

Другие языки:

English • [русский](#)

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Object management through the internet

General instructions for using static IP-address, DDNS service and setup of the NAT, Port Forwarding in the i3 lite through the internet.

How to connect i3 lite to hardware

i3 lite app can connect to iRidium server through the internet for management and to receive data from physically remote hardware. For this you need to setup your network hardware (router). Let's view the ways of hardware remote control.

Connection through the static IP address in the internet.

i3 can connect to a remote router and to a hardware through it via the router internet IP-address on condition that it does NOT change i.e. it is static.

1 Getting the static IP-address in the internet

Static IP-address can be assigned to your IP-router only by Internet provider. If you use mobile internet, assignment of Static IP-address is impossible, go to the next option (DDNS).

Permanent IP-address is called "static external" and means that you can connect to your router from anywhere in the world and it's IP-address does NOT change

[What is my internet IP-address?](#) (IP-address changes if it is NOT static)

Not all internet providers can give you the static IP-address. But if the provider does use a provider's instruction to setup the router to work with static IP-address.

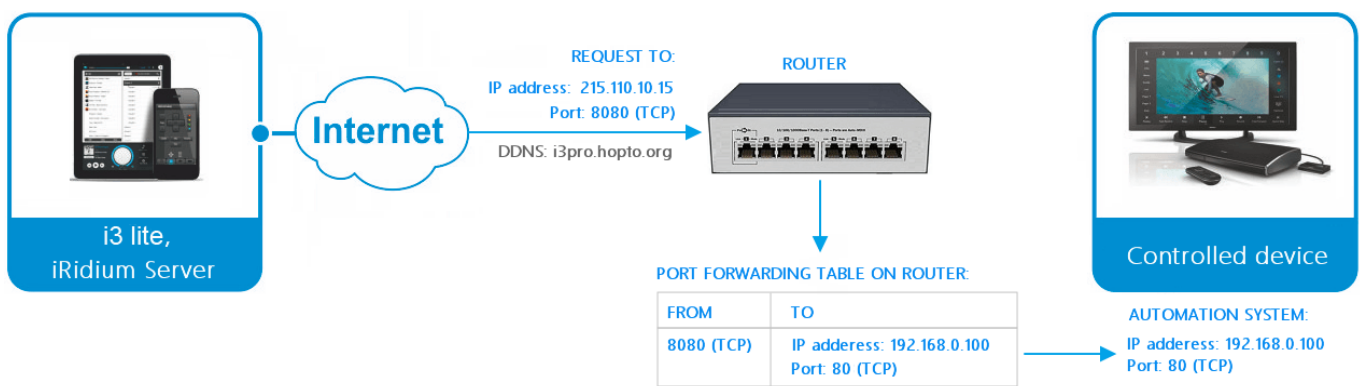
Providing access to hardware through the router is a next step - NAT and PortForwarding setting

2 Nat and PortForwarding setting on the router

The NAT service provides transfer of data sent to the router from the external network to LAN. If rules of data transfer are not set up, commands will not be sent anywhere but your router.

NAT (Network Address Translation) - the service for translation of internal network IP-addresses to IP- addresses of the external network. Before you start to set up NAT, give the equipment you use static local IP-addresses

The principle of forwarding data from the external network to the internal one:



1. a remote device sends a command to the router address in the Internet and the "external" port of the equipment specified in the table of data forwarding
2. the router forwards the command to the device in the local network specified in the table of data forwarding
3. the command is executed by the device

The number of forwarding "rules" on the router has to be set up based on what devices of your network have to receive data or commands from the Internet.

Using the example of the D-Link router, let us set up one forwarding rule (every network device needs its own rule):

D-Link

DIR-300 // SETUP **ADVANCED** MAINTENANCE STATUS HELP

ADVANCED PORT FORWARDING RULES

The Advanced Port Forwarding option allows you to define a single public port on your router for redirection to an internal LAN IP Address and Private LAN port if required. This feature is useful for hosting online services such as FTP or Web Servers.

