



IoT Modules – MANUAL

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GENERAL INFORMATION

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Please read the manual before beginning and keep the manual for later use.

The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

CONVENTIONS

[KEY]	Keys that are to be pressed by the user are given in square brackets, e.g. [CTRL] or [DEL]
COURIER	On-screen messages are given in the Courier font, e.g. C:\>
COURIER BOLD	Keyboard input to be made by the user are given in Courier bold, e.g. C:\> DIR
"..."	Names of buttons to be pressed, menus or other onscreen elements and product names are given within double quotes. (e.g. "Configuration").
PICTOGRAMS	In this manual the following symbolic are used to indicate particular text blocs.
	<i>Caution!</i> A dangerous situation may arise that may cause damage to material
	<i>Note</i> Hints and additional notes
	<i>New</i> New features

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1 Introduction

1.1 PREFACE

DIVUS KNX CONTROL devices offer not only the native support for KNX systems, but also for other technologies which are integrated seamlessly in the OPTIMA visualisation through dedicated modules.

For general information about the use of OPTIMA, the visualisation system from DIVUS, please refer to the OPTIMA Administration Manual which you can download from our [homepage](#).

The world of the Internet of Things (in short “IoT”) plays a growingly important role in this scenario. For this reason, DIVUS is offering a number of modules to support the most used and requested IoT technologies.



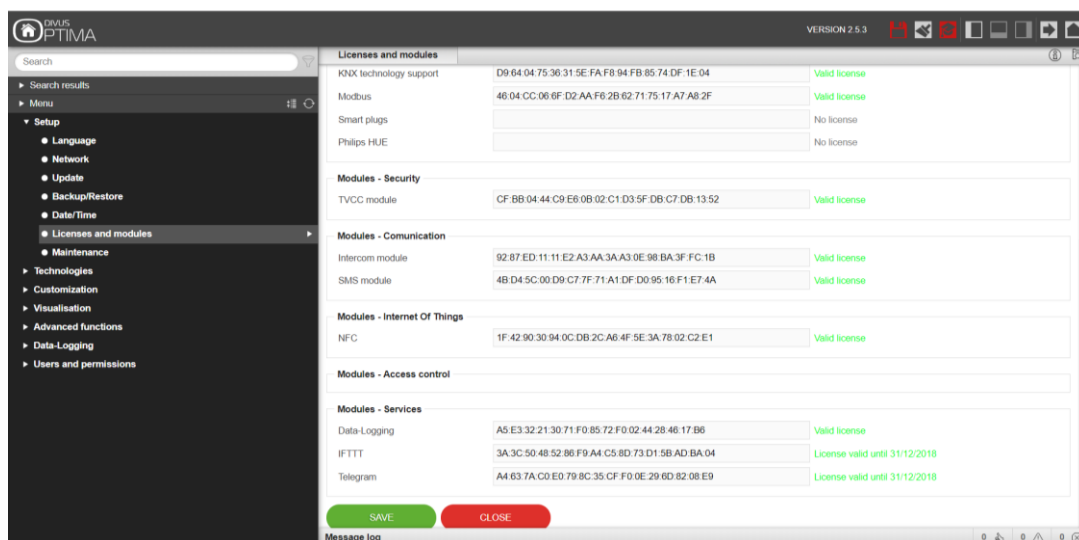
These modules are already working and usable but are still at an early development stage and are therefore marked as BETA. That means on one side that we can't guarantee the total absence of flaws, on the other side that the further development of the single modules might lead to changes – both in the adopted licensing model and in the offered features and options.

1.2 THE MODULES

The following IoT modules are available currently:

- IFTTT
- Philips Hue
- Telegram
- Voxior

In the upcoming chapters they will be handled in detail. With the exception of the Voxior module, which is part of the pre-installed and activated modules starting from OPTIMA version 2.5.0, the modules require to be activated with dedicated license keys, which you may request (as test license) by email to support@divus.eu giving the details about your device. The activation will make the corresponding submenu visible in the Technologies section of OPTIMA's administration.



The obtained license key must be inserted in this page under *Setup – Licenses and modules* in the related field. Then press the SAVE button, wait for the system to reload and go to the same page again to check that it was accepted: it should say **License valid until 01/0X/201X**.

2 IFTTT

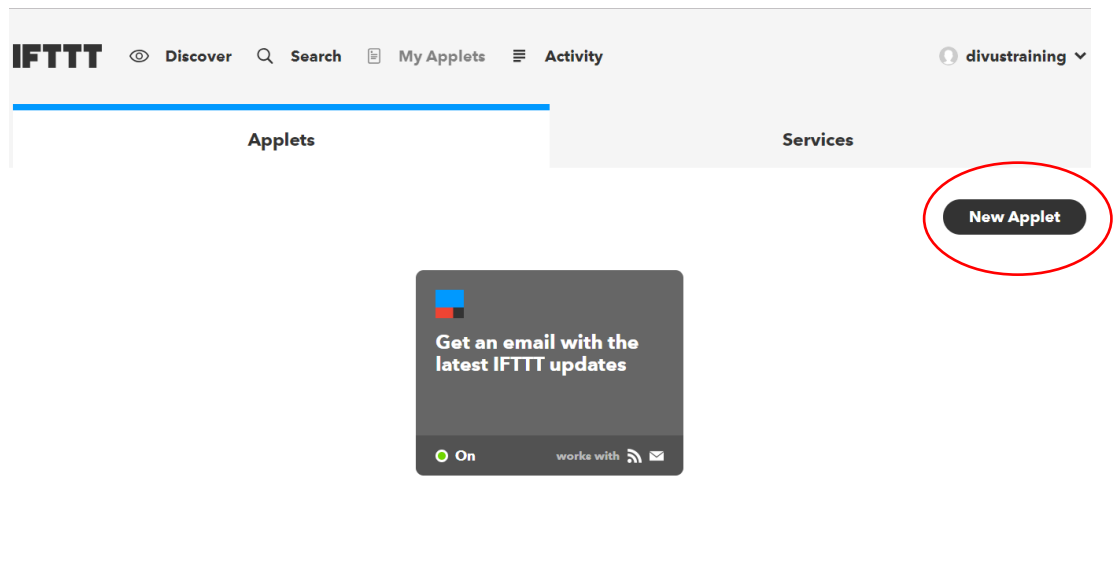
2.1 KEY DATA

NAME	IFTTT („if this than that“)
TYPE	Automation platform on the internet
WEB	https://ifttt.com/
CONCEPT	<p>Merging different technologies in a common "cloud". For example, Google services (Calendar, Gmail, Google Maps), Amazon Echo, Instagram, and an ever-growing amount of other services.</p> <p>You choose an event as a trigger and one (or more) as a subsequent action.</p> <p>Needs a free account.</p>
INTEGRATION IN OPTIMA	Similar to <i>Incoming</i> and <i>Outgoing Connections</i> , the IFTTT module in OPTIMA provides the ability to configure events in both directions, such as "Events to be sent to IFTTT" and "Events received from IFTTT".

