |
| Limit Download Speed | Restrict the network speed to clients. |  |  |
| Limit Upload Speed | Restrict the network speed from clients. |  |  |

# Class

The class tab lets you manage QoS .

## Overview

At the top of the page is a list of selectable classes.

When a particular class is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Priority | Bandwidth allocation limit (%). |  |
| Average Rate | Average target rate (%). |  |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). |  |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | See note. |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | See note. |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). |  |

Note: Packet Size and Packet Delay rely on the Average Rate setting. The average rate is impacted by the maximum packet delay and the transfer time for the packet size. Generally the delay is lower for smaller packet sizes.

# Add Class

You can add as many classes as you like.

### Add Class

To add a class:

* Click the Add button
* Enter a Name for the class
* Enter QoS values as needed.
* Click Apply

# Class

There are a number of predefined classes QoS [classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class). Each class is a set of definitions for a [token bucket](http://juci.iopsys.eu/v4.2.x/en/glossary/t/token_bucket).

## Default Settings

The predefined classes can be edited and all values changed, but they have default settings that should be suitable in normal cases.

### Priority

The priority class is an upstream class for high priority traffic such as handshaking and ICMP packets.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 20 |
| Average Rate | Average target rate (%). | 10 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 400 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

### Priority\_down

The Priority\_down class is an downstream class for high priority traffic.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 1 |
| Average Rate | Average target rate (%). | 10 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

### Express

The Express class is for interactive applications that require bandwidth above standard services so that interactive apps run smoothly.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 10 |
| Average Rate | Average target rate (%). | 50 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

### Normal

The Normal Class is the standard upstream class for all services.

This class will apply to all services not otherwise defined.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 5 |
| Average Rate | Average target rate (%). | 10 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1500 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 100 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

### Normal\_down

The Normal\_down class is the standard downstream class for all services.

This class will apply to all services not otherwise defined.

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 1 |
| Average Rate | Average target rate (%). | 20 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1500 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 0 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

### Bulk

The bulk class is suitable for very low priority traffic. It will be allocated available bandwidth if other classes are idle. When other classes are active, it will be allocated bandwidth according to the priority setting.

It is suitable for transfer services such as (P2P and FTP).

|  |  |  |
| --- | --- | --- |
| Item | Description | Default Value |
| Priority | Bandwidth allocation limit (%). | 1 |
| Average Rate | Average target rate (%). | 1 |
| Limit Rate | Maximum allowed [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) (%). | 100 |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1500 |
| Packet Delay | Target [delay](http://juci.iopsys.eu/v4.2.x/en/glossary/d/delay) for packets (ms). | 200 |
| Max Size | Maximum size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) (bytes). | 1000 |

# Interface

The interface tab lets you select interfaces and configure [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) profiles for them.

## Overview

At the top of the page is a list of selectable interfaces.

When a particular interface is selected, details about it is shown in the configuration section.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description |  |  |
| Enable QoS | Turn the [Quality of Service](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos) on for the interface. |  |  |
| Classification Group | [Classification group](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) to use for the interface. |  | Note: You need to for it to be available in the list. |
| Calculate Overhead | Include [overhead](http://juci.iopsys.eu/v4.2.x/en/glossary/o/overhead) in the packet calculations for [shaping](http://juci.iopsys.eu/v4.2.x/en/glossary/s/shaping) and [policing](http://juci.iopsys.eu/v4.2.x/en/glossary/p/policing). |  |  |
| Limit Download Speed | Restrict the network speed to clients. |  |  |
| Limit Upload Speed | Restrict the network speed from clients. |  |  |

# Add Interface

You can add Interfaces as needed.

### Add Interface

To add an interface:

* Click the Add button

The interface dialog opens.

* Select an Interface from the list
* Click OK
* Enable other settings as needed:
  + Turn QoS on with the Enable QoS slider
  + Select an available Classification Group
  + Turn QoS on with the Limit Download Speed slider
    - Enter a speed value (kbps)
  + Turn QoS on with the Limit Upload Speed slider
    - Enter a speed value (kbps)
* Click Apply

# Classification Group

The Classification Group tab lets you manage groupings of [QoS classes](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

classgroup blocks are used to define different class groupings. This is only really useful if you wish to have multiple interfaces with different class considerations, for example, you might want eth1 to have an ultrapriority class or something.

This is useful when you have multiple [interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface) and want to manage classes differently for them.

## Overview

At the top of the page is a list of selectable classification groups.

When a particular group is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Default Class | Class to use as fallback if packets don't match any other class. |  |
| Classes | Classes to include in the group. | Note: You need to for it to be available in the list. |

The Default Classgroup contains these : - Priority - Express - Normal - Bulk

# Add Classification Group

You can add Classification Groups as needed.

### Add Classification Group

To add a class group:

* Click the Add button
* Enter a Name for the group
* Select Default group
* Add classes as needed:
  + Click Add a new class
  + Select the desired class from the list
* Click Apply

# Classify

The classify tab lets you configure filtering parameters in order to define types of traffic to include in which [Class](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

Classification assigns a to traffic in a connection, but only affect connections which have not been assigned a traffic class already.

## Overview

At the top of the page is a list of selectable classification groups.

When a particular group is selected, details about it is shown in the configuration section.

Adding a parameter will filter out traffic according to the parameters and assign it to the group.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description | Comment |  |
| Target | Classification [Group](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) to assign. | As configured in settings |  |
| Protocol | Protocol affected. | All / [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) |  |
| Source Host | Originating host(s) to affect. | All / Specific host |  |
| Destination Host | Receiving host(s) to affect. | All / Specific host |  |
| Ports | Settings for ports filtering. | Port/Source/Destination/Port range |  |
| Direction | Direction of traffic to be affected by the classificaton. | Both/In/Out |  |
| Connbytes | [Connection Bytes](http://juci.iopsys.eu/v4.2.x/en/glossary/c/connection_bytes) for when to start filtering. |  |  |

### Ports Filtering

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Ports | List of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |
| Source | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in source. |  |
| Destination | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in destination. |  |
| Port Range | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |

# Add Classification Group

You can add Classification Filters as needed.

### Add Filter

To add a filter:

* Click the Add button
* Select Classification group
* Enter QoS values as needed.
* Click Apply

# Order

The filters are prioritized in order from top to bottom in the list.

### Reorder

You can rearrange the classes by using the buttons:

|  |  |  |
| --- | --- | --- |
|  | Move up |  |
|  | Move down |  |

# Reclassify

The Reclassify tab lets you configure filtering parameters in order to redefine types of traffic to include in which [Class](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_class).

Reclassification can override the on a per packet basis without altering the defined .

## Overview

At the top of the page is a list of selectable classification groups.

When a particular group is selected, details about it is shown in the configuration section.

Adding a parameter will filter out traffic according to the parameters and assign it to the group.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description | Comment |  |
| Target | Classification [Group](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_group) to assign. | As configured in settings |  |
| Protocol | Protocol affected. | All / [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) |  |
| Source Host | Originating host(s) to affect. | All / Specific host |  |
| Destination Host | Receiving host(s) to affect. | All / Specific host |  |
| Ports | Settings for ports filtering. | Port/Source/Destination/Port range |  |
| Direction | Direction of traffic to be affected by the classificaton. | Both/In/Out |  |
| Connbytes | [Connection Bytes](http://juci.iopsys.eu/v4.2.x/en/glossary/c/connection_bytes) for when to start filtering. |  |  |
| Precedence | Quality of service parameters relating for [precedence](http://juci.iopsys.eu/v4.2.x/en/glossary/p/precedence). |  |  |
| Packet Size | Size of [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) to match. | Minimum size From or From-To range. |  |
| Mark | Hexadecimal [mark code](http://juci.iopsys.eu/v4.2.x/en/glossary/q/qos_mark) to att to the packets. (0x000000-0xFFFFFF) |  |  |
| TCP flags | [TCP Flags](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp_flags) to match. | SYN/ACK/FIN/RST/URG/PSH |  |

### Ports Filtering

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Ports | List of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |
| Source | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in source. |  |
| Destination | Included [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) in destination. |  |
| Port Range | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) anywhere (source and destination). |  |

# Order

The filters are prioritized in order from top to bottom in the list.

### Reorder

You can rearrange the classes by using the buttons:

|  |  |  |
| --- | --- | --- |
|  | Move up |  |
|  | Move down |  |

### Add Filter

You can add Reclasssify filters as needed.

## Add Filter

To add a filter:

* Click the Add button
* Select Classification group
* Enter QoS values as needed.
* Click Apply

# Add WAN

# MultiWAN

The MultiWAN view allows you to create and configure WAN traffic divisions for [load balancing](http://juci.iopsys.eu/v4.2.x/en/glossary/l/load_balancing) and [failover](http://juci.iopsys.eu/v4.2.x/en/glossary/f/failover) and applying traffic .

## Introduction

Using the MultiWAN feature, you can enable up to 250 WAN interfaces to:

* Provide load balancing over multiple WAN interfaces based on a numeric weight assignment.
* Monitor connections using repeated ping tests and can automatically route outbound traffic to another WAN interface if the first WAN interface loses connectivity.
* Set rules to customize which outbound connections should use which WAN interface
* Customize rules based on various parameters such as IP:s, port(s) and protocol.

Why should I use mwan3?

If you have multiple internet connections, you want to control which traffic goes through which WANs

Mwan3 can handle multiple levels of primary and backup interfaces, load-balanced or not. Different sources can have different primary or backup WANs.

Mwan3 uses netfilter mark mask to be compatible with other packages (such as OpenVPN, PPTP VPN, QoS-script, Tunnels, etc) as you can configure traffic to use the default routing table.

Mwan3 can also load-balance traffic originating from the router itself

## Tabs

The MultiWAN settings are divided into tabs.

### Settings

The MultiWAN Settings tab allows you to add or edit multiple [WAN](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wan) connections and turn them on or off. You can also configure thresholds for WAN up/down detection and reliability monitoring.

### Members

The Members tab allows you to create member groups for interfaces, to use with policies for traffic management. The metric and weight settings are used to manage traffic in the member groups.

### Policies

The Policies tab allows you to group members into policy sets for use with the traffic .

### Rules

The Rules tab allows you to define how LAN traffic should be filtered and distributed over the available WANs.

Rules are the way the Policies are applied to the traffic. Each Rule targets packets with some kind of filter.

The Rules are applied in order from top to bottom. Multiple rules that can use the same but target different traffic.

## Workflow

### Workflow

In order to use the [multiwan](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multiwan) feature, you need to do a number of configurations.

### 1: WAN Interfaces

As a first step, you need to add all network interfaces that should be part of the MultiWAN.

### 2: Members

Next, each interface must have at least one member, with per interface giving it appropriate Metric and Weight.

### 3: Policies

With the set up, you must create at least one policy containing at least two members.

### 4: Rules

As the final step you can set up the rules that will govern how traffic is handled.

# Workflow

In order to use the [multiwan](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multiwan) feature, you need to do a number of configurations.

## Process

### Configuration Steps

The order of operations involved in configuring MultiWan is roughly the same as the order in which the interface displays the setting tabs.

#### 1: WAN Interfaces

As a first step, you need to add all network interfaces that should be part of the MultiWAN.

#### 2: Members

Next, each interface must have at least one member, with per interface giving it appropriate Metric and Weight.

#### 3: Policies

With the set up, you must create at least one policy containing at least two members.

#### 4: Rules

As the final step you can set up the rules that will govern how traffic is handled.

# 1: WAN Interfaces

As a first step, you need to add all network interfaces that should be part of the MultiWAN.

## Important

The following prerequisites apply:

* The interface must be enabled and working.
* All addresses defined in the settings are reachable from the interface.
* The must be enabled for the interface.
* The must be unique for the interface.

## Tab

### Settings

The MultiWAN Settings tab allows you to add or edit multiple [WAN](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wan) connections and turn them on or off. You can also configure thresholds for WAN up/down detection and reliability monitoring.

#### Configuration

Below the general settings is a list of selectable WANs.

When a particular WAN is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Enabled | Turn WAN on or off. |  |
| Family | Type of WAN. | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |
| Tracking Type | Method to determine if the WAN is online. | IP / Gateway / DNS |
| Host(s) to ping | List of hosts to [ping](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ping). | Used to determine WAN status. If this value is not set, the interface is always considered up. |
| Interface Reliability | Number of hosts that must reply for the interface to be considered up. | At least this many hosts must be defined or the interface will always be considered down. |
| Number of Pings | Number of [pings](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ping) to send to each host. |  |
| Timeout | Number of seconds to wait for reply from host. |  |
| Interval | Number of seconds between each test. |  |
| Up | Number of successful tests to consider interface as up. |  |
| Down | Number of failed tests to consider interface as down. |  |

#### Overview

##### Add WAN

You can add as many WANS as you have WAN [interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface).