Save Settings Don't Save Settings

24 - ADVANCED PORT FORWARDING RULES

Remaining number of rules that can be created: 14

| Name | Application | IP Address | Port | Traffic Type |
|-------------------------------------|---------------------------------|--------------------------------|---|--------------|
| <input checked="" type="checkbox"/> | Application << Application Name | 192.168.0.100 << Computer Name | Public Port: 8080 ~ Private Port: 80 ~ | TCP |

Helpful Hints..

- Check the **Application Name** drop-down menu for a list of pre-defined applications that you can select from. If you select one of the pre-defined applications, click the arrow button next to the drop-down menu to fill out the appropriate fields.
- You can select your computer from the list of DHCP clients in the **Computer Name** drop-down menu, or enter the IP address manually of the computer you would like to open the specified port to.
- This feature allows you to open a range of ports to a computer on your network. To do so, enter

1. "IP Address" - the local IP-address of the device on which you want to send commands from the Internet
2. "Public Port" - the port where you need to send the command from the Internet so it would come to the device
3. "Private Port" - the real hardware port that receives commands (it can be different from "Public Port")
4. "Traffic Type" - the allowed protocol for connection between the sender and receiver of commands (TCP or UDP)

Example Provider gives to your router the public static IP address **215.110.10.15**. You set a data redirection from external TCP port **8445** to internal TCP port **8443** on **192.168.0.100** host which is iRidium server IP address.

Connection through a subdomain DDNS without the static address

i3 lite can connect to a remote router via a domain name which is given to router by DDNS service. The domain name is used if the internet provider does NOT give the static IP-address or when you use a mobile internet.

Without the static IP-address, your IP will constantly change. It is called a dynamic IP-address. Change of the IP-address leads to the fact that the control program could NOT apply to hardware by the external IP-address, because it periodically loses the relevance.

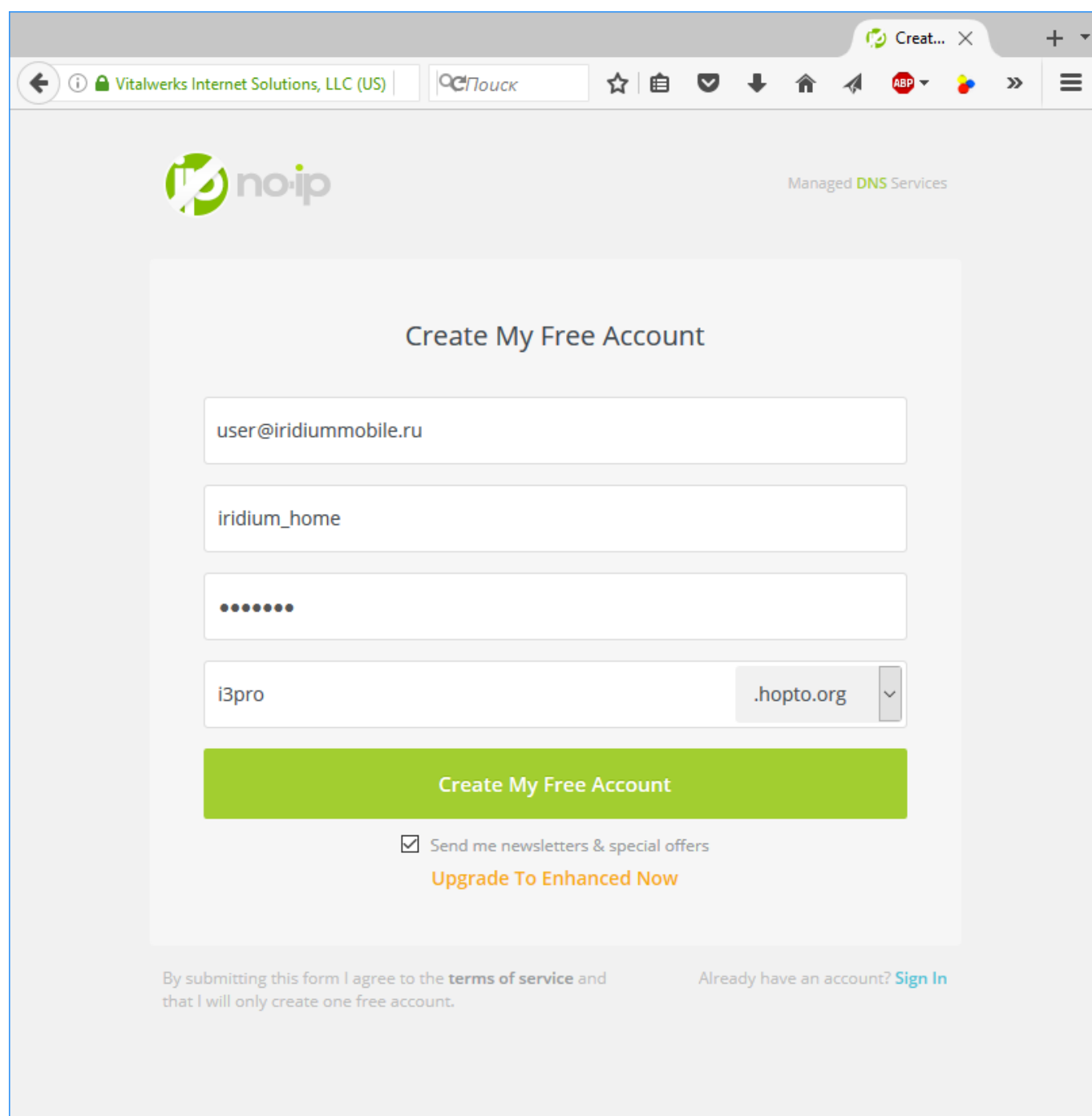
Companies which can provide a service of dynamic DNS (DDNA or DynDNS) are able to solve the problem with dynamic IP-address. This service is used to assign the constant domain name to the