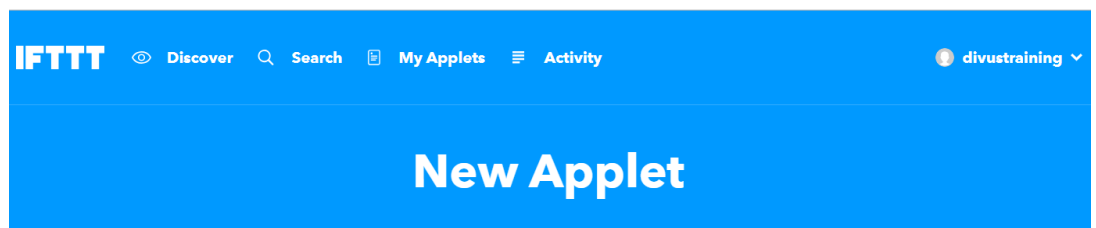
2.2 CONFIGURATION OF AN APPLET IN IFTTT (GENERAL)

1. Go to the website `ifttt.com`
2. Create a new account, or directly log in

3. Click on My Applets and then on New Applet



4. Click on [\[+\] this](#) and choose the service which should serve as trigger e.g. „Date & Time“ for a simple time schedule.



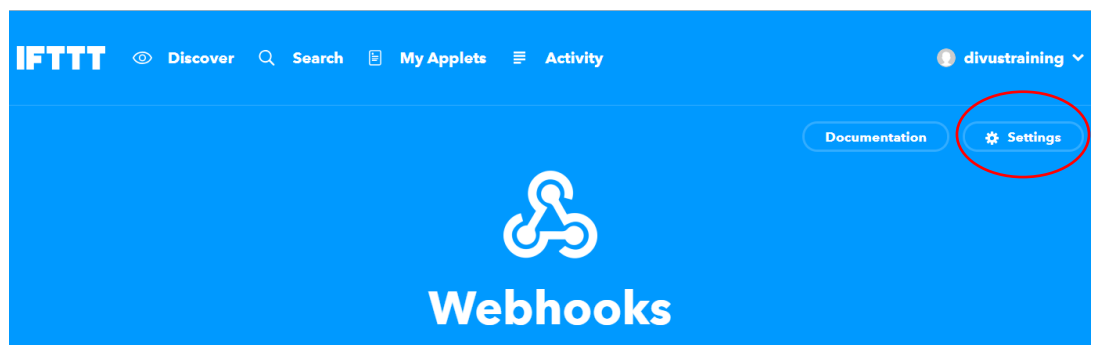
if this then that

[Want to build your own service? Build on the platform](#)

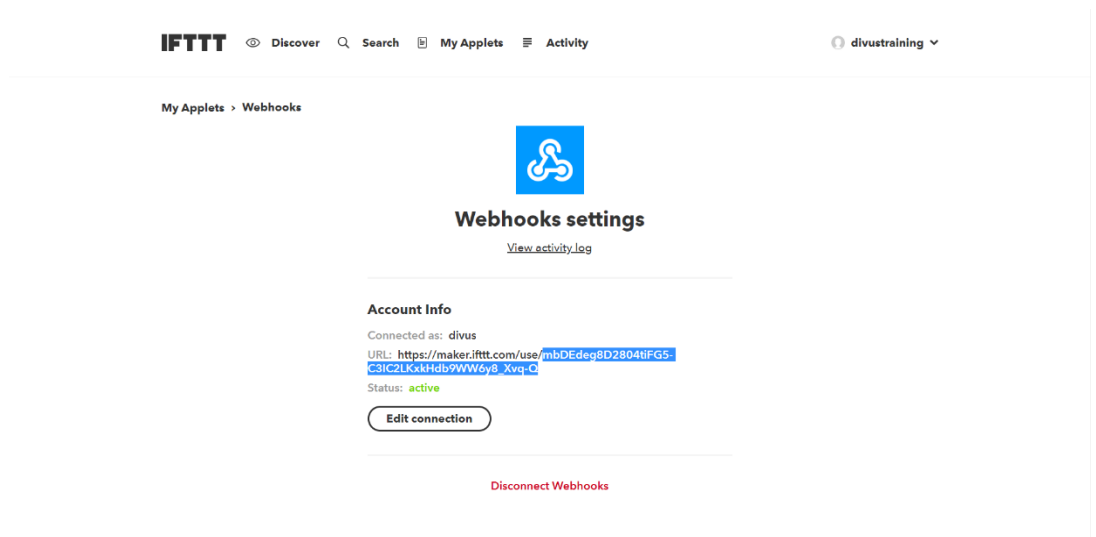
5. Then click on [\[+\] that](#) and this time choose the action which should be executed on the set event e.g. send an Email. Depending on the chosen action, set the shown details.
6. The new Applet is finally tested and then immediately activated.