# 2: Members

Next, each interface must have at least one member, with per interface giving it appropriate Metric and Weight.

## Naming The Members

A good way to keep track of the members and make them easier to find when applying , is to use a regular naming scheme.

The following scheme will provide a good structure:

<interface>\_m<metric>\_w<weight>

and allow you to know the setup from the name alone.

## Tabs

### Members

The Members tab allows you to create member groups for interfaces, to use with policies for traffic management. The metric and weight settings are used to manage traffic in the member groups.

#### Configuration

Below the general settings is a list of selectable members.

When a particular member is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Interface | Interface configured in the tab. |  |
| Metric | Precedence metric. | Members within one policy with a lower metric have precedence over higher metric members. |
| Weight | Distribution weight. | Members with same metric will distribute load based on this weight value. |

# 3: Policies

With the set up, you must create at least one policy containing at least two members.

## Tab

### Policies

The Policies tab allows you to group members into policy sets for use with the traffic .

#### Configuration

At the top of the page is a list of policies.

When a particular policy is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Selected members | List of members configured in the tab. |  |

# 4: Rules

As the final step you can set up the rules that will govern how traffic is handled.

## Tab

### Rules

The Rules tab allows you to define how LAN traffic should be filtered and distributed over the available WANs.

Rules are the way the Policies are applied to the traffic. Each Rule targets packets with some kind of filter.

The Rules are applied in order from top to bottom. Multiple rules that can use the same but target different traffic.

#### Configuration

At the top of the page is a list of rules.

When a particular rule is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Policy to use | Policy configured in the tab. | Default means the default [routing table](http://juci.iopsys.eu/v4.2.x/en/glossary/r/routing_table) will be used. |
| Any Source IP | Enable to match all origins, regardless of IP address. |  |
| Source Address | External target [IP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip) address. |  |
| Source Port | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to match. |  |
| Any Destination IP | Enable to match all destinations, regardless of IP address. |  |
| Destination Address | External target [IP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip) address. |  |
| Destination Port | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to match. |  |
| Protocol | Protocols affected by the rule. | All / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) |

# Settings

The MultiWAN Settings tab allows you to add or edit multiple [WAN](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wan) connections and turn them on or off. You can also configure thresholds for WAN up/down detection and reliability monitoring.

## Configuration

Below the general settings is a list of selectable WANs.

When a particular WAN is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Enabled | Turn WAN on or off. |  |
| Family | Type of WAN. | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |
| Tracking Type | Method to determine if the WAN is online. | IP / Gateway / DNS |
| Host(s) to ping | List of hosts to [ping](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ping). | Used to determine WAN status. If this value is not set, the interface is always considered up. |
| Interface Reliability | Number of hosts that must reply for the interface to be considered up. | At least this many hosts must be defined or the interface will always be considered down. |
| Number of Pings | Number of [pings](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ping) to send to each host. |  |
| Timeout | Number of seconds to wait for reply from host. |  |
| Interval | Number of seconds between each test. |  |
| Up | Number of successful tests to consider interface as up. |  |
| Down | Number of failed tests to consider interface as down. |  |

## Overview

### Add WAN

You can add as many WANS as you have WAN [interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface).

# Add WAN

You can add as many WANS as you have WAN [interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface).

## Add WAN Interface

To add a WAN:

* Click the Add button
* Select an available Interface

A new WAN is added to the list.

* Edit the parameters as needed.
* Click Apply

# Members

The Members tab allows you to create member groups for interfaces, to use with policies for traffic management. The metric and weight settings are used to manage traffic in the member groups.

## Configuration

Below the general settings is a list of selectable members.

When a particular member is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Interface | Interface configured in the tab. |  |
| Metric | Precedence metric. | Members within one policy with a lower metric have precedence over higher metric members. |
| Weight | Distribution weight. | Members with same metric will distribute load based on this weight value. |

# Add Member

You can add as many rules as you like.

### Add Member

To add a member:

* Click the Add button
* Enter a Name

A new rule is added to the list.

* Select the [WAN](http://juci.iopsys.eu/v4.2.x/en/ade/network/multiwan/settings/start) to add as member
* Edit the parameters as needed.
* Click Apply

# Policies

The Policies tab allows you to group members into policy sets for use with the traffic .

## Configuration

At the top of the page is a list of policies.

When a particular policy is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Selected members | List of members configured in the tab. |  |

# Add Policy

You can add as many Policies as you like.

## Add Policy Configuration

To add a policy:

* Click the Add button
* Enter a Name

A new member is added to the list.

* Click the Edit button
* Select to add to the policy
* Click Apply

# Rules

The Rules tab allows you to define how LAN traffic should be filtered and distributed over the available WANs.

Rules are the way the Policies are applied to the traffic. Each Rule targets packets with some kind of filter.

The Rules are applied in order from top to bottom. Multiple rules that can use the same but target different traffic.

## Configuration

At the top of the page is a list of rules.

When a particular rule is selected, details about it is shown in the configuration section.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Policy to use | Policy configured in the tab. | Default means the default [routing table](http://juci.iopsys.eu/v4.2.x/en/glossary/r/routing_table) will be used. |
| Any Source IP | Enable to match all origins, regardless of IP address. |  |
| Source Address | External target [IP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip) address. |  |
| Source Port | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to match. |  |
| Any Destination IP | Enable to match all destinations, regardless of IP address. |  |
| Destination Address | External target [IP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip) address. |  |
| Destination Port | Range of [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to match. |  |
| Protocol | Protocols affected by the rule. | All / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) |

# Add Rule

You can add as many rules as you like.

### Add Rule

To add a rule:

* Click the Add button
* Enter a Name (Note: This cannot be changed later.)

A new rule is added to the list.

* Click the Edit button
* Edit the parameters as needed.
* Click Apply

# Services

The Services view allows you to configure the services connected device.

## Overview

### Printer Server

The Printer Server Settings view allows you to change different features about your printer server for connected printers.

### MiniDLNA

The MiniDLNA view lets you configure the [MiniDLNA](http://juci.iopsys.eu/v4.2.x/en/glossary/m/minidlna) server.

### UPnP

The UPNP view allows you to configure [UPNP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) services.

### DDNS

The DDNS view allows you configure [Dynamic DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ddns) services for your device.

### IPTV

The IPTV view lets you configure the [IPTV](http://juci.iopsys.eu/v4.2.x/en/glossary/i/iptv) server.

### DHCP

The DHCP view lets you configure the [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) server settings.

### SNMP

The SNMP Configuration view lets you configure the [Simple Network Management Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snmp) service.

### Samba

In the Samba view you can change settings for the [Samba](http://juci.iopsys.eu/v4.2.x/en/glossary/s/samba)server.

# Printer Server

The Printer Server Settings view allows you to change different features about your printer server for connected printers.

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| Enable | Turn printer server on or off. |
| Interface | Interface to listen on |
| Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to listen on. |
| Bidirectional mode | Allow printer to communicate with client. |

# MiniDLNA

The MiniDLNA view lets you configure the [MiniDLNA](http://juci.iopsys.eu/v4.2.x/en/glossary/m/minidlna) server.

## Overview

### Status

For Enabled At the top of the page is a status window that can be expanded to display the current MiniDLNA status.

### General

In the General settings tab you can change different general features about your MiniDLNA server.

### Advanced

In the Advanced tab you can change different advanced features about your media server.

# Status

For Enabled At the top of the page is a status window that can be expanded to display the current MiniDLNA status.

## Show Status

To view the status window, click the expand icon.

### Media Library

In the media library table, the number of audio, video and image files on the server is shown.

|  |  |
| --- | --- |
| Column | Description |
| Audio files | 0 |
| Video files | 0 |
| Image files | 0 |

### Connected Clients

The Connected Clients table displays information about possible clients and their connections to the server.

|  |  |
| --- | --- |
| Column | Description |
| ID | Client ID. |
| Type | Type of client (as identified by the client). |
| IP Address | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) IP address for the client. |
| HW Address | [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address for the client. |
| Connections | Number of connections to this client. |

# General

In the General settings tab you can change different general features about your MiniDLNA server.

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) for HTTP traffic. |
| Network | List of interfaces to serve. |
| Friendly Name | Name to display to clients. |
| Root Container | Start point when browsing. |
| Media Directories | File system locations for media. |
| Album-Art Names | List of file names for album art. |

# Advanced

In the Advanced tab you can change different advanced features about your media server.

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| Database directory | Directory for database and cache storage. |
| Log directory | Directory to store logs. |
| Enable inotify | Turn [Inotify](http://juci.iopsys.eu/v4.2.x/en/glossary/i/inotify) on or off. |
| Enable TIVO | Support for streaming files to TiVo. |
| Strict to DLNA standard | Only use DLNA standard features. |
| Presentation URL | Default presentation URL. |
| Notify interval | Time between notification messages. |
| Announced serial number | Serial number to show to clients. |
| Announced model number | Model number to report to clients. |
| miniSSDP socket | Path to miniSSDPd socket for [SSDP](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssdp). |

# UPnP

The UPNP view allows you to configure [UPNP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) services.

## 

At the top of the page is a list of currently open UPnP ports, if any.

## 

The UPnP settings are divided into tabs.

### General

The General tab allows you to enable and configure the service parameters.

### Advanced

The Advanced tab lets you configure advanced [UPNP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) settings.

### ACL

The ACL tab lets you configure the [Access Control List](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acl) for [UPNP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) access.

# General

The General tab allows you to enable and configure the service parameters.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Enable UPNP | Enable UPNP protocol |
| Enable NAT-PMP | Enable [NAT-PMP](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat_pmp) protocol. |
| Enable secure mode | Only add forwards to requesting ip addresses. |
| Enable additional logging | Add extra debugging information to the system log. |
| Downlink | Nominal uplink speed (KByte/s). |
| Uplink | Nominal downlink speed (KByte/s). |
| Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) for the service. |
| External Interface | Interface for external access. |
| Internal Interface | Interface to use for local access. |

# Advanced

The Advanced tab lets you configure advanced [UPNP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) settings.

## Configuration

|  |  |
| --- | --- |
|  |  |
| Device UUID | [UUID](http://juci.iopsys.eu/v4.2.x/en/glossary/u/uuid) |
| Announced serial number | Serial number to show to clients. |
| Announced model number | Model number to show to clients. |
| Notify interval | Time between notification messages. |
| Clean rules threshold | Number of rules to keep. |
| Clean rules interval | Time between cleaning of UPnP rules. |
| Presentation URL | Location for service control web interface. |
| UPnP lease file | Location for file containing leases. |

# ACL

The ACL tab lets you configure the [Access Control List](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acl) for [UPNP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) access.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Comment | Description of the rule. |
| External ports | External [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to filter. |
| Internal addresses | Internal addresses to filter. |
| Internal ports | Internal [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to filter. |
| Action | Allow / Deny |
| Sort | Change order of list items. |

# DDNS

The DDNS view allows you configure [Dynamic DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ddns) services for your device.

## Configuration

At the top of the page is a list of selectable services.

When a particular service is selected, details about it is shown in the connection section.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn service on or off. |
| Label | Identifier in the service list. |
| IP Retrieval Method | Interface / Network / Script / Web. |
| Select Interface | For Interface: Interface. |
| Select Connection | For Network: Connection. |
| Script Path | For Script: Local path to IP detection script. |
| Enter website to poll for ip address | For Web: Address to IP detection service. |
| Provider | Service provider list. |
| Enter DDNS Provider | Manually add service provider. |
| Domain name | Full hostname to use for the device. |
| Username | Service account username. |
| Password | Service account password. |
| Use HTTPS | USe secure communication with service. |

### DDNS Services

You can add as many DDNS Services as you like.

To add a DDNS Service:

* Click the add button

A new service is added to the list.