router with the dynamic IP-address. This service can be provided by: [No-IP](#), [DynDNS](#) and others.

Let's consider an assignment of subdomain to the router via the paid service **No-IP**. There are 3 stages of configuration:

1. Register the subdomain on the site, which provide the DDNS service.
2. Set up the DDNS service on the router
3. Set up the Nat, PortForwarding service on the router

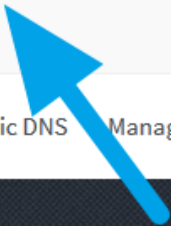
1 Account and subdomain registration on No-IP.com



The screenshot shows a web browser window displaying the No-IP.com registration page. The browser's address bar shows the URL 'Vitalwerks Internet Solutions, LLC (US) | no-ip.com'. The page features the No-IP logo and the text 'Managed DNS Services'. The main heading is 'Create My Free Account'. The form contains the following fields and elements:

- Email address: user@iridiummobile.ru
- Subdomain: iridium_home
- Password: masked with seven dots
- Username: i3pro
- Domain: .hopto.org (selected from a dropdown menu)
- Submit button: Create My Free Account
- Checkbox: Send me newsletters & special offers
- Link: Upgrade To Enhanced Now
- Footer text: By submitting this form I agree to the [terms of service](#) and that I will only create one free account.
- Footer text: Already have an account? [Sign In](#)

Signed In as: [iridium_home](#)



Your account is now active!

Find the services that best fit your needs and get started.

| | | | |
|------------------------------|-----------------------------|--------------------------------|---------------------------------|
| Dynamic DNS | Managed DNS | Email Services | Domain Services |
| All Services | | | |

Remote Access / Dynamic DNS

Trying to remote access a web cam, home security system, home automation system, computer or other internet connected device?

How to remote access your device:

Step 1 - Create a Hostname. (this step is already complete)

Step 2 - [Download](#) the Dynamic Upd...

[Feedback](#)

Try our new [Account Management Site](#).