2.3 CONFIGURATION INSIDE OPTIMA

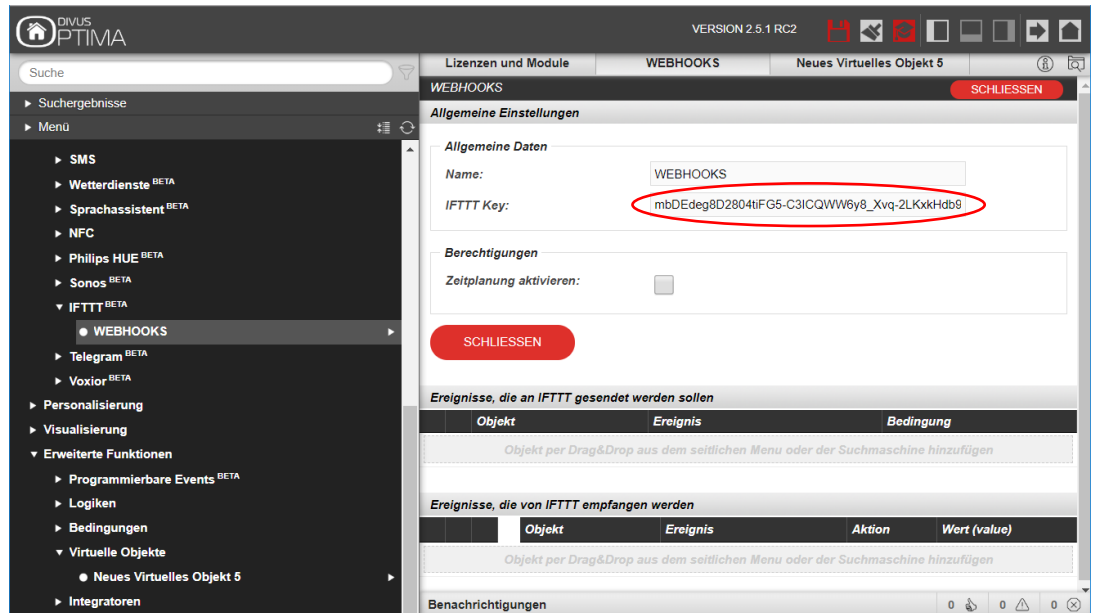
1. Open the menu *IFTTT* ^{BETA} under *Technologies* and click on *Webhooks* below.
2. Now you'll need the "IFTTT Key"; go to "Search" on ifttt.com and type "webhooks".
3. Click on the corresponding search result.
4. Click on Connect. A "Settings" button will appear on the right.



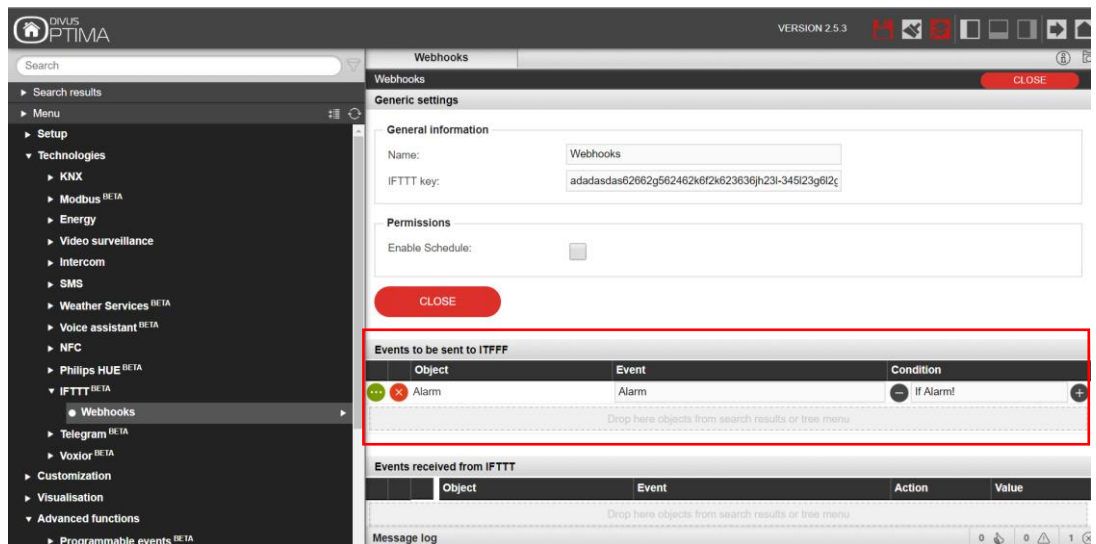
5. Push the "Settings" button.
6. Copy the last part of the URL (see part marked in blue below)



7. Now paste the copied string as IFTTT Key:



8. Then drag an object to the section of the *Events to be sent to IFTTT*.



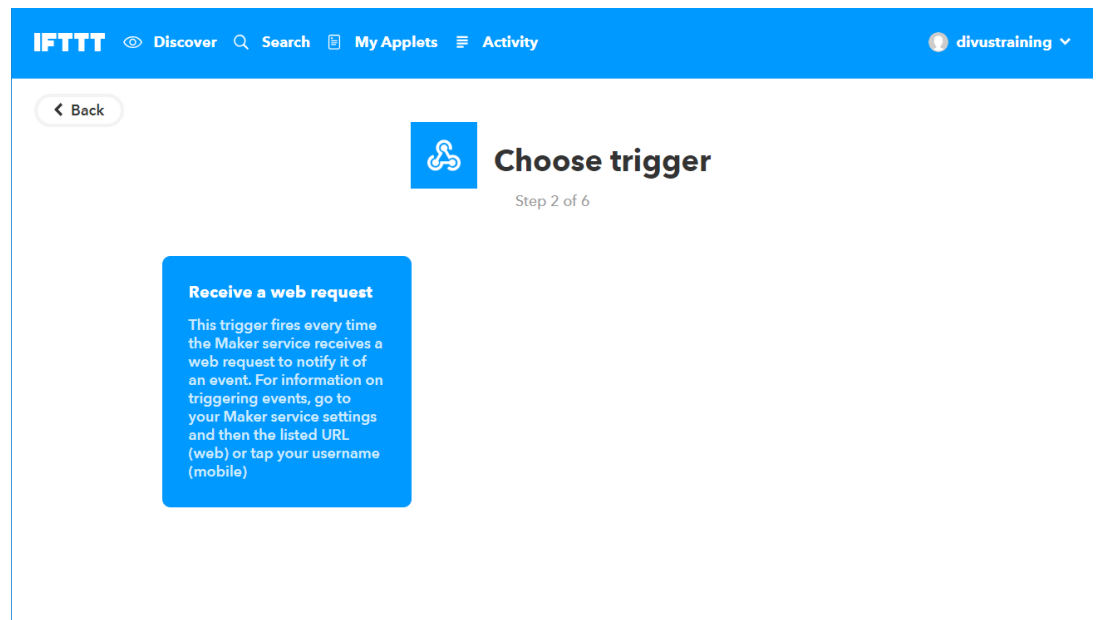
9. Give a unique name to the event – you'll need that to create the connection with IFTTT later.