* Edit the parameters as needed.
* Click Apply

# IPTV

The IPTV view lets you configure the [IPTV](http://juci.iopsys.eu/v4.2.x/en/glossary/i/iptv) server.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Differentiated Services Code Point | [DSCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dscp) to use for tagging outgoing [IGMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp) packets. |
| Proxy interface | Interface to use as proxy. |
| Default version | [IGMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp) version. |
| Query interval | Time between [IGMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp) query messages. |
| Query response interval | Time to wait for response to query beofre timeout. |
| Last member query interval | Time between queries to determine the loss of the last member in an [IGMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp) group. |
| Robustness value | Tolerance for lost packets. |
| LAN to LAN multicast | Allow multicast between LANs. |
| Max groups | Maximum allowed [multicast](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multicast)groups. |
| Max sources | Maximum allowed [multicast](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multicast) sources. |
| Max members | Maximum allowed members in a multicast group. |
| Fast leave | Leave multicast groups immediately after the last host. |
| Join immediate | Join group directly. |
| Enable IGMP proxy | Turn on [IGMP Proxy](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp_proxy) handling. |
| Ignore SSM Range | Ignore [SSM](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssm) and deliver regular [multicasting](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multicast). |
| IGMP snooping mode | [IGMP snooping](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp_snooping) mode: Disabled / Standard / Blocking. |
| IGMP snooping interfaces | Interfaces to use for [IGMP snooping](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp_snooping). |

# DHCP

The DHCP view lets you configure the [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) server settings.

## 

The DHCP settings are divided into several tabs.

### General

The General tab allows you to configure the [DHCP server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server) basic settings.

### Advanced

The Advanced tab allows you to configure advanced settings for the [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) server.

### Hostname Entries

The Hostname Entries tab allows you to configure [hostnames](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) for IPv4 or IPV6 addresses in the LAN.

### DNS Tags

The DNS Tags tab allows you to add DNS tags containing [DHCP options](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option). These tags can be used when configuring interfaces.

# General

The General tab allows you to configure the [DHCP server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_server) basic settings.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Local domain | Local domain suffix appended to [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) names and hosts file entries. |  |
| Log queries | Write received [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) requests to system log. |  |
| Leasefile | file where given [DHCP leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) will be stored. |  |
| Ignore resolve file | Do not use the local [Resolve](http://juci.iopsys.eu/v4.2.x/en/glossary/r/resolve_file) file. |  |
| Resolve file | Local [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) file storage. | File used by [dnsmasq](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dnsmasq) to find upstream [name servers](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns_server). |
| Ignore Hosts file | Do not use the local [Hosts](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hosts_file) file. |  |
| Hostname Entries file(s) | Path to additional [host files](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hosts_file) to read for serving DNS responses. |  |

# Advanced

The Advanced tab allows you to configure advanced settings for the [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) server.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
| Domain required | Do not forward [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp)-requests without [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns)-Name. |  |
| Authoritative | This is the only [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) in the local network. |  |
| Filter private | Do not forward reverse lookups for local networks. |  |
| Filter useless | Do not forward requests that cannot be answered by public name servers. |  |
| Localise queries | Localise [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) depending on the requesting subnet if multiple IPs are available. |  |
| Local server | Domain resolved from [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) or hosts files only. |  |
| Expand hosts | Add local domain suffix to names served from hosts files. |  |
| No negative cache | Do not cache negative replies. |  |
| Strict order | [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) servers will be queried in the order of the [resolve](http://juci.iopsys.eu/v4.2.x/en/glossary/r/resolve_file) file. |  |
| Bogus NX Domain Override | List of hosts that do not supply non-existent domain (NXDOMAIN) results. |  |
| DNS forwarding | List of [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) servers to forward requests to. |  |
| Rebind protection | Discard upstream [RFC1918](http://juci.iopsys.eu/v4.2.x/en/glossary/rfc/1918) responses. |  |
| Allow localhost | Allow upstream responses in the 127.0.0.0/8 range. |  |
| Domain whitelist | List of domains to allow [RFC1918](http://juci.iopsys.eu/v4.2.x/en/glossary/rfc/1918) responses to. |  |
| DNS server port | Listening [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) for inbound [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp) queries. |  |
| DNS query port | Fixed source [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) for outbound [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) queries. |  |
| Max DHCP leases | Maximum allowed number of active [DHCP leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease). |  |
| Max. EDNS0 packet size | Maximum size of [EDNS0](http://juci.iopsys.eu/v4.2.x/en/glossary/e/edns) [UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) packets. |  |
| Max. concurrent queries | Maximum number of concurrent [DNS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns) queries. |  |

# Hostname Entries

The Hostname Entries tab allows you to configure [hostnames](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) for IPv4 or IPV6 addresses in the LAN.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Hostname | List of hostnames. |
| Family | Type of IP address (IPv4 or IPv6). |
| Address | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) or [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) address. |

### Add Hostname Entry

You can add as many entries as you like, and each entry can have any number of hostnames for each IP address.

To add a hostname entry:

* Click the Add button
* Click the Edit button
* Enter hostnames in the Hostname field
* Select address Family
* Enter IP Adress to redirect to
* Click Apply

# Classifications

The Classifications tab lets you add classifications for connected clients.

The classifications can be used to provide specific [DHCP Options](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) options for the classified clients, based on client parameters.

## Parameters

The classification can be based on client parameters:

* [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) class
* [Vendor ID](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vendor_id)
* [User Class](http://juci.iopsys.eu/v4.2.x/en/glossary/u/user_class)
* [Circuit ID](http://juci.iopsys.eu/v4.2.x/en/glossary/c/circuit_id)
* [Remote ID](http://juci.iopsys.eu/v4.2.x/en/glossary/r/remote_id)
* [Subscriber ID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/subscriber_id)

## View

At the top of the page is a list of configured classifications.

When a particular account is selected, details about it is shown in the configuration section.

For all classification types, the configuration is similar:

|  |  |
| --- | --- |
| Item | Description |
| Parameter value | Value for the classification parameter, according to its type. |
| Network ID | Option value. |
| ID | [DHCP option](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) ID. |
| Option | Option value. |

### Add Tag

You can add as many tags as you like.

To add a tag:

* Click the Add button

The Select type of Classification dialog opens:

* Pick a Select Classification Type from the dropdown menu
* Click Apply

The tag is added to the list.

* Click the Edit button
  + Enter Parameter value according to Classification Type
* Add as many DHCP options as needed:
  + Click the Add option button
  + Select the ID value
  + Enter Option value
* Click Apply

# DNS Tags

The DNS Tags tab allows you to add DNS tags containing [DHCP options](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option). These tags can be used when configuring interfaces.

## View

At the top of the page is a list of configured tags.

When a particular tag is selected, details about it is shown in the configuration section.

|  |  |
| --- | --- |
| Item | Description |
| ID | [DHCP option](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_option) ID. |
| Option | Option value. |

### Add Tag

You can add as many tags as you like.

To add a tag:

* Click the Add button

The Add New Tag dialog opens:

* Enter a Tag Name

The tag is added to the list

* Click the Edit button
* Add as many options as needed:
  + Click the Add option button
  + Select the ID value
  + Enter Option value
* Click Apply

# SNMP

The SNMP Configuration view lets you configure the [Simple Network Management Protocol](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snmp) service.

## 

The SNMP settings are divided into tabs.

### System

The System tab lets you configure general information about the SNMP service.

### Agent

The Agent tab allows you to manage [SNMP agents](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snmp_agent).

### Com2Sec

The Com2Sec tab lets you configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) access profiles for the SNMP service.

### Group

The Group tab allows you to configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) access groups for the SNMP service.

### View

The View tab lets you configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) views for the SNMP service.

### Access

The Access tab allows you to configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) access directives for the SNMP service.

### Pass

The Pass tab lets you configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) passthrough for [MIBs](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mib) the SNMP service.

# System

The System tab lets you configure general information about the SNMP service.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Location | Physical location of the device. |
| Contact | Contact information for the responsible person. |
| Name | Name of the server. |
| Services | Offered services. |
| Description | Server description for presentation. |
| Object ID | Identifier for the device. |

# Agent

The Agent tab allows you to manage [SNMP agents](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snmp_agent).

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Agent Address | Protocol and port for the agent variable. |

### Add Agent

You can add as many agents as you like.

To add an agent:

* Click the Add button
* Enter an Agent Address
* Click Apply

# Com2Sec

The Com2Sec tab lets you configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) access profiles for the SNMP service.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description | Example |
| Community | Community group to access. | private |
| Source | Hostname or subnet. | localhost |
| SecName | Access string. | rw |

### Add Profile

You can add as many profiles as you like.

To add a profile:

* Click the Add button
* Enter parameters as needed
* Click Apply

# Group

The Group tab allows you to configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) access groups for the SNMP service.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description | Example |
| Community | Community group to access. | public |
| Source | Hostname or subnet. | usm |
| SecName | Access string. | ro |

### Add Group

You can add as many groups as you like.

To add a group:

* Click the Add button
* Enter parameters as needed
* Click Apply

# View

The View tab lets you configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) views for the SNMP service.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| View Name | Name of the view. |
| Type | Type of view. |
| OID | Object ID |
| Mask | [Netmask](http://juci.iopsys.eu/v4.2.x/en/glossary/n/netmask). |

### Add View

You can add as many views as you like.

To add a view:

* Click the Add button
* Enter parameters as needed
* Click Apply

# Access

The Access tab allows you to configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) access directives for the SNMP service.

## Configuration

The access directive maps from group/security model/security level to a view.

|  |  |  |
| --- | --- | --- |
| Item | Description | Example |
| Group | Group. |  |
| Context | Security name or empty. |  |
| Version | Version access. | any / v1 / v2c / usm |
| Level | Access level. | noauth / auth / priv |
| Prefix | Context matching. | exact / prefix |
| Read | Read permissions |  |
| Write | Write permissions |  |
| Notify | Notify permissions. |  |

### Add Access Group

You can add as many acces groups as you like.

To add an access group:

* Click the Add button
* Enter parameters as needed
* Click Apply

# Pass

The Pass tab lets you configure [Com2Sec](http://juci.iopsys.eu/v4.2.x/en/glossary/c/com2sec) passthrough for [MIBs](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mib) the SNMP service.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Persist | Enable permanent passthrough. |
| Priority | Passthrough priority. |
| MIB OID | Object ID for the MIB. |
| Program | Execution for the arguments. |

### Add Passthrough

You can add as many passthroughs as you like.

To add a passthrough:

* Click the Add button
* Enter parameters as needed
* Click Apply

# Samba

In the Samba view you can change settings for the [Samba](http://juci.iopsys.eu/v4.2.x/en/glossary/s/samba)server.

## 

The Samba settings are divided into sections.

### General

The General section of the view allows you to change the general Samba settings, such as name, workgroup and interface.

### Samba Users

The Samba Users section of the view allows you to change the user settings.

### Samba Shares

The Samba Shares section lets you configure Samba shares and user access.

# General

The General section of the view allows you to change the general Samba settings, such as name, workgroup and interface.

## Configuration

|  |  |
| --- | --- |
| Option | Description |
| Name | Service identifier. |
| Workgroup | Service workgroup. |
| Description | Description of the service. |
| Interface | Interfaces to provide the service to. |

## Change Interface Settings

To change the interface that Samba will listen on:

* Click LAN to open the list
* Choose as many interfaces as needed
* Click outside of the list
* Click Apply

# Samba Users

The Samba Users section of the view allows you to change the user settings.

## Configuration

|  |  |
| --- | --- |
| Option | Description |
| Username | user name |
| Password | password |
| Description | description |

## Samba User Settings

To add a Samba user:

* Click Add
* Edit the parameters as needed.
* Click Apply

# Samba Shares

The Samba Shares section lets you configure Samba shares and user access.

## Configuration

|  |  |
| --- | --- |
| Option | Description |
| Name | Share identifier. |
| Path | Path to the shared directory. |
| Allowed users | Users with access. |
| Allow guest access | Turn public access on or off. |
| Read only? | Turn write protection on or off. |

## Add Samba Share

To add a Samba Share:

* Click Add
* Enter a Name
* Click  Add

The Add folder to share dialog opens.

* Browse to the directory you want to share and select it
* Click Apply
* Add Samba Users
* Select Guest Access setting
* Select Read Only setting
* Click Apply

## Add Users To Share

To add a Samba users:

* Click Add
* Click Allowed Users to open the list
* Choose as many users as needed
* Click outside of the list
* Click Apply

# WIFI

The WiFi view shows you information about your wireless network.

## Overview

### General

In the General WiFi view you can view and edit the [wireless interface](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface).

### WPS Settings

The WPS Settings view lets you change the default wireless security settings ([WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps)) to make your network more secure.

### MAC Filter

In the MAC Filter view you can make your wireless network more secure. Just specify which devices are allowed to connect, or explicitly lock out devices.