Manage Hosts

Current Hosts: 1 **Need More Hosts? Enhance Your Account!** [Enhance Your Account](#)

| Host | IP/URL | Action |
|------------------------|--------------|---|
| Hosts By Domain | | |
| hopto.org | | |
| i3pro.hopto.org | 46.165.48.48 | Modify Remove |

[Add A Host](#)

Add Google Apps to your Domain

We have partnered with Google to allow you to easily add email, online storage, shared calendars, video meetings and more. Built for business, designed for teams. [Learn how easy it is to integrate Google Apps with your domain today!](#) [Learn More](#)

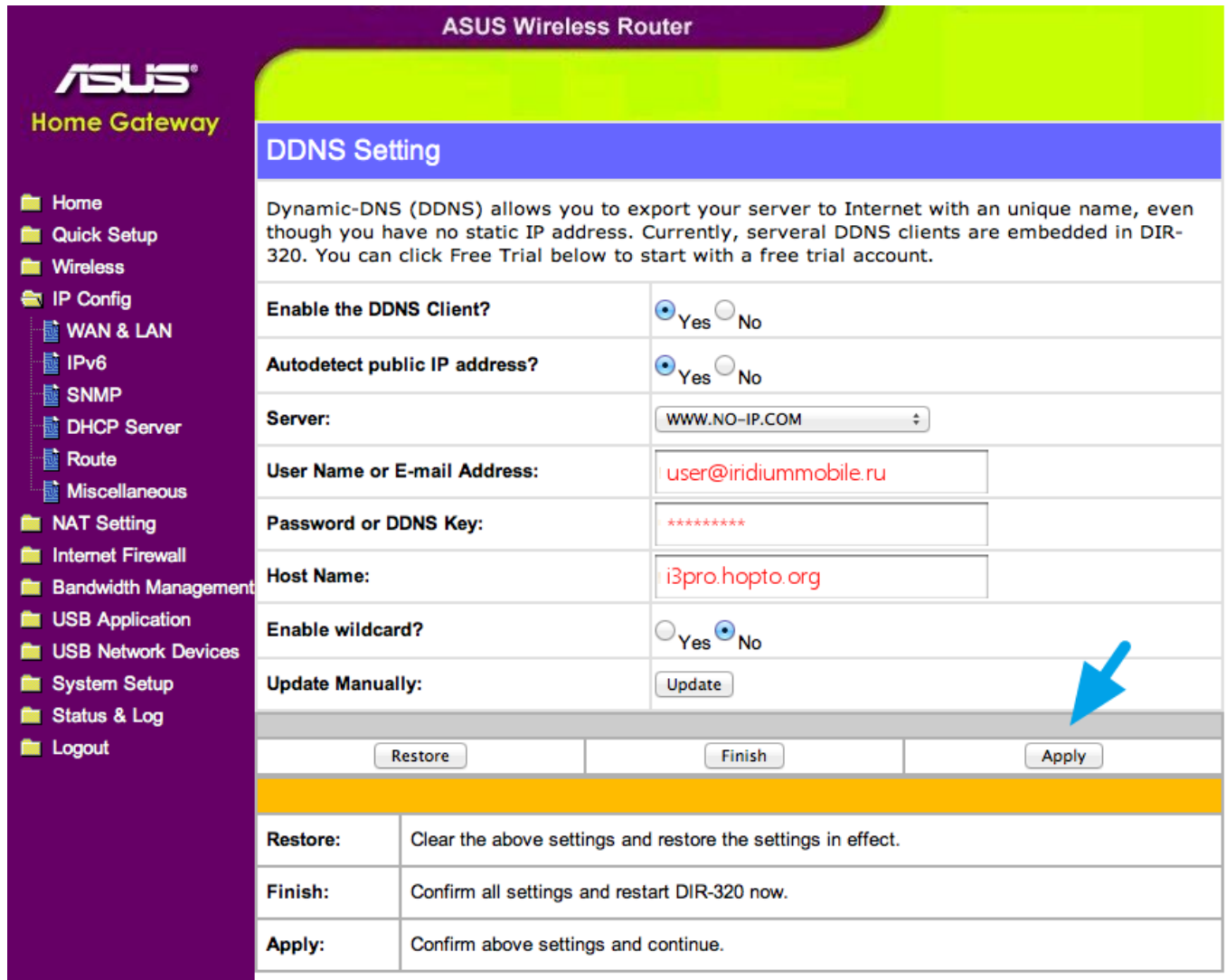
Google Apps for Work

1. Register a new account on [No-IP](#). During the account registration select a subdomain address - you can use this address as your router address. For example: `i3pro.hopto.org`
2. Confirm account registration (a confirmation code will come on e-mail). You will get access to manage the domains in the "Managed DNS" field.
3. The subdomain registered during the creation of account is already active. Subdomain name is needed for setting the router

Note that in a free No-IP account you need to prolongate the subdomain every month (click the button on the site to prolongate). Otherwise it will stop working. You can pay one year subscription or more to create multiple domains, which will constantly work. See subscription terms on the site.