10. Choose a condition.

2.4 CONFIGURATION OF AN IFTTT APPLET FOR OPTIMA (AS RECEIVER)

The following steps show an example of a possible IFTTT automation. For other services, certain steps are different than those described.

1. Create a new applet (see example 2.2, steps 1-3). If not already done, also perform steps 1-7, which are described in 2.3.
2. This time choose "Webhooks" as [\[+\] this](#) and then "Receive a web request".



3. Insert the event name chosen before here and click on „Create trigger“.

IFTTT Discover Search My Applets Activity divustraining

< Back

Complete trigger fields

Step 2 of 6

Receive a web request

This trigger fires every time the Maker service receives a web request to notify it of an event. For information on triggering events, go to your Maker service settings and then the listed URL (web) or tap your username (mobile)

Event Name

The name of the event, like "button_pressed" or "front_door_opened"

Create trigger

4. Then define the desired service as **[+]** that e.g. SMS to receive an SMS notification on this event.

IFTTT Discover Search My Applets Activity divustraining

< Back

Complete action fields

Step 5 of 6

Send me an SMS

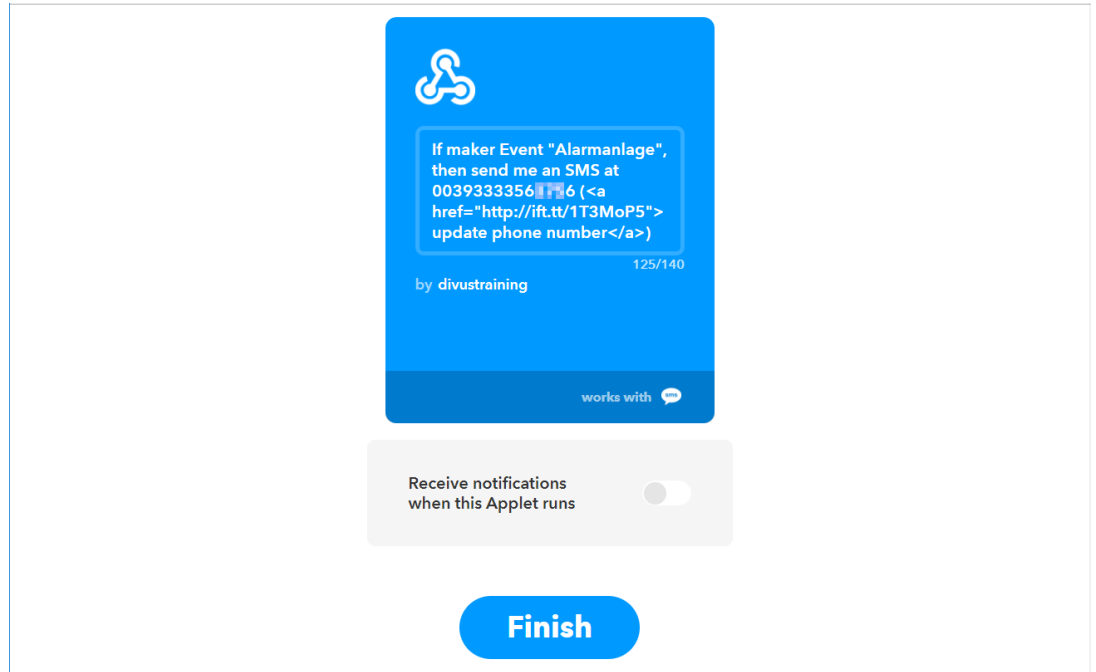
This Action will send an SMS to your mobile phone.

Message

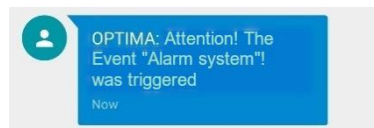
Add ingredient

Create action

5. Finally, press Finish to complete the procedure and start the new automation at the same time.



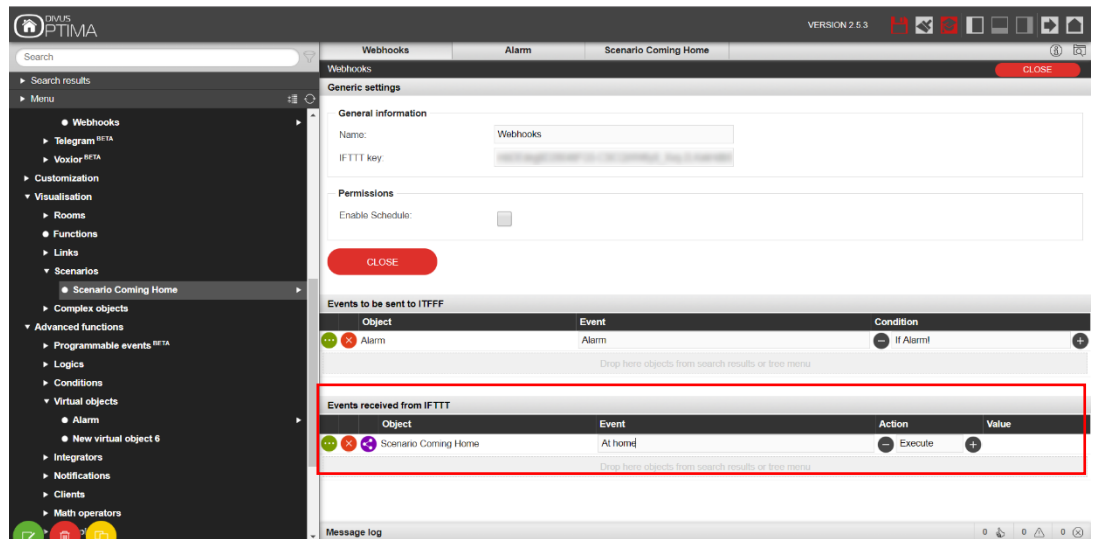
6. Test now. If everything works out, you will receive a message on your smartphone after the event has been triggered (in the example above).