# General

In the General WiFi view you can view and edit the [wireless interface](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface).

## Overview

### Radios

The Wireless Radios view allows you to configure wireless radios installed on your system.

### Wireless

In the Wireless view you can view and edit the [wireless interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface).

Each radio can have up to 4 [SSIDs](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid).

# Radios

The Wireless Radios view allows you to configure wireless radios installed on your system.

## 

At the top of the page is a list of radios.

Clicking the Edit button will open the edit view for that radio.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Radio On/off | Turn radio on or off. |  |
| WiFi Mode (SSID) | Choose [wifi mode](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_mode). |  |
| Channel | Choose [WiFi Channel](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_channel). |  |
| Bandwidth | Choose [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) capacity. | This specifies capacity, not a fixed value. |
| Scan Timer | Determine the [dwell time](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dwell_time) for channel hopping. |  |
| DFS Channels | Turn [DFS](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dfs) channels on or off. |  |
| Beamforming | Turn [beamforming](http://juci.iopsys.eu/v4.2.x/en/glossary/b/beamforming) on or off. |  |
| Airtime Fairness | Turn [ATF](http://juci.iopsys.eu/v4.2.x/en/glossary/a/atf) on or off. |  |
| Maximum Associated Stations | Maximum number of clients allowed. |  |
| RX Chain PowerSave Quiet Time | Turn [RXC PS Quiet Time](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rxc_psqt) on or off. |  |
| RX Chain PowerSave PPS | Turn [RXC PS PPS](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rxc_pspss) on or off one of the receive chains to save power. |  |
| Enable WMM Multimedia Extensions | Turn [WMM](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wmm) multimedia extensions on or off. |  |
| Disable WMM Ack | Turn [WMM acknowledgement](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wmm_ack) on or off. |  |
| Enable WMM UAPSD Power Saving | Turn WMM [UAPSD](http://juci.iopsys.eu/v4.2.x/en/glossary/u/uapsd) power saving on or off. |  |

# Wireless

In the Wireless view you can view and edit the [wireless interfaces](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface).

Each radio can have up to 4 [SSIDs](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid).

## Configuration

At the top of the page is a list of selectable interfaces.

When a interface is selected, the edit view for the interface is shown below.

|  |  |
| --- | --- |
| Item | Comment |
| Enabled | Turn on or off. |
| WiFi Network Name | Edit name of [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid) network. |
| Broadcast SSID | Toggle to make network visible or invisible. |
| AP isolation | Toggle to turn [access point isolation](http://juci.iopsys.eu/v4.2.x/en/glossary/a/ap_isolation) on or off. |
| Wireless Multicast Forwarding | Toggle to turn [multicast](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multicast) forwarding on or off. |
| Maximum Number of Connected Clients | Maximum number of connected clients. |
| Encryption | Change to a different encryption method. |
| Cipher | Choose form of [Cipher](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cipher). |
| WiFi Key (Password) | Reset to default password. |
| Show Key Text | Change format of wifi key text. |

## Add Wireless Interface

* Click Add

A dialog is shown

* Click Select Wireless Radio
* Choose wireless radio
* Add new [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid)
* Click OK

# Band Steering

The Band Steering view allows you to enable and configure [band steering](http://juci.iopsys.eu/v4.2.x/en/glossary/b/band_steering) for the device.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| Enable | Turn [band steering](http://juci.iopsys.eu/v4.2.x/en/glossary/b/band_steering) on or off. |
| Steering Policy | [RSSI](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) or [bandwidth](http://juci.iopsys.eu/v4.2.x/en/glossary/b/bandwidth) usage. |
| Threshold | Bandwidth or [RSSI](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) threshold value. |

### Enable Band Steering

To enable band steering:

* Click Enable toggle
* Choose steering policy
* Set threshold value to use for the selected policy.

# AP Steering

The Access Point Steering view allows you to enable and configure [AP Steering](http://juci.iopsys.eu/v4.2.x/en/glossary/a/ap_steering) for the device.

## 

Note: This feature is only enabled if the device discovers another Inteno device in the same network.

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Enable | Turn [AP steering](http://juci.iopsys.eu/v4.2.x/en/glossary/a/ap_steering) on or off. |  |
| RSSI Threshold | Deauthentication [RSSI](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) threshold value. | Client will be de-authenticated if RSSI goes below this value. |
| Reassoc Timer | Grace period in seconds. | Clients returning below the RSSI threshold are immune from de-authentication until after Retry Interval. |
| Retry Interval | Timeout period in seconds. | After this time, the client can be de-authenticated. |

### Enable AP Steering

To enable AP Steering:

* Click Enable toggle
* Set Threshold value
* Set Reassociation timer value
* Set Retry Interval value

# WPS Settings

The WPS Settings view lets you change the default wireless security settings ([WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps)) to make your network more secure.

## Overview

### General WPS Settings

The WPS Settings section allows you to choose and configure different connection methods on an encrypted channel.

### WPS-PBC: Push Button on Device

The WPS-PBC: Push Button on Device section lets you [pair](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pairing) your devices.

### WPS/REG: Device provides PIN

The section WPS-REG: Device provides PIN lets you generate a personal identification number through [WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps).

### WPS-PIN: Another Device provides PIN

The section WPS-PIN: Another Device provides PIN allows you to enter a PIN provided by another device.

# WPS-PIN: Another Device provides PIN

The section WPS-PIN: Another Device provides PIN allows you to enter a PIN provided by another device.

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| Enter your device PIN | Enter device PIN |
| Pair (within 2 minutes) | Pair button. |

# WPS/REG: Device provides PIN

The section WPS-REG: Device provides PIN lets you generate a personal identification number through [WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps).

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| WPS Using Generated PIN | Turn on or off. |
| Generated PIN | Generated PIN shown |
| Generate PIN | Generate button. |

## Generating a PIN

To generate a PIN through WPS:

* Click the Generate button

# General WPS Settings

The WPS Settings section allows you to choose and configure different connection methods on an encrypted channel.

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| WPS Function | Turn on or off for device. |
| Enable WPS on (5GHz) | Turn WPS on or off for radio. |
| Enable WPS on (2.4GHz) | Turn WPS on or off for radio. |

# WPS-PBC: Push Button on Device

The WPS-PBC: Push Button on Device section lets you [pair](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pairing) your devices.

## Configuration

|  |  |
| --- | --- |
| Item | Comment |
| Enable WPS button on device | Turn on or off. |
| Pressing WiFi on/off button on your device for long time activates pairing | Turn on or off. |
| Pair (within 2 minutes) | Pair button. |

## Pairing Your Device

To a device via WPS:

* Click the Pair button
* Press the corresponding button on the device you wish to connect

Your device will be open for pairing for two minutes.

# MAC Filter

In the MAC Filter view you can make your wireless network more secure. Just specify which devices are allowed to connect, or explicitly lock out devices.

## Configuration

Filters can be applied separately for each [radio](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wireless_radio) .

The devices are identified by their [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. You can manage up to 32 devices.

|  |  |
| --- | --- |
| Section | Description |
| MAC Filtering | Turn filtering on or off. |
| Access for listed devices | Access setting for clients in the list. |
| Currently added devices | List of filtered devices. |
| Add currently connected hosts ot the list | Collect all currently active devices to the list. |

### Enable MAC Filter

To enable MAC Filtering:

* Click the MAC Filtering toggle button
* Choose type of Access for listed devices
  + Allow - Access
  + Deny - No access
* Click the  add button next to Currently added devices
* Enter the MAC address for the device
* Click Save
* Click Apply

# System

The System view provides access to device information, management, provisioning and settings.

## Overview

### General Settings

The General Settings view contains basic device settings.

|  |  |
| --- | --- |
| Item | Description |
| Local Time | Local time for the device. |
| Timezone | Device timezone setting. |
| Hostname | Device [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |

### Menu Access

The Menu Access view allows you to switch access to menus and menu items in the web interface on or off.

### Passwords

The Passwords view lets you change passwords for device users.

### Firmware Upgrade

The Firmware Upgrade view lets you upgrade the device firmware by using image files.

### Backup/Restore

The Backup/Restore view allows you to manage backups and resets of the device.

### IUP

The IUP view allows you to set up parameters for provisioning services and configurations with [Inteno Universal Provisioning](http://juci.iopsys.eu/v4.2.x/en/glossary/i/iup).

### TR69

The TR69 Settings view allows you to configure [TR069](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tr069) support for device management and provisioning from the WAN.

### Management

The Management view lets you configure WAN to [SSH](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssh) connections and access to services.

### Hardware

### Power Management

The Power Management view allows you to manage CPU effiency and Ethernet hardware ports.

### Services

The Services view lets you manage system services on the device.

### Restart

The Restart page allows to restart your Internet connection and reboot your device.

# General Settings

The General Settings view contains basic device settings.

|  |  |
| --- | --- |
| Item | Description |
| Local Time | Local time for the device. |
| Timezone | Device timezone setting. |
| Hostname | Device [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |

# Time Servers

The Time Servers section shows [NTP](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ntp) time servers in use.

# Configuration

|  |  |
| --- | --- |
| Item | Description |
| Time Servers (NTP) | List of [NTP](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ntp) servers to use. |
| Server Mode | Turn [NTP server mode](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ntp_mode) on or off. |

### Add Server

To add a time server:

* Click the  add button
* Enter the server address in URL box
* Click Apply

# Log Settings

The Log Settings view contains settings for the system logs.

## Current Firmware

|  |  |
| --- | --- |
| Item | Description |
| System Log Level | System [Logging level](http://juci.iopsys.eu/v4.2.x/en/glossary/l/logging_level) |
| Cron Log Level | Cron [Logging level](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cron_logging_level) |
| Kernel Log Level | Kernel [Logging level](http://juci.iopsys.eu/v4.2.x/en/glossary/l/logging_level) |
| Log File | Location to save the log file. |
| Log IP | IP address of remote log server. |
| Log Port | Port for the remote log server. |
| Log Prefix | Prefix to use in log. |
| Log Protocol | Protocol for transfer of log information ([UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp)). |
| Log Remote | Turn remote logging on or off. |
| Log Size | Max size of log in Kb. |
| Trailing null | Use trailing null insted of newline when using TCP |
| Log Type | Type of logging to use (circular = limited /file = unlimited number of files). |

# Connectivity Test

The Connectivity Test view allows for automatic verification of the Internet connection by accessing a predefined URL.

## Current Firmware

|  |  |
| --- | --- |
| Item | Description |
| Internet | URL for checking Internet connection. |

# Menu Access

The Menu Access view allows you to switch access to menus and menu items in the web interface on or off.

Note: The admin account cannot have restrictions on menu access.

At the top of the page is a list of user roles.

When a particular role is selected for editing, all menu and menu items are shown in the list.

You can change the access status of any item by moving the associated slider.

# Passwords

The Passwords view lets you change passwords for device users.

### Change Password Dialog

|  |  |
| --- | --- |
| Item | Description |
| Current Password | The existing password. |
| New Password | Password to change to. |
| Reenter Password | Verification of new password. |
| Password Strength | Indicates the security level of the new password. |

Note: For security reasons, the current password is never displayed.

### Change password

To change password for a user:

* Open the Change password for user
* Select a user role
* Click Change Password

The change password dialog opens.

* Enter the current password
* Enter the new password
* Enter the new password again
* Click Change Password

# Firmware Upgrade

The Firmware Upgrade view lets you upgrade the device firmware by using image files.

## Current Firmware

The Current Firmware Version shows currently installed firmware on the device.

## Online Update

With the Online Update function, you can perform an automatic search for upgrade image file on an upgrade server.

Note: The type of image file and server adddress and to use for upgrades is defined in .

## USB Firmware Upgrade

In the USB Firmware Upgrade section you can perform an automatic search for upgrade image file on USB devices, and perform the upgrade.

The check for upgrade starts a search for image files on any connected USB devices.

Note: The type of image file to use for upgrades is defined in .

## Manual Firmware Upgrade

In the manual firmware upgrade section you can select an image file on your computer, upload it to the device, and perform the upgrade.

|  |  |
| --- | --- |
| Item | Description |
| Select firmware file to upload | Upgrade image file on local computer. |
| Start upgrade | Button to start upgrade. |

# Upgrade Options

The Upgrade Options view lets you configure parameters for firmware upgrades.