2 Setting the router for working with No-IP DDNS service

Make sure your router supports DDNS. Path to DDNS settings depends on model and manufacturer of the router. Examples:



ASUS Wireless Router

ASUS Home Gateway

- Home
- Quick Setup
- Wireless
- IP Config
 - WAN & LAN
 - IPv6
 - SNMP
 - DHCP Server
 - Route
 - Miscellaneous
- NAT Setting
- Internet Firewall
- Bandwidth Management
- USB Application
- USB Network Devices
- System Setup
- Status & Log
- Logout

DDNS Setting

Dynamic-DNS (DDNS) allows you to export your server to Internet with a unique name, even though you have no static IP address. Currently, several DDNS clients are embedded in DIR-320. You can click Free Trial below to start with a free trial account.

| | |
|-------------------------------|---|
| Enable the DDNS Client? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Autodetect public IP address? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Server: | WWW.NO-IP.COM |
| User Name or E-mail Address: | user@iridiummobile.ru |
| Password or DDNS Key: | ***** |
| Host Name: | i3pro.hopto.org |
| Enable wildcard? | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Update Manually: | <input type="button" value="Update"/> |

| | |
|-----------------|--|
| Restore: | Clear the above settings and restore the settings in effect. |
| Finish: | Confirm all settings and restart DIR-320 now. |
| Apply: | Confirm above settings and continue. |

ASUS RT-AC66U Logout Reboot English

Operation Mode: **wireless router** Firmware Version: **3.0.0.4.220**
 SSID: **ASUS ASUS_5G**

Internet Connection | Port Trigger | Virtual Server / Port Forwarding | DMZ | **DDNS** | NAT Passthrough

WAN - DDNS

DDNS (Dynamic Domain Name System) is a service that allows network clients to connect to the wireless router, even with a dynamic public IP address, through its registered domain name. The wireless router is embedded with the ASUS DDNS service and other DDNS services.

The wireless router currently uses a private WAN IP address (192.168.x.x, 10.x.x.x, or 172.16.x.x).
 This router may be in the multiple-NAT environment and DDNS service cannot work in this environment.

| | |
|-----------------------------|---|
| Enable the DDNS Client | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Server | www.NO-IP.COM Free Trial |
| Host Name | i3pro.hopto.org |
| User Name or E-mail Address | iridium_home |
| Password or DDNS Key | ***** |
| Enable wildcard | <input type="radio"/> Yes <input checked="" type="radio"/> No |

Apply

General
 Network Map
 Guest Network
 Traffic Manager
 Parental control
 USB application
 AiCloud

Advanced Settings
 Wireless
 LAN
WAN
 IPv6
 VPN Server
 Firewall
 Administration

TP-LINK®

Status
 Quick Setup
 QSS
 Network
 Wireless
 DHCP
 Forwarding
 Security
 Parental Control
 Access Control
 Static Routing
 Bandwidth Control
 IP & MAC Binding
Dynamic DNS
 System Tools

DDNS

Service Provider: No-IP (www.no-ip.com) [Go to register...](#)