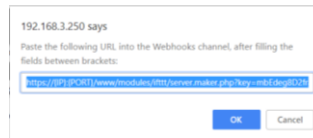
2.5 CONFIGURATION OF IFTTT APPLETS FOR OPTIMA (AS TRIGGER)

Prerequisites: For this type of automation you need a public IP address or a DDNS service, so that your KNX CONTROL device can be reached from the Internet. The following steps show an example of a possible IFTTT automation. For other services, certain steps are different than those described.

Create a *Scenario* or select an *Object* in OPTIMA to be controlled via IFTTT and drag it into the area of *Events received from IFTTT*



1. Again, give a unique name to the event
2. Click on the violet icon *Get IFTTT URL* and follow the instructions:



Of e.g.

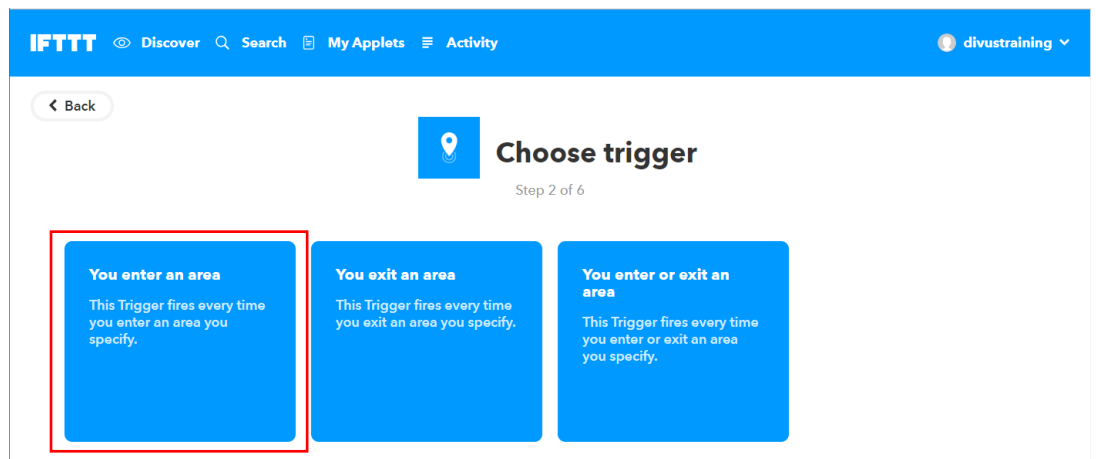
```
https://{IP}:{PORT}/www/modules/ifttt/server.maker.php?key=mbDEdeg8D2804tiFG5-C3IC2LKzkHdy9WW6y8_Xvq-Q&event=at%20home
```

make:

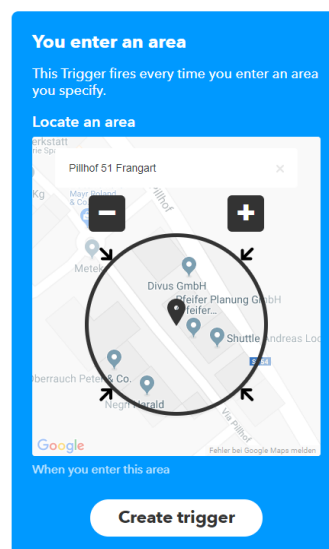
```
https://meindivusknxserver.dyndns.org:12345/www/modules/ifttt/server.maker.php?key=mbDEdeg8D2804tiFG5-C3IC2LKzkHdy9WW6y8_Xvq-Q&event=at%20home
```

3. Go to ifttt.com
4. Create a new Applet under *My Applets*.
5. Choose the desired service as **[+] this** e.g. „Location” to use your GPS position (calculated through your mobile device)

- Under *Choose trigger* select „You enter an area“




- Insert the desired address (in our example a certain radius around your home)



- As **[+]** that choose the Webhooks service again and then „Make a web request“.

- Here paste the IFTTT URL which you prepared in step 3. Then click on „Create action“ – you can leave the other fields at their default values.



Complete action fields

Step 5 of 6

Make a web request

This action will make a web request to a publicly accessible URL. NOTE: Requests may be rate limited.

URL

```
https://meindivusknsrserver.dyndns.org/www/modules/ifttt/server maker.php? key=mbDEdeg8D2804tiFG5-C3lCOWW6y8_Xvq-2LKxkHdy9&event=Nachhaus
```

Surround any text with "<<>" to escape the content [Add ingredient](#)

Method

GET

The method of the request e.g. GET, POST, DELETE

Content Type

Please select

Optional

Body

Surround any text with "<<>" to escape the content [Add ingredient](#)

[Create action](#)

- Complete the procedure with the „Finish“ button – the automation is then immediately active. (In the example, you need the IFTTT app on your mobile device to evaluate your GPS position. This app also offers other interesting events to command your Smart Home e.g. when you connect with your WIFI network).

3 Philips Hue

3.1 KEY DATA

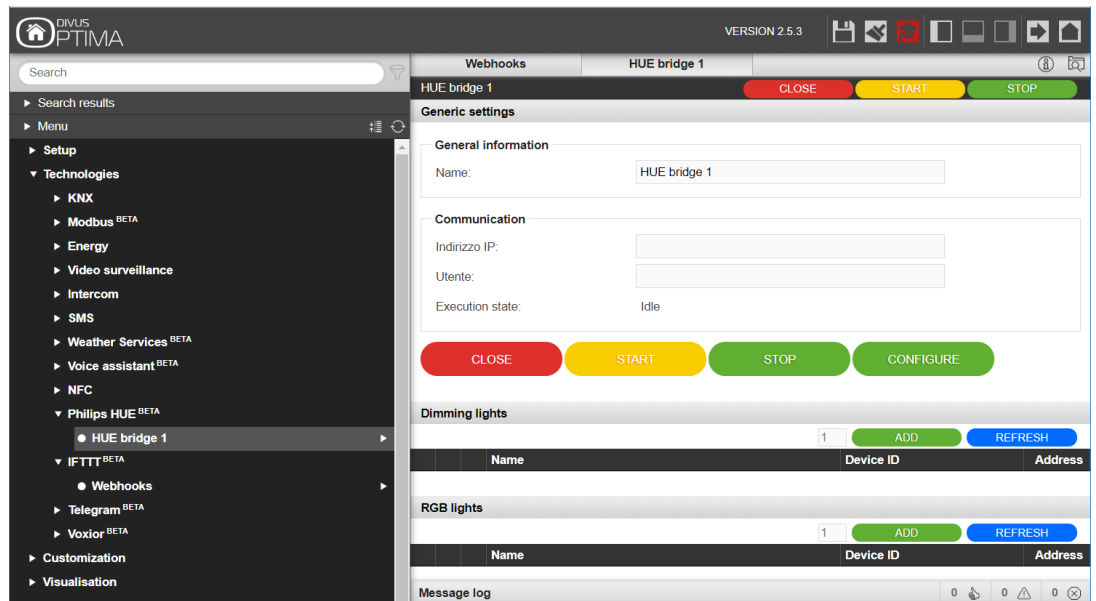
NAME	Philips HUE
TYP	WIFI capable Lighting system
WEB	https://www2.meethue.com/
CONCEPT	<p>A bridge device with WIFI controls individual lamps. On/Off, colour and brightness can be set individually or in groups.</p> <p>Control via app or HTTP. Native integration in many other systems e.g. Amazon Alexa, IFTTT, SmartThings etc.</p>
INTEGRATION IN OPTIMA	After a one-time configuration, HUE lamps can be seamlessly integrated into the visualization as ready-made complex objects (RGB).