## Firmware image extensions

The firmware image extension setting defines which type of image file to use for upgrades.

|  |  |
| --- | --- |
| Item | Description |
| .y2 | UBIFS Image version 2 |
| .y3 | UBIFS Image version 3 |

## Online Upgrade

The online upgrade settings define where the online upgrade images are located.

|  |  |
| --- | --- |
| Item | Description |
| URL for file with latest image filename | URL to a text file containing the latest image filename on the server. |
| Upgrade URL base path | URL to directory containing upgrade image files. |

# Backup/Restore

The Backup/Restore view allows you to manage backups and resets of the device.

## Overview

### Backup Configuration

In the Backup Configuration section you can save a copy of your device configuration or load a saved configuration into the device.

### Factory Reset

In the Factory Reset section you can restore the device to factory settings.

### Backup Settings

The Backup Settings view lets you select which services and settings to include in backups.

# Backup Configuration

In the Backup Configuration section you can save a copy of your device configuration or load a saved configuration into the device.

# Save Backup

* Click Save

The Save Configuration dialog opens.

* If you want to encrypt the backup file:
  + Click the Password Protection slider
  + Enter a Backup file password
  + Retype the password
* Click Continue

The file is saved as a compressed file archive to your local computer.

# Load Backup

To load a saved configuration after the factory reset:

* Click Load

The Load New Configuration dialog opens.

* Click Choose File
* If the backup file is encrypted:
  + Enter a Backup file password
* Click Continue

# Factory Reset

In the Factory Reset section you can restore the device to factory settings.

### Soft Reset

Alternatively, you can choose to perform a Soft Reset, where you select particular settings to keep when doing the factory reset.

Note: Reset restores your device to the factory defaults and removes any configurations you have made. You can only keep settings if you select them in the Soft Reset section.

### Available Settings

These are the settings you can protect:

|  |  |
| --- | --- |
| Settings |  |
| Port redirects |  |
| Parental rules |  |
| User password |  |
| ICE config |  |
| WiFi Settings |  |

### Soft Reset

To perform a soft reset:

* Select the settings you want to keep:
  + Click the Soft Reset slider button
  + Make sure that the settings you want to keep are enabled.   
     Note: Enabled settings will be protected from the factory reset.
* Click Reset

### Factory Reset

To perform the factory reset:

* Click Reset

# Backup Settings

The Backup Settings view lets you select which services and settings to include in backups.

The list contains a selection of services and settings that can be included when performing backups.

You can change the status of any item by moving the associated slider.

# IUP

The IUP view allows you to set up parameters for provisioning services and configurations with [Inteno Universal Provisioning](http://juci.iopsys.eu/v4.2.x/en/glossary/i/iup).

## Configuration

The IUP view is divided into several sections.

## General

In the General section you can manage general provisioning settings.

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn provisioning on or off. |
| Update frequency start time | Time of day to start update. |
| Update frequency | Hourly / Daily / Weekly. |
| Export file | Download provisioning file. |

## Main Provisioning Server

In the Main Provisioning Server section you can add a manual provisioning server address.

Note: This will override DHCP Discover Provisioning, even if it is enabled.

|  |  |
| --- | --- |
| Item | Description |
| Reboot | Reboot after configuration has been applied. |
| Keep user config | Address to the provisioning server. |
| Enabled | Turn main provisioning server on or off. |

## DHCP Discover Provisioning Server

In the DHCP Discover Provisioning Server section you can enable automatic discovery of provisioning server.

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn software update on or off. |

## Software Update Config

In the Software Update Config section you can configure online update of software.

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn software update on or off. |

|  |  |
| --- | --- |
| Item | Description |
| Enabled | Turn software update on or off. |
| Default reset | Remove device configurations and set to default. |
| Software URL | Location of software configuration. |

## Sub Configs

In the sub configs section you can add sub configurations of specific parts.

|  |  |
| --- | --- |
| Item | Description |
| URL | Location of configuration file. |
| Package Control |  |
| Enabled | Turn sub configurations on or off. |

### Add Sub Config

To add a sub configuration:

* Click Add sub config
* Enter the URL for the configuration file
* Enter the relevant Package Control
* Select if the sub config should be Enabled

# TR69

The TR69 Settings view allows you to configure [TR069](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tr069) support for device management and provisioning from the WAN.

The TR69 view is divided into sections.

## Configure ACS Specific Settings

In the ACS section, you can configure [ACS](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acs) settings.

### Configuration

|  |  |
| --- | --- |
| Item | Description |
| ACS User Name | User name for the [ACS](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acs) connection. |
| ACS Password | Password for the [ACS](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acs) connection. |
| URL | Location of the ACS server. |
| Periodic Inform Enable | Turn [Periodic Inform](http://juci.iopsys.eu/v4.2.x/en/glossary/p/periodic_inform) on or off. |
| Periodic Inform Interval | Wait time between [Periodic Inform](http://juci.iopsys.eu/v4.2.x/en/glossary/p/periodic_inform) calls for [CPEs](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cpe). |
| DHCP Discovery | Turn automatic discovery of server on or off. |

## Configure CPE Specific Settings

In the CPE section, you can configure [CPE](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cpe) connection settings.

### Configuration

|  |  |
| --- | --- |
| Item | Description |
| WAN Interface | Interface for the connection. |
| Connection Request User Name | User name for the [ACS](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acs) connection |
| Connection Request Password | Password for the [ACS](http://juci.iopsys.eu/v4.2.x/en/glossary/a/acs) connection. |
| Port | Specific connection [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |
| Log Severity Level | [Logging information level](http://juci.iopsys.eu/v4.2.x/en/glossary/l/logging_level). |
| Log to console | Display logging messages in the console. |
| Log to file | Turn logging to file on or off. |
| Log file max size | Size of log file. |
| Provisioning Code | Identifier for provisioning. |

# ICE

The ICE view allows you to configure [ICE](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ice) support for device management and provisioning from the WAN.

## Configuration

|  |  |  |
| --- | --- | --- |
| Item | Description |  |
| ICE | |  |
| Enabled | Turn [ICE](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ice) communication engine on or off. | If ICE is disabled, Cloud is disabled automatically. |
| Cloud | | |
| Status | Current status for the cloud service. | Offline /Registered |
| Enabled | Turn Cloud service on or off. | Enables the [XMPP](http://juci.iopsys.eu/v4.2.x/en/glossary/x/xmpp) connection to the Cloud URL. |
| Cloud URL | URL for access to the the device. |  |

# Management

The Management view lets you configure WAN to [SSH](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssh) connections and access to services.

## Overview

### CATV

The CATV view lets you enable the [CATV](http://juci.iopsys.eu/v4.2.x/en/glossary/c/catv) service, if your device has this capability.

### Services

The Services view lets you configure WAN access to device services, if your device has this capability.

# OWSD

The OWSD view lets you configure settings for the [open web-server daemon](http://juci.iopsys.eu/v4.2.x/en/glossary/o/owsd).

The server listens on a number of interfaces, and allows for separate configuration of access for each of them.

At the top of the page is a list of interfaces the server listens on.

When a particular interface is selected, details about it is shown in the configuration section.

## Configuration

The Configure firewall rule section allows you to enable and configure a firewall rule for the selected service.

|  |  |
| --- | --- |
| Item | Description |
| Interface | Listening [interface](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface). |
| Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) to listen on. |
| IPv6 | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4_address) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6_address) address. |
| IPv6 only | Limit to [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |
| List of allowed origins | Filter for origin ( \* for allow all). |

### Add Listen Interface

* Click Add
* Enter a Name

The firewall settings are displayed.

* Add interface settings as needed.
* Click Apply

### Add Origin

Select an interface in the list.

* Click Add
* Enter the Origin
* Click Add
* Click Apply

# SSH

The SSH view allows you to configure [SSH](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssh) access, server instances, and keys.

## Dropbear Instances

The Dropbear Instances section lets you create SSH server instances with different parameters.

|  |  |
| --- | --- |
| Item | Description |
| Password Autentication | Turn access with password authentication on or off. |
| Port | Connection [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |
| Enable Root Password Auth | Turn root access with password authentication on or off. |
| Enable Root Login | Turn root account access on or off. |
| Enable Forwarded Ports | Turn forwarded [ports](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) on or off. |
| Interface | Restrict SSH server to particular interface. |

### Add SSH Server instance:

To add a SSH Server instance:

* Click Add
* Enter parameters for the instance
* Click Apply

# Accepted SSH Keys

The SSH view allows you to configure [SSH](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssh) access, server instances, and keys.

## Add Key

To add a SSH key:

* Click Add
* Copy the public SSH key
* Paste the public SSH key into the window
* Click OK
* Click Apply

# CATV

The CATV view lets you enable the [CATV](http://juci.iopsys.eu/v4.2.x/en/glossary/c/catv) service, if your device has this capability.

## Configure

|  |  |
| --- | --- |
| Item | Description |
| Ebnable | Turn CATV / RF Enable on or off. |

# Services

The Services view lets you configure WAN access to device services, if your device has this capability.

## Allow WAN Access To Running Services

At the top of the page is a list of services.

When a particular service is selected, details about it is shown in the configuration section.

## Configure firewall rule for this service

The Configure firewall rule section allows you to enable and configure a firewall rule for the selected service.

Where applicable, the configuration is divided into separate sections for source and destination zones.

|  |  |
| --- | --- |
| Item | Description |
| Enable WAN forwarding for this service | Turn WAN access on or off. |
| Name | Identifier for the rule. |
| Zone | Device / Any / LAN / WAN |
| IP | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4_address) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6_address) address. |
| MAC | [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. |
| Port | [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) affected. |
| IP version | Any / [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) / [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) |
| Protocol | Protocol affected: ([UDP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/udp) / [TCP](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tcp) / [ICMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/icmp) / TCP + UDP / [ESP](http://juci.iopsys.eu/v4.2.x/en/glossary/e/esp)) |
| Firewall action | [Firewall action](http://juci.iopsys.eu/v4.2.x/en/glossary/f/firewall_action) to perform. |

### Add Firewall Rule

Select a service in the list.

* Click the Enable WAN forwarding for this service button

The firewall settings are displayed.

* Add rule settings as needed.
* Click Apply

# Hardware

## Overview

### Configure Buttons

The Configure Buttons view allows you to enable or disable the buttons on your device.

The exact buttons available vary with device type.

### LEDs

The LED view allows you to enable or disable the status LEDs on your device.

# Configure Buttons

The Configure Buttons view allows you to enable or disable the buttons on your device.

The exact buttons available vary with device type.

## Examples

Reset

Status

Wireless

WPS

DECT

EXT

## Toggle Button

To switch a button on or off:

* Find the desired button in the list
* Click the slider button in the interface
* Click Apply

# LEDs

The LED view allows you to enable or disable the status LEDs on your device.

## Displayed Leds

The exact LEDs available vary with device type. The status of each LED is shown on the left of the name.

## Examples

BROADBAND

DECT

DSL

EXT

INTERNET

LOGO

STATUS

VOICE1

WAN

WIFI

WPS

## Toggle LED

To switch a LED on or off:

* Find the desired LED in the list
* Click the slider button in the interface
* Click Apply

# Power Management

The Power Management view allows you to manage CPU effiency and Ethernet hardware ports.

## Configuration

|  |  |
| --- | --- |
| Item | Description |
| CPU Speed | CPU Sync. |
| CPU r4k Wait | Sleep mode configuration. |
| Ethernet Auto Power Down | Turn [Ethernet Auto Power Down](http://juci.iopsys.eu/v4.2.x/en/glossary/e/eapd) on or off. |
| Energy Efficent Ethernet | Turn [Energy-Efficient Ethernet](http://juci.iopsys.eu/v4.2.x/en/glossary/e/eee) on or off. |

# Services

The Services view lets you manage system services on the device.

## Configuration

The list contains system running and available services.

|  |  |
| --- | --- |
| Item | Description |
| Priority | System priority. |
| Service | Service identifier. |
| Enable | Enable or disable service. |
| Action | Buttons to start, stop and restart the service. |

# Restart

The Restart page allows to restart your Internet connection and reboot your device.

## Restart device

Note: Restarting the device will disconnect all phone, Internet and TV services while the device is restarting.

To restart your device:

* Click Restart

A confirmation dialog is shown

* Click Yes

A restart dialog is shown.

When the device has restarted, the browser reconnects and the [login](http://juci.iopsys.eu/v4.2.x/en/ade/intro/login) dialog is shown.

# Status

The Status area provides an overview of the current situation for your device, network and services, and also contains diagnostic tools.

## Overview

### System

The System Status view displays information about a number of parameters regarding your gateway and its operation.

