

Home automation

Welcome to the awesome world of home automation! Since Batocera is [Wake on LAN \(WoL\)](#) enabled by default, you can now integrate your Batocera system into most any advanced home automation system.

Control Batocera with a Logitech Harmony remote via Home Assistant (HA)

This tutorial will cover on how you can integrate your Batocera system into HA so that you can startup/shutdown Batocera with just one click on your Logitech Harmony remote control. Note that for consistency reasons we will cover two shutdown scenarios here:

1. Scenario 1: You are logged in into Batocera's Kodi integration, meaning you have Kodi up and running on your system's screen while you want to shutdown your system. To keep Kodi's database consistent it would be best to use Kodi's API to shutdown the system so data consistency can be guaranteed.
2. Scenario 2: Your are logged out of Batocera's Kodi integration, meaning you have Kodi not running on your system's screen, instead you have Batocera's Emulation Station up and running on your system's screen while you want to shutdown your system.

Depending on how you are using Batocera (with or without its Kodi implementation), it would obviously make sense to assume that all Batocera users are using both systems, Kodi *and* Batocera. Therefore we will create a solution which always covers both situations so you don't have to worry about it in any way. In short: In the end we will have a solution which sends a shutdown command by using the Kodi API first (which will be ignored when Kodi is not running), waits 10 seconds, and then sends a shutdown command by sending a simple SSH command to Batocera's underlying Linux system (which will be ignored when the system is not running anymore in case it has already being shut down by the Kodi API shutdown command).

Let's do it!

Requirements

This tutorial will cover an example on how to turn on/off your Batocera system with just one click on your [Logitech harmony](#) remote control via [Home Assistant \(HA\)](#). For this you will need basically three things:

- A Wake on LAN (WoL) capable/enabled Batocera system having a static IP address or a hostname provided by your DHCP/DNS server (mostly your router)
- A running Logitech Harmony (hub based) remote control setup, with the Logitech Harmony hub having a static IP address or a hostname provided by your DHCP/DNS server (mostly your router)
- A running HA instance (For automatic device discovery and latency reasons it is strongly recommended to have the HA instance within the same [Layer 2](#) subnet as your Logitech Harmony hub!)



This tutorial was made based on Home Assistant version **2021.12.9**



Note that for all of the following steps, if you are using hostnames instead of static IP addresses, you have to make sure to have all of your DNS records up to date within your DNS server (mostly your router)!



Note that you will have to open up all according ports in your firewall between the according subnets/devices if you are not going to have all of your devices within the same Layer 2 subnet as suggested in this tutorial!

Installation



Note that for simplifying reasons we are not going to cover here on how to implement scripts/automations via separated .yaml files in HA, but for advanced users, of course you can feel free to do so. Also we are going to use manual .yaml code as little as possible here, instead we will configure most everything with the GUI. Please understand that this tutorial has to be as easy as possible for HA greenhorns too (you was one of them too once, remeber? 😎)

Preparing Home Assistant

First of all you want to install three required HA **integrations** and one required HA **add-on**. All three installations are set up very quickly, so for the parts not mentioned within the following steps, just follow the instruction steps from the HA GUI, it's all straight forward.

First, add the following three required **integrations** into HA (you can install them via the HA GUI if you are using at least a *supervised* HA [installation](#) (which is strongly recommended anyway or *-even way better(!)-* an official HAOS (Home Assistant Operating System) instance):

- [Emulated Roku](#) → When installing the integration it asks you to add an Emulated Roku instance automatically. Do so by giving it the name `EmuLatedRoku` and by using the default port setting

8060 and then click on SUBMIT:

Define server configuration ✕

Name*
EmulatedRoku

Listen Port*
8060 ⬆️ ⬇️ ⬆️

SUBMIT

- [Logitech Harmony Hub](#) → When installing the integration it asks you to add the informations about your Harmony Hub. Do so by inserting the according static IP address/hostname of the Harmony Hub (e.g. 192.168.1.2) and give it the name HarmonyHub and then click on SUBMIT:

Setup Logitech Harmony Hub ✕

Host*
192.168.1.2

Hub Name*
HarmonyHub

SUBMIT

- [Kodi](#) → When installing the integration it asks you to add the informations about your Kodi instance. Do so by inserting the according static IP address/hostname of your Kodi instance (= your Batocera system) and by using the default port setting 8080 and then click on SUBMIT:

Kodi



Kodi connection information. Please make sure to enable "Allow control of Kodi via HTTP" in System/Settings/Network/Services.