3.2 INITIAL CONFIGURATION OF A PHILIPS HUE SYSTEM IN OPTIMA

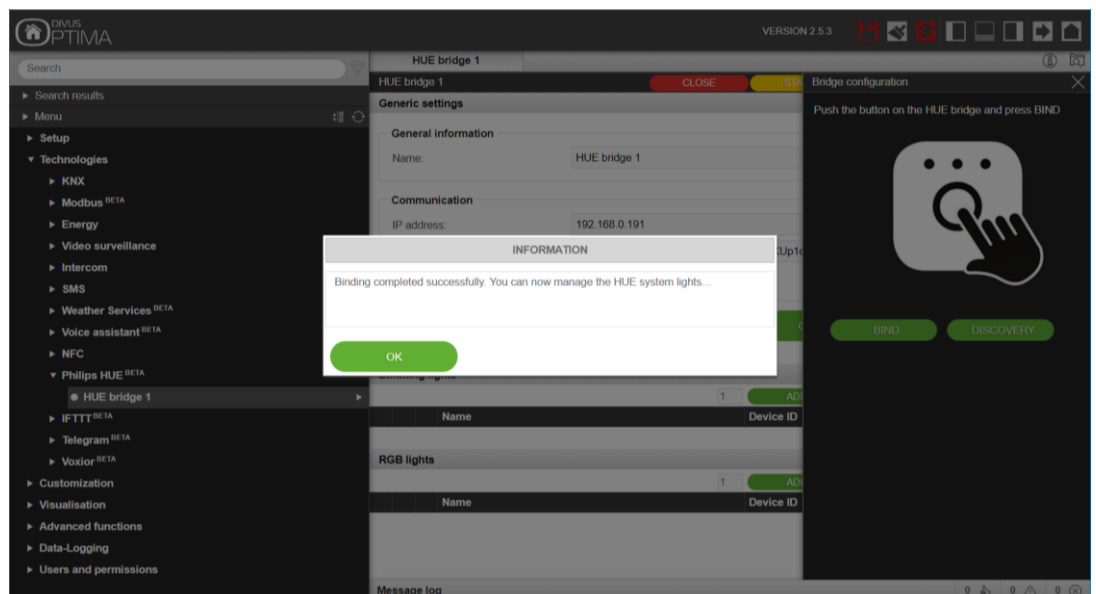
To configure a Philips HUE system, use the app for Android or iOS. This will find the IP address of the bridge, which you will need in OPTIMA.

1. Go to the OPTIMA Administration, *TECHNOLOGIES - Philips HUE BETA*
2. Use the blue (+) button to add a new bridge device.

- Open the detail page of the bridge device (green button in left bottom corner or ...)



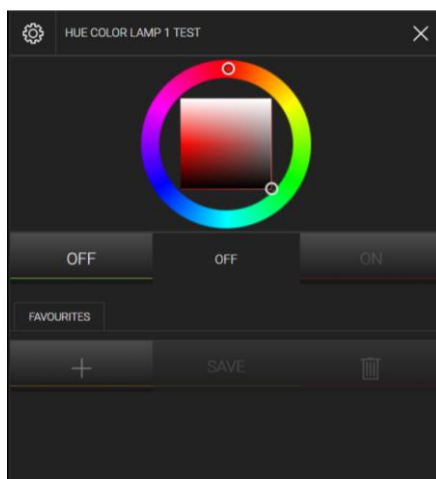
- In the HUE app, go to the settings page on the bridge page. You can use the small info icon to read out its IP address. Insert these here in the IP Address field.
- Click on CONFIGURE.
- Click on the button of the HUE bridge and then on BIND. The user field is automatically updated thereafter.



- Now you can add individual lamps manually or obtain them automatically with the DISCOVER button. To add individual lamps, go to About - the last item in the settings of the app; There you will find a listing that starts with the bridge and runs off the connected lights. The lamps have a number in front of the

name. Enter this number in the Address field of the newly created lamp and you will be able to communicate with it.

8. The RGB lights can be called up by the small green icon at the beginning of the line to assign them to the rooms you want to control them from.
9. In the visualization it looks like this:



4 Telegram

4.1 KEY DATA

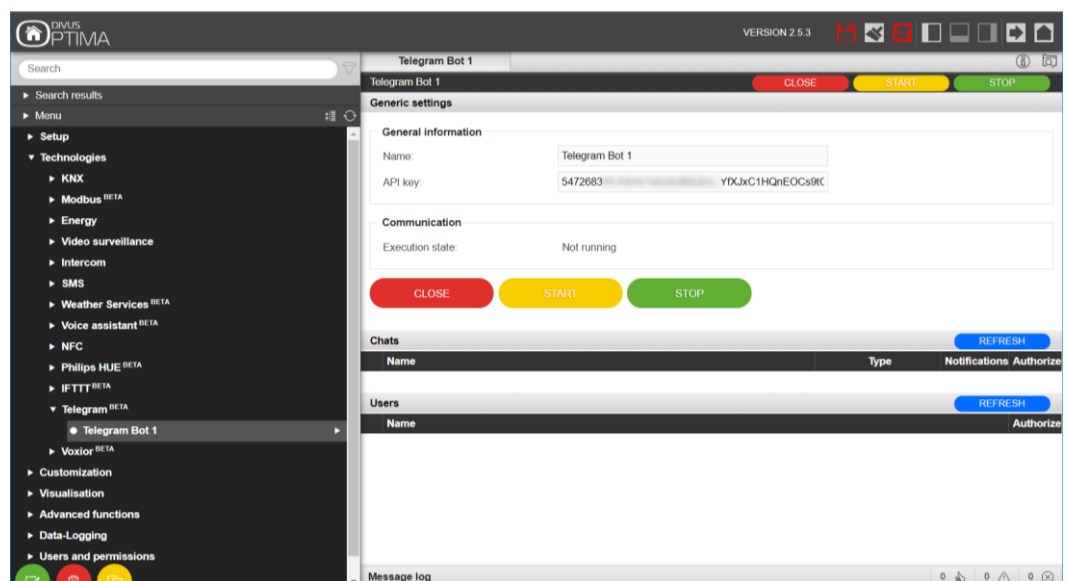
NAME	Telegram
TYP	Text Communication App (similar to SMS or WhatsApp)
WEB	https://telegram.org
CONCEPT	<p>A special chat allows you to forward commands to your Smart Home. This does not require port forwarding because the communication is managed via the Telegram system.</p> <p>Telegram supports "bots", i.e. automated chat participants who can be addressed in a similar way to real people and can provide answers to known questions. Such a bot realizes the communication with OPTIMA.</p> <p>Requires a free telegram account, the app on your mobile device and the pre-configuration described below.</p>

4.2 INITIAL CONFIGURATION OF TELEGRAM FOR OPTIMA

1. Download the app Telegram (icon with the paper plane) on your mobile device
2. Open the app and insert **@BotFather** in the search field.
3. Push the search result and then START
4. Input `/newbot` and follow the instructions: give the new bot a name e.g. **OPTIMA**
5. Type a user name, which must end with `bot` e.g. **DIVUSOPTIMA_bot**. If the name is not being used yet, the procedure is completed and you see the API key which you will paste inside OPTIMA later on.

4.3 CONFIGURATION OF THE TELEGRAM MODULE IN OPTIMA

1. Go to the OPTIMA administration, *TECHNOLOGIES – TELEGRAM* ^{BETA}
2. Add a new Telegram bot with the blue (+) button.
3. Open the details page of the Telegram bot (green button in the bottom left corner or ... right of the name)
4. Paste the API key obtained before (might be a good idea to send it to your PC from the mobile device)
5. Start the communication with the bot through the yellow button.

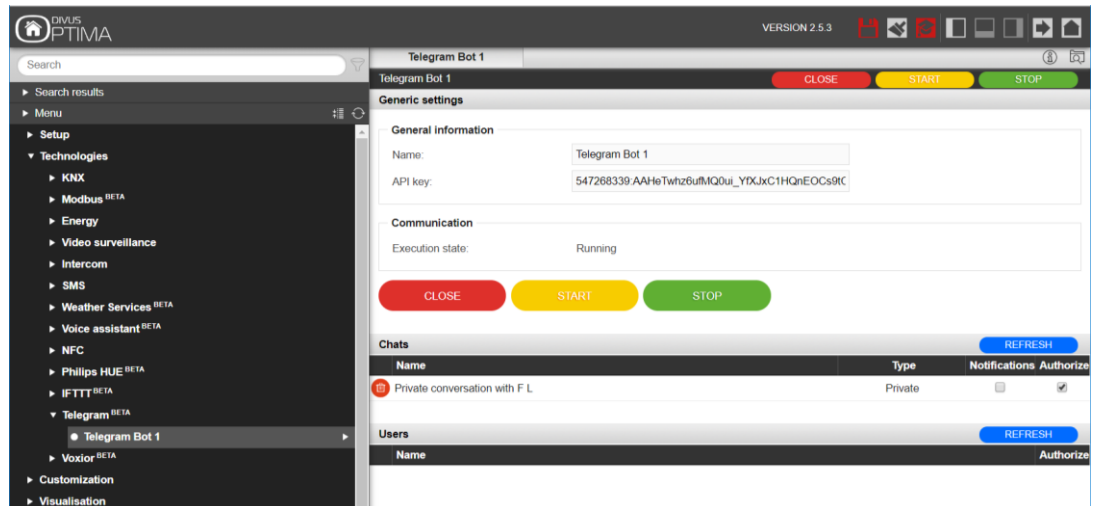


6. Now OPTIMA is connected to her bot. You can test this by searching for the previously created bot in the app (with the @ symbol in front of the name)



7. Start the chat with a **Hallo.** For security reasons, you will have the message that the chat with OPTIMA must be authorised as an answer to that.
8. Switch to the Telegram page of OPTIMA and press the blue *REFRESH* button to the right of *Chats*.

- The started chat is now displayed there and you can authorize it and activate its notifications, if desired.

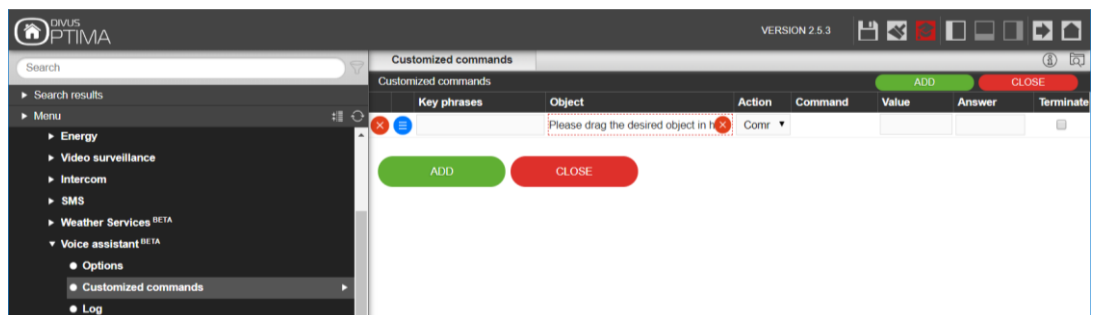


4.4 DEFINING COMMANDS FOR TELEGRAM IN OPTIMA

The telegram bot uses the technology developed in OPTIMA for the voice assistant module. For this module, there is a separate manual [on our homepage](#).