### IGPM TV

The IGPM TV Status views shows information about your IPTV services and their connection status.

### WiFi

The WiFi Status view shows information about the wireless network, and allows you to scan the local area for other wireless access points.

### DSL

The DSL status view shows information about any [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl) connections to the device.

### USB

The USB devices views displays information about any [USB](http://juci.iopsys.eu/v4.2.x/en/glossary/u/usb) devices connected to the gateway device.

Note: Supported [file systems](http://juci.iopsys.eu/v4.2.x/en/glossary/f/file_system) for USB devices are [NTFS](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ntfs) and [FAT32](http://juci.iopsys.eu/v4.2.x/en/glossary/f/fat32).

### Network

The Network Status view shows information about various aspects of your network.

### Diagnostics

The Diagnostic Utility allows you to perform diagnostic tests from the web interface.

### Voice

The Voice Status view shows information about SIP accounts, phone numbers and voice lines connected to the device.

# System

The System Status view displays information about a number of parameters regarding your gateway and its operation.

## Overview

### System

The System Status overview shows basic data about the device.

### Processes

The Processes view shows information about system processes and CPU usage.

# System

The System Status overview shows basic data about the device.

## Configuration

|  |  |  |  |
| --- | --- | --- | --- |
| Option | Description | Sample value |  |
| Hostname | The [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) for the gateway. | Inteno |  |
| Model | Gateway model. | DG400A |  |
| Serial No | Device serial number. | G542012033 |  |
| MAC Address | Device [MAC address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac). | 00:22:07:A9:CE:F9 |  |
| Filesystem | Filesystem used in gateway storage. | [UBIFS](http://juci.iopsys.eu/v4.2.x/en/glossary/u/ubifs) |  |
| Firmware Version | Version of installed firmware. | DG400-WU7U\_INT3.5.5-160513\_1617 |  |
| Other Bank | Alternative firmware. | DG400-WU7U\_INT3.13-170904\_1354 |  |
| Kernel Version | The gateway operating system kernel version. | 3.13 |  |
| BRCM Version | (Broadcom Devices only) Version number for the Broadcom driver. | 4.16L.04 |  |
| CFE Version | Version of CFE. | 4.16L.05 |  |
| Local Time | Time according to the gateway internal clock. | Mon May 23 2049 17:21:12 GMT+0200 (CEST) | | Uptime | Time the gateway has been runnning since last startup. | 5d 2h 53m 14s | | CPU | Percentage of CPU processing in use. | 0% | | Active Connections | Number and percentage of connections to the gateway. | 259 / 7660 (3%)` |  |

# System Memory

The System Memory Status view displays information about memory usage in the device.

## Configuration

|  |  |  |
| --- | --- | --- |
| Option | Description | Sample value |
| Usage | Memory used by the system. | 163144 kB / 226308 kB (72%) |
| Shared | Shared memory in use. | 0 kB / 226308 kB (0%) |
| Buffered | Memory buffer in use. | 0 kB / 226308 kB (0%) |
| Swap | Swap [file system](http://juci.iopsys.eu/v4.2.x/en/glossary/f/file_system) used. | 0 kB / 0 kB (0%) |

# System Storage

The System Storage Status view shows information about [file systems](http://juci.iopsys.eu/v4.2.x/en/glossary/f/file_system) and space used.

## Examples

|  |  |
| --- | --- |
| Option | Description |
| rootfs(/) | Root. |
| tmpfs(/tmp) | Temporary. |
| tmpfs(/dev) | Devices. |
| tmpfs(/mnt) | Mount point. |
| tmpfs(/dev/sda1) | An attached USB stick. |

# Processes

The Processes view shows information about system processes and CPU usage.

## Overview

The overview shows a summary of the processes:

|  |  |  |
| --- | --- | --- |
| Item | Description | Comment |
| Total number of processes |  | 96 |
| Total CPU usage |  | 9% |

### Process Detail Toggle

You can access detailed realtime information about running processes, by clicking the information toggle.

To open the Details view:

* Click Click here to view details

# Details

In the details view, you can get detailed information about all processes running on the device.

## Configuration

For each process, information about a number of properties is displayed:

|  |  |  |
| --- | --- | --- |
| Property | Description | Comment |
| PID | [Process ID](http://juci.iopsys.eu/v4.2.x/en/glossary/p/pid) | Unique identifier for the process. |
| PPID | [Parent Process ID](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ppid) | Unique identifier for the parent process. |
| USER | User running the service. |  |
| STAT | [State Code](http://juci.iopsys.eu/v4.2.x/en/glossary/s/state_code). |  |
| VSZ | [Virtual Memory Size](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vsz). |  |
| VSZP | [Virtual Memory Size Percentage](http://juci.iopsys.eu/v4.2.x/en/glossary/v/vsz_percentage). |  |
| CPU | [CPU Percentage](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cpu_percentage). |  |
| COMMAND | The command used to run the process. |  |

# Network

The Network Status view shows information about various aspects of your network.

## Overview

### Status

The Network Status view provides an overview of network elements for your device.

### Clients

The Connected Clients view shows a list of clients connected to the network.

### Routing Tables / Status

The Routing Status view shows the static routes configuration for the various network types.

### UPnP

The UPnP Open Ports view shows the status of any [UPnP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) ports currently in use.

### DHCP

The Active DHCP Leases view shows the status of any [DHCP leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) currently in use.

### NAT

The NAT view shows a list of active [NAT](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat) mappings in the device network.

# Status

The Network Status view provides an overview of network elements for your device.

## Configuration

### WAN6

The WAN6 view shows information about any connected [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) network.

### LAN

The LAN view shows information about the local network connected [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) network.

|  |  |  |
| --- | --- | --- |
| Option | Description | Comment |
| IP Address | [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) of the device on the local network. | Typically 192.168.1.1. |

### WAN

The WAN view shows information about any connected [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) network.

|  |  |  |
| --- | --- | --- |
| Option | Description |  |
| IP Address | [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) for the device on the Internet. |  |
| Gateway | IP address to the internet [gateway](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway). |  |
| Primary DNS | First priority [DNS server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns_server). |  |
| Secondary DNS | Second priority [DNS server](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dns_server). |  |

# Clients

The Connected Clients view shows a list of clients connected to the network.

### Table

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| Hostname | Client [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |  |
| MAC Address | Client [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) . |  |
| IPv4 Address | Client [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| IPv6 Address | Client [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Active Connections | Number of active connections. |  |

# Routing Tables / Status

The Routing Status view shows the static routes configuration for the various network types.

## Overview

### ARP

The ARP status view shows information about [ARP](http://juci.iopsys.eu/v4.2.x/en/glossary/a/arp) routes.

### IPv4

The IPv4 status view shows information about [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) routes.

### IPv6

The IPv6 status view shows information about [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) routes.

### IPv6 Neighbors

The IPv6 Neighbors view shows information about [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) devices in the network neighborhood.

# ARP

The ARP status view shows information about [ARP](http://juci.iopsys.eu/v4.2.x/en/glossary/a/arp) routes.

### Table

The table displays information about static ARP routes.

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| IPv4 Address | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| MAC Address | Client [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) . |  |
| Device | Network device type. | Displayed as [virtual interface](http://juci.iopsys.eu/v4.2.x/en/glossary/v/virtual_interface) name. |

# IPv4

The IPv4 status view shows information about [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv4) routes.

### Table

The table displays information about static IPv4 routes.

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| IPv4 Address | [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Gateway | IP address to the internet [gateway](http://juci.iopsys.eu/v4.2.x/en/glossary/g/gateway). |  |
| Genmask | Route [genmask](http://juci.iopsys.eu/v4.2.x/en/glossary/g/genmask). |  |
| Device | Network device type. | Displayed as [virtual interface](http://juci.iopsys.eu/v4.2.x/en/glossary/v/virtual_interface) name. |

# IPv6

The IPv6 status view shows information about [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) routes.

### Table

The table displays information about static IPv6 routes.

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| IPv6 Address | [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Next Hop | [Next Hop](http://juci.iopsys.eu/v4.2.x/en/glossary/n/next_hop) device. |  |
| Device | Network device type. | Displayed as [virtual interface](http://juci.iopsys.eu/v4.2.x/en/glossary/v/virtual_interface) name. |

# IPv6 Neighbors

The IPv6 Neighbors view shows information about [IPv6](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6) devices in the network neighborhood.

### Table

The table shows information about discovered IPv6 neighbors.

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| IPv6 Address | [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ipv6). |  |
| IPv6 Status | Device . | INCOMPLETE / REACHABLE / STALE / DELAY / PROBE |
| Device | Connected [device](http://juci.iopsys.eu/v4.2.x/en/ade/network/devices/base/start). |  |
| MAC address | [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address for the device. |  |
| Router | Is the device a router? | true/false |

#### NDP Status

The [RFC 4861](http://juci.iopsys.eu/v4.2.x/en/glossary/rfc/4861) defines a number of statuses:

|  |  |  |
| --- | --- | --- |
| Status | Description | Comment |
| INCOMPLETE | Address resolution is in progress and the link-layer address of the device has not yet been determined. |  |
| REACHABLE | Device is known to have been reachable recently (within tens of seconds ago). |  |
| STALE | Device is no longer known to be reachable but until traffic is sent to the neighbor, no attempt should be made to verify its reachability. |  |
| DELAY | Device is no longer known to be reachable, and traffic has recently been sent to the neighbor. Probes should be delayed in order to give upper-layer protocols a chance to provide reachability confirmation. |  |
| PROBE | Device is no longer known to be reachable, and unicast [Neighbor Solicitation](http://juci.iopsys.eu/v4.2.x/en/glossary/n/neighbor_solicitation) probes are being sent to verify reachability. |  |

# UPnP

The UPnP Open Ports view shows the status of any [UPnP](http://juci.iopsys.eu/v4.2.x/en/glossary/u/upnp) ports currently in use.

# DHCP

The Active DHCP Leases view shows the status of any [DHCP leases](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp_lease) currently in use.

### DHCPv4 Leases

|  |  |
| --- | --- |
| Column | Description |
| Hostname | Client [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |
| IPv4 Address | Client [IPv4](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |
| MAC Address | Client [MAC Address](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac). |
| Leasetime remaining | Time until the lease expires. |

### DHCPv6 Leases

|  |  |
| --- | --- |
| Column | Description |
| Hostname | Client [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname). |
| IPv6 Address | Client [IPv6 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |
| DUID | Client [DUID](http://juci.iopsys.eu/v4.2.x/en/glossary/d/duid). |
| Leasetime remaining | Time until the lease expires. |

# NAT

The NAT view shows a list of active [NAT](http://juci.iopsys.eu/v4.2.x/en/glossary/n/nat) mappings in the device network.

### Connections

The Active Connections gauge shows how many NAT mappings are in use out of the allowed total, as a percentage and as a count.

### NAT Connection Table

Connections to and from the local network to the external network are added to the table, allowing the device to handle traffic routing decisions.

The table displays information about active NAT connections.

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| Protocol | Communication protocol used. |  |
| Source | Internal [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Destination. | External [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). |  |
| Source Port | Internal [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |  |
| Destination Port | External [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port). |  |

# WiFi

The WiFi Status view shows information about the wireless network, and allows you to scan the local area for other wireless access points.

## Overview

### General

The general WiFI Status view displays information about your wireless channels and network interfaces.

### WiFi Scan

The WiFi scan view allows you to scan the area around the device to find out what other access points are visible.

### Band Steering

The Band Steering view shows information about [band steering](http://juci.iopsys.eu/v4.2.x/en/glossary/b/band_steering).

# General

The general WiFI Status view displays information about your wireless channels and network interfaces.

## Configuration

For each [wireless radio](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wireless_radio)information is displayed about:

* [WiFi channel](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_channel) in use.
* [Noise level](http://juci.iopsys.eu/v4.2.x/en/glossary/n/noise_level) in dB for the channel.
* [WiFi interface](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_interface) name.
* [WiFi encryption](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_encryption) used by the interface.

### Client

For each connected client, more infomation about the connected client is available.

# Client

For each connected client, more infomation about the connected client is available.