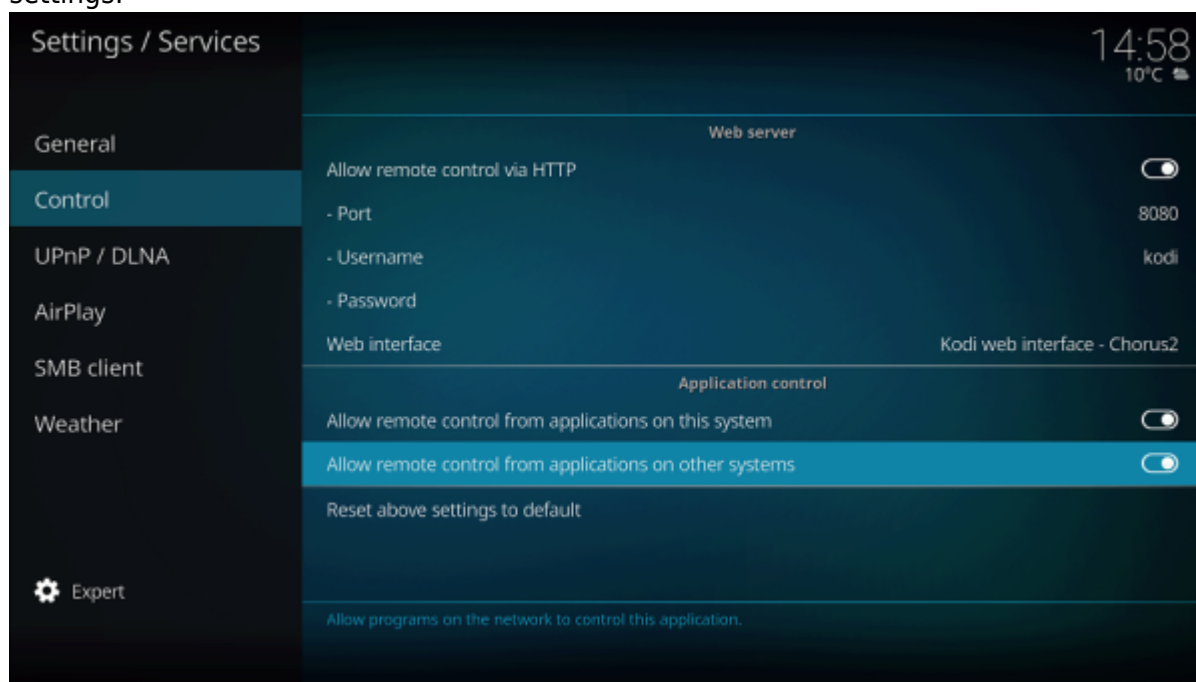
Host*
192.168.1.3

Port*
8080

☐ Uses an SSL certificate

SUBMIT

Remember to also enable the [Kodi web interface](#) and to allow remote control within Kodi settings:



In addition you want to install the following HA **add-on** by using the HA's Add-ons menu:

- [Terminal & SSH](#) → Don't forget to enable the add-on after installing it! After installation you will have a new tab called Terminal in the HA sidebar. Click on it you will be prompted to the command line. Now, for automating purposes you have to make your Batocera system accessible to HA via SSH without a specific user login, instead it will use a [secure authentication key](#) for passwordless login. To accomplish this, from the HA command line, execute the following two commands (if you have already created an SSH key for your root user in the past on your HA instance, skip the first command!)

```
ssh-keygen
```

Confirm everything by just clicking the [Enter] key on your keyboard.
Now execute the following command:

```
ssh-copy-id root@<my_IPaddress/hostname>
```

...where <my_IPaddress/hostname> has to be replaced with the according static IP address/hostname of your Batocera system. If asked, confirm by clicking the [y] key on your keyboard. Then insert the Batocera **root** user's password (The default **root** user's password is: `linux`). Now test if you can login from HA into Batocera without inserting the password:

```
ssh root@<my_IPaddress/hostname>
```

If not, don't panic (yet): If you are still asked for the password, insert the password and on the Batocera system's command line, execute the following:

```
cat /userdata/system/ssh/authorized_keys >>  
/userdata/system/.ssh/authorized_keys && exit && exit
```

Now test the passwordless login again (If it's still not working, feel free to panic now!).

You only have to do all of this just once unless you change the SSH authentication key manually or install Batocera from scratch again.

Preparing Logitech Harmony

With the [official Logitech Harmony application](#) for Android/iOS add a new device by letting the app search automatically for new devices. It will find the Roku 4 device easily (which we have installed on HA earlier) if you have your Logitech Harmony hub within the same Layer 2 subnet as your HA instance. If for some reason it does not detect the Roku 4 device automatically, add it manually by using the official Logitech Harmony Desktop application for Windows/macOS with the following device values:

Manufacturer	Device Model Number
Roku	Roku 4

Add A Device

Help

Enter your device information

You can add your devices in any order, be sure to enter your exact model number.