User Name: iridium_home
 Password: *****
 Domain Name: i3pro.hopto.org

Enable DDNS

Connection Status: DDNS not launching!
Login Logout

Save



| DCS-930L // | LIVE VIDEO | SETUP | MAINTENANCE | STATUS | HELP |
|--|--|-------|-------------|--------|--|
| Wizard Network Setup Wireless Setup Dynamic DNS Image Setup Video Audio Motion Detection Mail FTP Time and Date Logout | <div style="background-color: #f4a460; padding: 5px;">DYNAMIC DNS</div> <p>The Dynamic DNS feature allows you to host a server (Web, FTP, Camera, etc...) using a domain name that you have purchased (www.whateveryournameis.com) from your broadband Internet Service Provider (ISP). Using a DDNS service, your friends can enter your host name to connect to your IP Camera regardless of your IP address.</p> <p style="text-align: center;"> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p> <hr/> <div style="background-color: #333; color: white; padding: 5px;">DYNAMIC DNS SETTING</div> <p> <input checked="" type="radio"/> Enable <input type="radio"/> Disable </p> <p> Server Address <input type="text" value="WWW.NO-IP.COM"/> << <input type="button" value="Select Dynamic DNS Server"/> </p> <p> Host Name <input type="text" value="i3pro.hopto.org"/> </p> <p> User Name <input type="text" value="iridium_home"/> </p> <p> Password <input type="password" value="*****"/> </p> <p> Timeout <input type="text" value="1"/> hours </p> <p style="text-align: center;"> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p> | | | | Helpful Hints.. Dynamic DNS is useful if you have a DSL or Cable service provider that changes your modem IP address periodically. This will allow you to assign a website domain name to your camera instead of connecting through an IP address. |

DDNS settings are approximately the same regardless of the router model:

1. "Enable the DDNS Client" - activate the service on the router
2. "Server" - server of the DDNS service provider. In our case: WWW.NO-IP.COM
3. "User Name or E-mail Address" - login or e-mail which you entered during account registration on noip.com
4. "Password" - your account password on noip.com

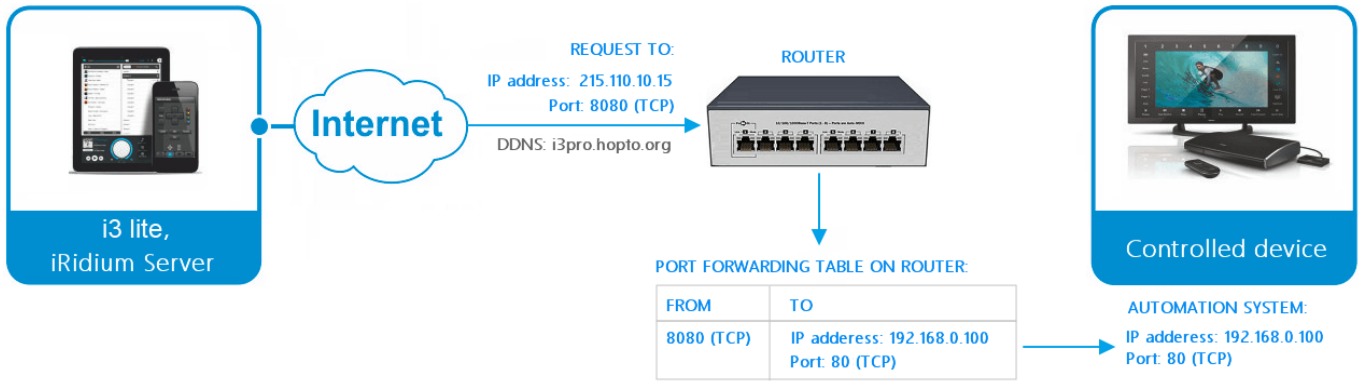
After saving DDNS settings your router will report noip.com it's internet IP-address and noip.com will redirect to the router a data sent to the subdomain's address.

3 Nat and PortForwarding setting on the router

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| | | Port | Traffic Type |
|---------------|---------------------|--------------|--------------|
| Name | | Public Port | |
| Application | << Application Name | 8080 ~ | |
| IP Address | << Computer Name | Private Port | TCP |
| 192.168.0.100 | | 80 ~ | |

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4. "Traffic Type" - the allowed protocol for connection between the sender and receiver of commands (TCP or UDP)

Example You have registered the subdomain **i3lite.hopto.org** on noip.com and activate the DDNS service on the router. Also you have set up on the router the data redirect rule from external **8080** TCP port to internal **8443** TCP port with **192.168.0.100** IP-address, which is the hardware address.