## Details

To view more details about a client, click the expand button.

|  |  |  |
| --- | --- | --- |
| Item | Description | Example |
| IP-Address | Client [IPv4 address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address). | 10.0.0.154 |
| MAC-Address | Client [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. | 1A:97:1C:C7:76:63 |
| DHCP | Does client use [DHCP](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dhcp)? | true |
| Idle | Is the device transmitting? | 0 |
| In Network | ID for connected network. | 74 |
| RSSI | [Received signal strength indicator](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) value. | -42 dBm |
| SNR | [Signal to Noise Ratio](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snr) value. | 41 dB |
| Number of Antennas | Client antennas in use. | 2 |
| TX Rate | Transmission rate. | 130 Mbps |
| RX Rate | Receive rate. | 144 Mbps |
| Flags | Provided [device flags](http://juci.iopsys.eu/v4.2.x/en/glossary/d/device_flags). | BRCM, WME, N\_CAP, AMPDU |
| HT Capabilities | Supported [HT Capabilities](http://juci.iopsys.eu/v4.2.x/en/glossary/h/ht_capabilities) (data rates). | LDPC, BW40, SGI20, SGI40 |
| TX Total Packets | Total number of transmitted [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet). | 22589 |
| Unicast Packets | Total [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) transmitted through [unicast](http://juci.iopsys.eu/v4.2.x/en/glossary/u/unicast). | 224 |
| TX Unicast Packets | [Packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) transmitted through [unicast](http://juci.iopsys.eu/v4.2.x/en/glossary/u/unicast). | 224 |
| TX Multicast/Broadcast Packets | [Packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) transmitted through [multicast](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multicast). | 22365 |
| TX Failures | Transmission failures. | 0 |
| RX Data Packets | Received [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet). | 440 |
| RX Unicast Packets | Received [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) transmitted through [unicast](http://juci.iopsys.eu/v4.2.x/en/glossary/u/unicast). | 209 |
| RX Multicast/Broadcast Packets | Received [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) transmitted through [multicast](http://juci.iopsys.eu/v4.2.x/en/glossary/m/multicast). | 231 |
| TX Data Packets Retried | Resent data [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet). | 0 |
| TX Total Packets Sent | Total data [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) transmitted through [unicast](http://juci.iopsys.eu/v4.2.x/en/glossary/u/unicast). | 7 |
| TX Packets Retries | Retransmitted data [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet). | 1 |
| TX Packets Retry Exhausted | Data [Packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet) failed after retry. | 0 |
| RX Total Packets Retried | Retransmitted data [packets](http://juci.iopsys.eu/v4.2.x/en/glossary/p/packet). | 107 |

# Utilization

The WiFi Utilization view displays information about usage for the connected devices in the network.

### Table

Each available [radio](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wireless_radio) is displayed in a table, with one client per row.

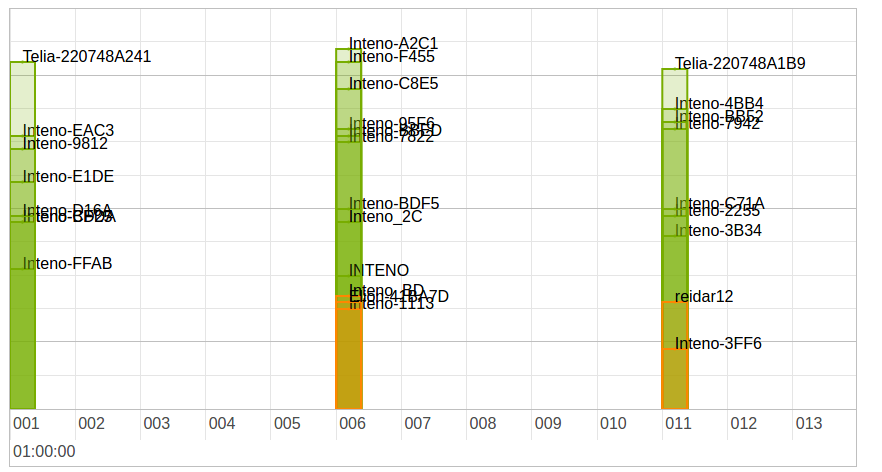
|  |  |  |
| --- | --- | --- |
| Column | Description |  |
| MAC Address | Client [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. |  |
| Airtime Usage | Percentage of [airtime](http://juci.iopsys.eu/v4.2.x/en/glossary/a/airtime) used by the client. |  |
| Data Rate | Transmitted data rate in Mbps. |  |
| Data Usage | Percentage of available data volume used. |  |
| Physical Rate | Transmission rate in Mbps. |  |
| Retries | Percentage of connections that were retried. |  |

# WiFi Scan

The WiFi scan view allows you to scan the area around the device to find out what other access points are visible.

### Chart

The scan results table displays all detected access points and information about each in a graphical manner.

Graph

#### Axes

The horizontal axis shows the discovered [channels](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_channel).

The vertical axis shows the signal strength, according to [RSSI](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi).

|  |  |  |
| --- | --- | --- |
| Color | Description | Comment |
| Red | Poor. |  |
| Yellow | Acceptable. |  |
| Green | Good. |  |

### Table

The scan results table displays all detected access points and information about each:

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| SSID | [SSID](http://juci.iopsys.eu/v4.2.x/en/glossary/s/ssid) identifying the [access point](http://juci.iopsys.eu/v4.2.x/en/glossary/a/access_point). |  |
| Frequency | [WiFi frequency band](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_band) for the access point. |  |
| Channel | [Channel](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wifi_channel) used by the access point. |  |
| RSSI | [RSSI](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) strength for the signal. |  |
| Noise | [Noise level](http://juci.iopsys.eu/v4.2.x/en/glossary/n/noise_level) for the connection to the access point. |  |
| Cipher | [Cipher](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cipher) used for encryption in the access point. |  |
| WPS | [WPS](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wps) version used by the access point. |  |

## Scan WiFi

To scan a frequency band:

* Select Frequency to Scan
* Click Scan

The results for the selected band are displayed in the graph and table.

# Band Steering

The Band Steering view shows information about [band steering](http://juci.iopsys.eu/v4.2.x/en/glossary/b/band_steering).

### Status

The status section shows the current band steering status.

The information is displayed in the STA info summary table.

|  |  |
| --- | --- |
| Column | Description |
| STAMAC | Station (client) [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. | | Interface | Client [interface](http://juci.iopsys.eu/v4.2.x/en/glossary/n/network_interface) name. | | TimeStamp | Timestamp for the steering event. | | Txrate | Transmission rate. |
| RSSI | [Received signal strength indicator](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rssi) . |
| Bounce | Does the client bounce back to a particular bandafter steering? (yes/no). |
| Picky | Does the client prefer a particular band? (yes/no). |
| PSTA | Is the client a [proxy](http://juci.iopsys.eu/v4.2.x/en/glossary/p/proxy) station? (yes/no). |
| DUALBAND | Is the client dual-band capable? (yes/no). |

### Log

The log section contains the log file, which shows the band steering events.

The information is displayed in the Band Steering Record table.

|  |  |
| --- | --- |
| Column | Description |
| Seq |  |
| TimeStamp | Timestamp for the steering event. |
| STAMAC | Station (client) [MAC](http://juci.iopsys.eu/v4.2.x/en/glossary/m/mac) address. | | Fmch | From channel (hex code). |
| To\_ch | To channel (hex code). |
| Reason | Event (hex code). |
| Description | Description of event. |

# DSL

The DSL status view shows information about any [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl) connections to the device.

#### DSL Status Information

The DSL Status Information section shows the status for the DSL line.

##### Line Status

|  |  |
| --- | --- |
| Status | Description |
| Idle | No connection. |
| Handshake | Searching for connection, negotiating transfer. |
| Training | Connection found, testing cable. |
| Showtime/Active | Connection established. |

#### DSL Mode

The DSL Mode section shows the [DSL](http://juci.iopsys.eu/v4.2.x/en/glossary/d/dsl_mode).

#### Bit Rate

The Bit Rate section shows transmission rates for streams in bits per second (bps).

##### Actual Data Rate

|  |  |
| --- | --- |
| Column | Description |
| Downstream | Rate to the device. |
| Upstream | Reate from the device. |

#### Operating Data

The Operating Data section shows signal strength for the DSL line.

##### SNR margin

The SNR Margin section displays the [signal-to-noise margin](http://juci.iopsys.eu/v4.2.x/en/glossary/s/snr_margin) for the streams.

|  |  |
| --- | --- |
| Column | Description |
| Downstream | To the device. |
| Upstream | From the device. |

##### Loop Attentuation

The Loop Attentuation section shows [signal attentuation](http://juci.iopsys.eu/v4.2.x/en/glossary/l/loop_attenuation) for the streams.

|  |  |
| --- | --- |
| Column | Description |
| Downstream | To the device. |
| Upstream | From the device. |

#### Error Counter

The Error Counter section lists the number of (discovered) errors for the connection.

##### FEC Corrections

The FEC Corrections table shows [FEC corrections](http://juci.iopsys.eu/v4.2.x/en/glossary/f/fec) for the streams.

|  |  |
| --- | --- |
| Column | Description |
| Downstream | To the device. |
| Upstream | From the device. |

##### CRC Corrections

The CRC Corrections table shows [CRC corrections](http://juci.iopsys.eu/v4.2.x/en/glossary/c/crc) for the streams.

|  |  |
| --- | --- |
| Column | Description |
| Downstream | To the device. |
| Upstream | From the device. |

#### Cell Statistics

The Cell Statistics section shows the number of [cells](http://juci.iopsys.eu/v4.2.x/en/glossary/c/cell) transmitted for the streams.

|  |  |
| --- | --- |
| Column | Description |
| Received | To the device. |
| Transmitted | From the device. |

# IGPM TV

The IGPM TV Status views shows information about your IPTV services and their connection status.

## Configuration

The table shows any connected IGMP TV channels and information about each:

|  |  |
| --- | --- |
| Column | Description |
| Group IP | IP address of the [IGMP](http://juci.iopsys.eu/v4.2.x/en/glossary/i/igmp) group. |
| Client IP | IP address of the client. |
| LAN Port | [LAN](http://juci.iopsys.eu/v4.2.x/en/glossary/l/lan) [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) used for the group. |
| WAN Port | [WAN](http://juci.iopsys.eu/v4.2.x/en/glossary/w/wan) [Port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) used for the group. |
| Timeout | Time until the gateway triggers IGMP query reelection. |

# USB

The USB devices views displays information about any [USB](http://juci.iopsys.eu/v4.2.x/en/glossary/u/usb) devices connected to the gateway device.

Note: Supported [file systems](http://juci.iopsys.eu/v4.2.x/en/glossary/f/file_system) for USB devices are [NTFS](http://juci.iopsys.eu/v4.2.x/en/glossary/n/ntfs) and [FAT32](http://juci.iopsys.eu/v4.2.x/en/glossary/f/fat32).

### Table

The USB device information table shows information about the USB devices.

|  |  |  |
| --- | --- | --- |
| Column | Description | Comment |
| Device ID | Identification for the USB device. |  |
| Vendor ID | Identification for the manufacturer. |  |
| Vendor Name | Name of the manufacturer. |  |
| Device Name | Name reported by the USB device. |  |

# CATV

The CATV Status view shows information about [CATV](http://juci.iopsys.eu/v4.2.x/en/glossary/c/catv) services connected to the device.

## Configuration

Note: Available on EG300 & EG400 only.

|  |  |  |
| --- | --- | --- |
| Option | Description | Example |
| Inteno model | Model. | CATV-302 |
| VPD | Reverse voltage on Protection Device. | -inf dBm |
| RF | Range. | 75.7 dBµV |
| RF enable | Enable RF. | OFF |

# SFP

The SFP Status view shows information about [SFP](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sfp) connectors enabled in the device.

## Configuration

Information is shown in two tables; [ROM](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rom) information and [DDM](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ddm) information.

Note: Available on EG300 & EG400 only.

#### DDM

The DDM table shows information about the [DDM](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ddm) retrieved from the SFP.

|  |  |  |
| --- | --- | --- |
| Option | Description | Example |
| voltage | Port voltage. | 3.1872 (V) |
| current | Port current. | 26.448 (mA) |
| tx-pwr | Broadcasting power. | 0.3530 (mW) |
| tx-pwr-dBm | Broadcasting power. | -4.5223 (dBm) |
| rx-pwr | Received signal power. | 0.3026 (mW) |
| rx-pwr-dBm | Received signal power. | -5.1913 (dBm) |
| rx-pwr-type | Received power type. | average |

#### ROM

The ROM table shows information about the [ROM](http://juci.iopsys.eu/v4.2.x/en/glossary/r/rom).

|  |  |  |
| --- | --- | --- |
| Option | Description | Example |
| connector | Connector type. | SC |
| ethernet | Ethernet type. | LX |
| encoding | Encoding type. | 8B10B |
| rate | Line rate. | 1300 |
| single-mode | Single mode distance. | 20000 |
| vendor | Port manufacturer or vendor. | Skylane Optics |
| oui | [Organizationally Unique Identifier](http://juci.iopsys.eu/v4.2.x/en/glossary/o/oui). | 00:25:cd |
| pn | Product name. | SBU35020DR3D000 |
| rev | ROM Revision. | A |
| sn | Serial Number | b19bmjrx1857 |
| date | ROM date. | 2016-04-21 |
| ddm | [DDM](http://juci.iopsys.eu/v4.2.x/en/glossary/d/ddm) version | 9.3 |

# Diagnostics

The Diagnostic Utility allows you to perform diagnostic tests from the web interface.