The commands are created there.

- Go to the OPTIMA administration, *TECHNOLOGIES – Voice assistant* ^{BETA} – *Customized commands*
- Create a new customized command by clicking the green ADD button.



- As a test object, we create a new virtual object under *Advanced Functions*. We call it TELEGRAM TEST and assign it to a room or create the room where we can test it first. If you want to skip this test, you can instead try directly with the desired object.

4. In our Customized Command we drag and drop the object into the field called *Object*. Then fill in the other fields like this:

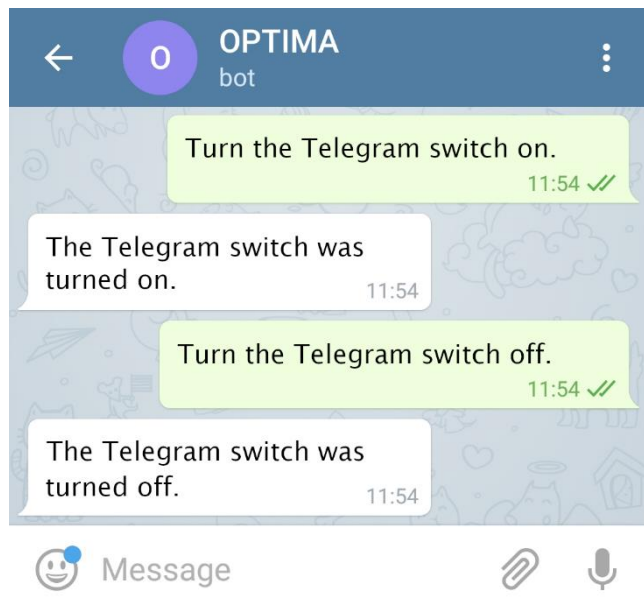
KEY PHRASES	<i>Turn the Telegram switch off</i>
VALUE	<i>Off</i>
ANSWER	<i>The Telegram switch was turned off.</i>

5. We repeat the whole procedure for the command to turn it on:

KEY PHRASES	<i>Turn the Telegram switch on</i>
VALUE	<i>On</i>
ANSWER	<i>The Telegram switch was turned on.</i>



6. You can now test the commands in Telegram's chat with your bot while watching the object in the assigned room in the OPTIMA visualization.



5 Voxior

5.1 KEY DATA

NAME	Voxior
TYP	Cloud platform as bridge between local services and voice assistants like Amazon Alexa, Google Assistant, Apple Siri
WEB	https://www.voxior.com
CONCEPT	<p>Voxior stands in between OPTIMA and the voice assistant. It fetches the Objects to be commanded from OPTIMA and takes over the rest of the communication all the way to the "input device" – e.g. an Amazon Echo Dot – and back.</p> <p>A fee based Voxior account as well as – depending on the type of voice assistant - an according service account.</p>
INTEGRATION IN OPTIMA	With a simple checkbox you can select the objects to be controlled by voice in OPTIMA. To access your KNX CONTROL device you need a port forwarding rule and a DDNS service or a public fixed IP address.

5.2 CONFIGURATION OF THE OPTIMA MODULE FOR VOXIOR

1. Go to *TECHNOLOGIES – Voxior^{BETA} – Options* in the administration of OPTIMA
2. Enable the remote access if not already checked.
3. Choose the first *Object* which you want to command by voice, after you searched it through the search function (upper left). Note that the % symbol will list all available *Objects*.
4. Open its detail window by the three dots to the right of the name or by the green edit button in the lower left corner.
5. Switch to *Expert View* so that the *Permissions* section of the *Object* becomes visible under *Appearance*.
6. Enable the Object for voice control with the checkbox "Enable cloud sync"

7. Repeat steps 3. to 6. for any further objects you want to control.
8. Activate, if not already done, the remote access to your KNX CONTROL device. You will need either a static public IP address or a [DDNS service](#). Alternatively, Voxior has its own device called VoxiorLink for this purpose, which eliminates the need to open ports on your Internet router from the outside.

5.3 CONFIGURATION OF THE VOXIOR ACCOUNT FOR OPTIMA

1. Go to www.voxior.com.
2. If not done already, create an account.
3. Login through your Google- or Amazon account
4. Go to *Gateways* in the menu.
5. Click on *ADD GATEWAY* und choose "Add *Divus*" from there.

Voice Control trial period (12 day left). Visit our shop at <https://www.voxior.com/shop> to purchase license.

ADD GATEWAY ▾

- Add Gira HomeServer
- Add Gira X1
- Add Loxone
- Add Weinzierl Baos 777
- Add Divus**
- Add IPAS ComBridge HCC
- Add EisBär
- Add Theben
- Add KNX IP Interface

Name (for personal reference) Disable

My Divus server

Connection type

Hostname/port VoxiorLink

Connect to your Divus without any additional hardware using port forwarding. Your Divus server needs to be accessible remotely in order for Voxior to be able to connect. To test external connection try using your Divus mobile app outside your home WiFi network. You can find the connection details by looking at the profile settings of your Divus mobile application.

Hostname or external static IP

Port

User name

admin

6. Fill in the fields with the data used to connect to the KNX CONTROL device from remote.
7. Press the *Save* button. The credentials are tested instantly and you receive immediate feedback on whether the connection was successful or not.
8. Under *Devices*, you will find the list of activated devices. If the names are too complicated or difficult to pronounce, you can change them here. You need

to know the names for voice control and they should ideally be clearly different from each other.

5.4 CONFIGURATION OF AN AMAZON ECHO DEVICE IN OPTIMA

1. Go to *Skills* in the Alexa app and activate the Voxior skill.
2. Then say „*Alexa, find new devices!*“. Then the new devices should be recognized. In the app you can always find the list of available devices under Smart Home.
3. Now everything is ready! With commands like "Alexa, turn on the kitchen light!" you can now control your Smart Home system. The ways in which you can control different types of devices can be found in the device page of your Voxior account.