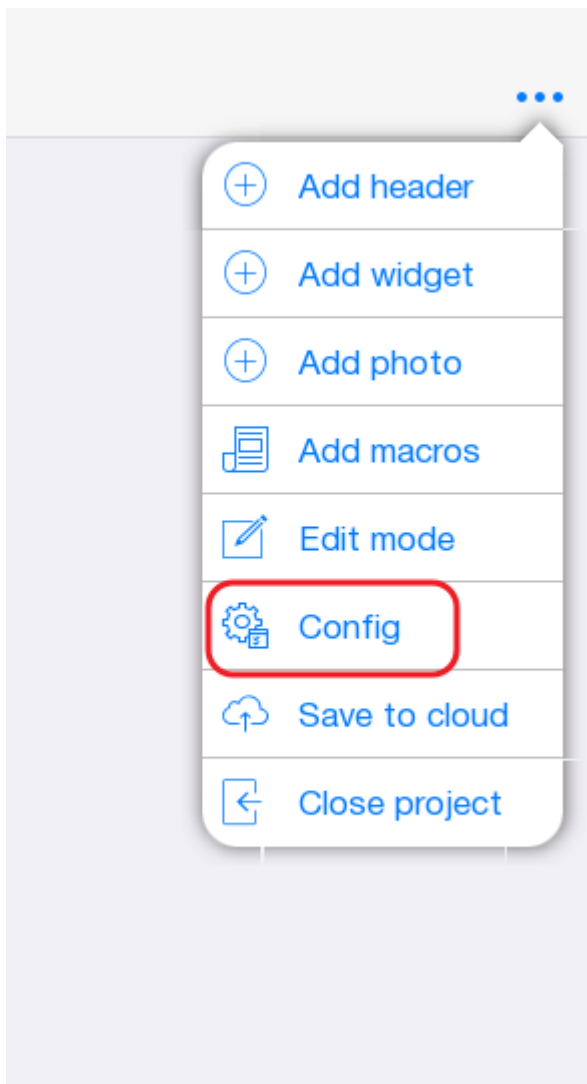
To connect to the hardware through the internet you need to specify in settings:

Host: i3lite.hopto.org, Port: 8080

Setting up a connection to iRidium server through the internet

To configure the object remote control you need to:

- 1 Open a project in i3 lite app and go to a Config



- 2 Go to a "Server" field. In this field you need:

- **Work mode** - connection mode to iRidium Server
 - Auto - automatic switching between local mode and the mode of operation via the Internet
 - Local - local connection only

- External - connection through the internet only
- **External Host** - external router IP-address
- **External API port** - port for work with authorization and service functions of the server. It uses the **8443** port in the local network
- **External Protocol Port** - port for work with devices, used in the project. It uses the **30464** port in the local network

If the project must work only in the local network you have to specify "Local" in the "Work mode" field. For work with server through the internet you have to specify "External" or "Auto" and fill the external network settings fields. For remote working you have to create on the router 2 external ports for **8443** and **30464** local ports.

3 Enter external ports and external IP-address of the router in server settings:

- In the "External Host" field enter external IP-address of the router
- In the "External Api Port" field enter external port for 8443 port.
- In the "External Protocol Port" field enter external port for 30464 port
- In the "Work mode" field specify Auto or External

The screenshot shows the 'Server' configuration screen. The left sidebar has 'Server' selected. The main area has the following fields:

- Name: DESKTOP-4SH2796(Server)
- Internal Host: 192.168.0.77
- Port: 30464
- External Host: (highlighted with a red circle)
- External API Port: (highlighted with a red circle)
- External Protocol Port: (highlighted with a red circle)
- Work mode: Auto switch (highlighted with a red circle)
- PIN: (empty)
- Test mode: (toggle switch is on)
- Project synchronization: (button labeled 'Synchronize')

At the bottom, there is a 'Deactivate' button.

4 If you use an auto-switching mode (Work mode: Auto), you need to go to "General" field in the Config and enter name of your home network in the "Local WiFi" field. In the auto-mode the app defines in what WiFi network user is in. If the user is in the home network, the app connects to the server with local settings. If the app is NOT connected to WiFi or network name is different from the home network one, app connects to the server with settings of working through the internet



General



Floors & Rooms



Devices



Server



Schedules



Routines



Macros

Name

ЫВАЫВАЫВА >

Language

English >

Local WiFi name >

Config version

1.10.0