## Overview

### Ping

The Ping Test view allows you to perform a [Ping](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ping) for a selected host.

### Trace

The Tracing tool view allows you to perform a [Traceroute Test](http://juci.iopsys.eu/v4.2.x/en/glossary/t/traceroute) for a selected host.

### Speed Test

The Speed Test view allows you to perform a [TP Test](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tptest) for your network, using your device as the endpoint.

# Ping

The Ping Test view allows you to perform a [Ping](http://juci.iopsys.eu/v4.2.x/en/glossary/p/ping) for a selected host.

## Ping Test

To perform a ping test against an endpoint:

* Enter a valid [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) or [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) in the Host to ping box
* Click Ping

The result of the ping is shown below the utility.

#### Example:

PING 127.0.0.1 (127.0.0.1): 56 data bytes  
64 bytes from 127.0.0.1: seq=0 ttl=64 time=0.208 ms  
64 bytes from 127.0.0.1: seq=1 ttl=64 time=0.130 ms  
64 bytes from 127.0.0.1: seq=2 ttl=64 time=0.129 ms  
64 bytes from 127.0.0.1: seq=3 ttl=64 time=0.146 ms  
64 bytes from 127.0.0.1: seq=4 ttl=64 time=0.130 ms  
  
--- 127.0.0.1 ping statistics ---  
5 packets transmitted, 5 packets received, 0% packet loss  
round-trip min/avg/max = 0.129/0.148/0.208 ms

# Trace

The Tracing tool view allows you to perform a [Traceroute Test](http://juci.iopsys.eu/v4.2.x/en/glossary/t/traceroute) for a selected host.

## Traceroute Test

To perform a tracroute test against an endpoint:

* Enter a valid [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) or [IP address](http://juci.iopsys.eu/v4.2.x/en/glossary/i/ip_address) in the Host to trace box
* Click Trace

The result of the trace is shown below the utility.

#### Example:

Trace results:

traceroute to 127.0.0.1 (127.0.0.1), 30 hops max, 38 byte packets  
 1 127.0.0.1 0.033 ms

# Speed Test

The Speed Test view allows you to perform a [TP Test](http://juci.iopsys.eu/v4.2.x/en/glossary/t/tptest) for your network, using your device as the endpoint.

## Configuration

|  |  |  |
| --- | --- | --- |
| Option | Description | Comment |
| Direction | Traffic direction to test. | Up and Down, Up, Down. |
| Package Size | Size of test [data packages](http://juci.iopsys.eu/v4.2.x/en/glossary/d/data_package) to send. | Size of test packages to send. |
| Speedtest Server | Server to use for the test. | A number of default servers are provided, but you can edit the list. |

### Perform Speed Test

#### Example

Test results:

Downstream: 103.45 Mbit/s  
Upstream: 44.10 Mbit/s

### Add test server

If you have additional test servers you want to use, you can add them to the dropdown list.

To add a test server:

* Click the + plus sign

A dialog is shown allowing you to enter parameters:

|  |  |  |
| --- | --- | --- |
| Option | Description | Comment |
| Hostname | Test Server [hostname](http://juci.iopsys.eu/v4.2.x/en/glossary/h/hostname) |  |
| Port | Test server [port](http://juci.iopsys.eu/v4.2.x/en/glossary/p/port) |  |

* Add a valid Server Hostname
* Add a valid server Port
* Click OK

### Remove test server

Servers in the test server list can be removed.

To remove a test server:

* Select the server in the Speedtest Server list
* Click the - minus sign

The server is removed from the list immediately.

# Realtime Graphs

The Realtime Graphs view provides access to graphical representations of status for the device. The graphs scroll as time progresses and lines indicate the current status.

## Overview

### Load

The Load graph shows device load averages for different time recent periods.

### Traffic

The Traffic graph shows upload and download traffic for the interfaces.

### Connections

The Connections graph shows the number of currently active connections for the device.

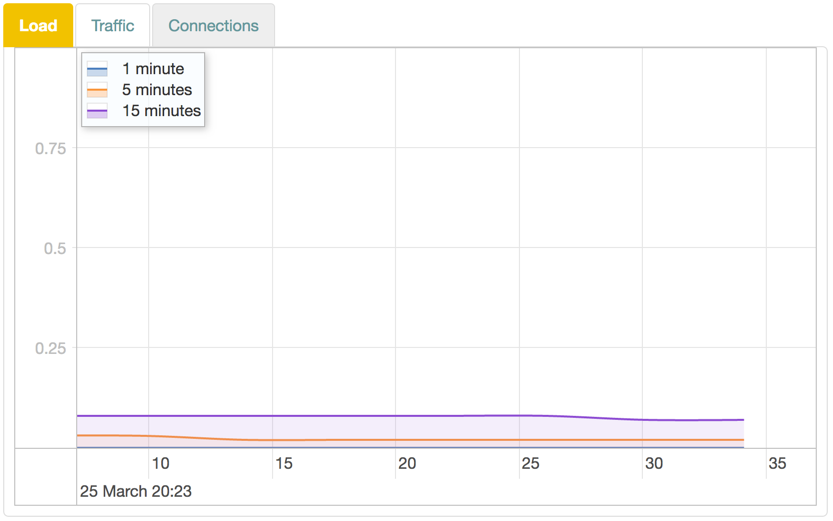
# Load

The Load graph shows device load averages for different time recent periods.

## Graph Lines

The display is shown in realtime, and the lines represent the average over different intervals:

|  |  |
| --- | --- |
| Color | Time |
| Blue | 1 minute |
| Red | 5 minutes |
| Purple | 15 minutes |

Load

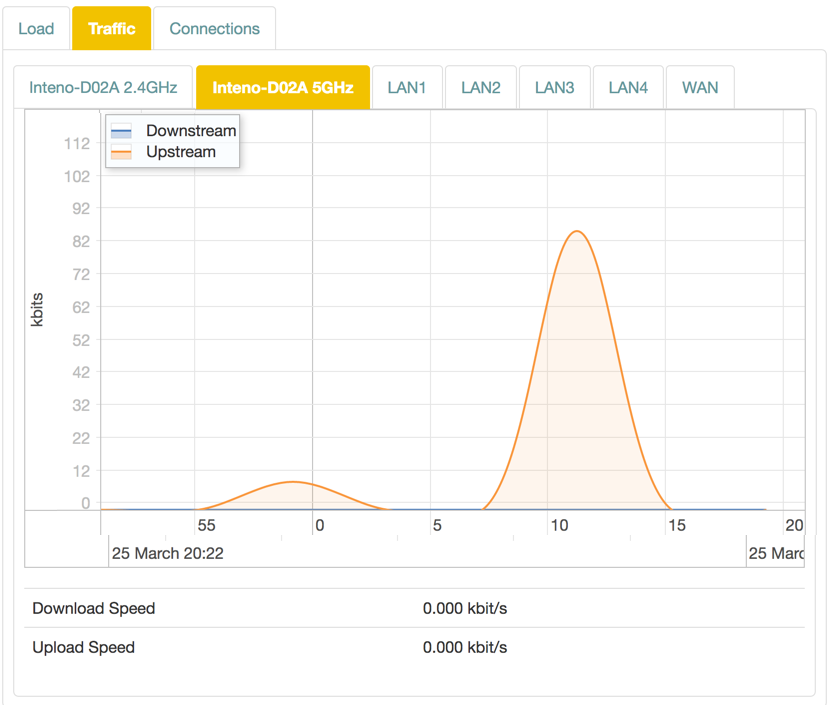
# Traffic

The Traffic graph shows upload and download traffic for the interfaces.

## Graph Lines

Each interface is available in its own tab. The display is shown in realtime, with lines representing traffic in kbit/s:

|  |  |
| --- | --- |
| Color | Traffic |
| Blue | Downstream. |
| Red | Upstream. |

Traffic

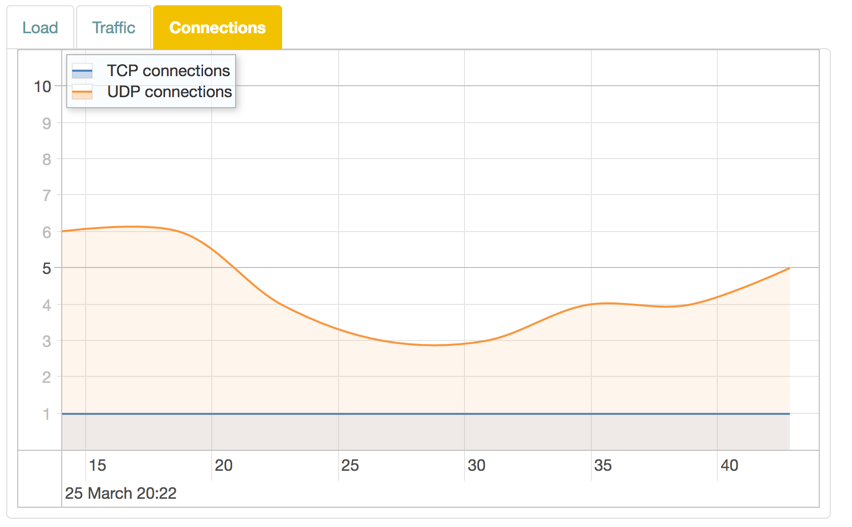
# Connections

The Connections graph shows the number of currently active connections for the device.

## Graph Lines

The lines representing different connection types:

|  |  |
| --- | --- |
| Color | Traffic |
| Blue | TCP connections. |
| Red | UDP connections. |

Connections

# Voice

The Voice Status view shows information about SIP accounts, phone numbers and voice lines connected to the device.

## Configuration

Information is shown in two tables.

#### Your phone numbers

|  |  |  |
| --- | --- | --- |
| Option | Description | Comment |
| Name | [SIP account](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_account) name. | Uses type and number unless otherwise set. |
| User | [SIP user](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_user). |  |
| Domain | [SIP domain](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_domain). |  |
| Registration interval | [SIP registration interval](http://juci.iopsys.eu/v4.2.x/en/glossary/s/sip_reg_interval) domain. |  |
| Last registration | Last registration time. |  |
| Status | Current status of the line. |  |

#### Voice lines

The Voice lines shows a list of connected voice lines.

|  |  |  |
| --- | --- | --- |
| Option | Description |  |
| Name | Voice line name. | Uses type and number unless otherwise set. |
| State | Current state of the line. |  |

# Event Log

The Event Log view lets you view and manage the event log for the device.

## Log

The Log section contains log settings and lets you download the logs.

|  |  |
| --- | --- |
| Item | Description |
| Download All Logs | Save the logs to the local computer. |
| Limit Log List | Limit the number of events. |
| Filter Log Messages By Source | Filter out events by freetext search in source. |
| Filter By Type | Filter out event types by [Logging level](http://juci.iopsys.eu/v4.2.x/en/glossary/l/logging_level). |
| Filter By | Filter out events in the log (firewall / network / system / iptv). |

# Enable Online Help

For JUCI version 3.10.0+, online help is enabled by default.

However, if you upgrade from an earlier version, this option may not have been enabled. If so, you may need to connect to your device via SSH and run console commands to enable the setting.

## CLI Enable Online Help

To enable online help:

### Commands on Local Computer

* Open a console window on your local computer.
* Connect to the device:

ssh admin@192.168.1.1

Note: The address may be different from 192.168.1.1 for your device. Use the same address as for the usual login.

Note: You may need to enable SSH access to your device from the [System > Management > SSH](http://juci.iopsys.eu/v4.2.x/en/ade/system/management/ssh/start).

Note: For login, use the password defined in [System > Passwords](http://juci.iopsys.eu/v4.2.x/en/ade/system/passwords/start).

### Commands on Device

The command line commands to run are the following:

To enable the help:

uci set juci.wiki.visible=1

To apply the setting:

uci commit juci