[Learn more >](#)

Manufacturer (e.g. Sony)

Roku

Device Model Number (e.g. X4S2000)

Roku 4

If you are adding a Windows or Mac computer you can add directly from here.

Add Computer

Cancel

Add



Click on Add and then just follow the instructions on the Logitech Desktop application, it's all straight forward.

Note that the default configuration of the Roku 4 commands is misconfigured somehow. For example: If you press the Roku 4's Home button on the Logitech remote, HA recognizes it as Info command and vice versa. While this misconfiguration is only true for a couple of buttons, most of them are recognized normally. Just be sure that for default *Power on* and *Power off* settings the according keys are mapped. From the Logitech Harmony desktop main menu you can set those settings by navigating to: Devices → Change device settings → Power settings → Next → I want to turn off this devicce when not in use. → Next → I press two different buttons for on and for off → Next

Setting	Mapping
Power on	PowerOn
Power off	Sleep

Power Settings

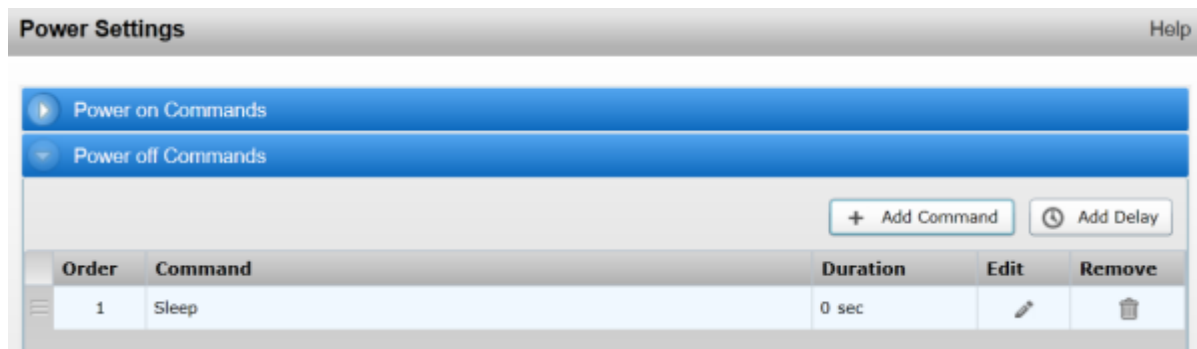
Help

Power on Commands

+ Add Command

⌚ Add Delay

Order	Command	Duration	Edit	Remove
1	PowerOn	0 sec		



Before going further now, make sure all of your Logitech remote devices (e.g. Harmony remote control and/or Logitech smartphone app) are synced with the newly added configuration.

Testing steps

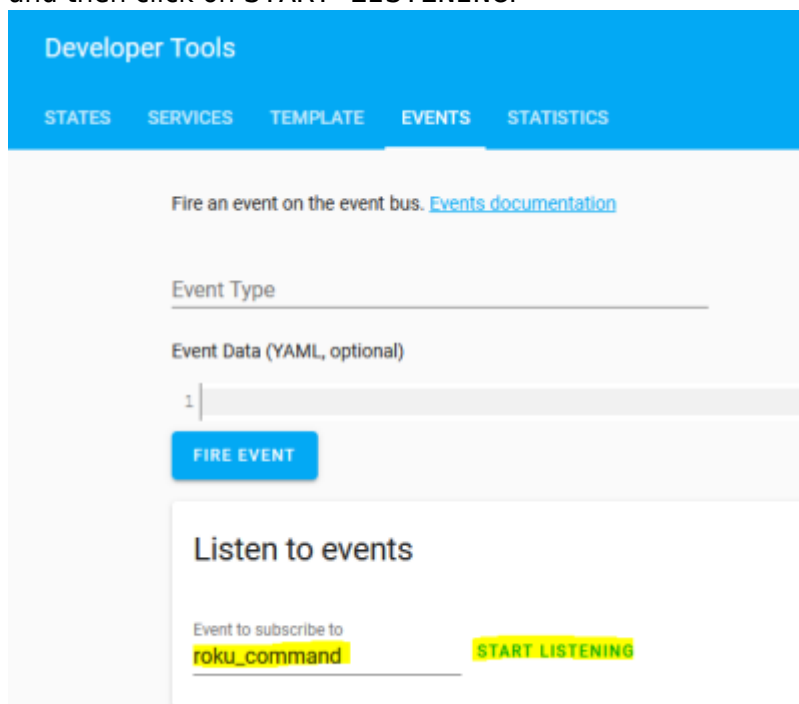
You can now already test if your HA instance is able to communicate with your Logitech Harmony's Roku 4 device by navigating from the HA main menu to:

Developer Tools → EVENTS

Within the Event to subscribe to input screen insert the following value:

`roku_command`

and then click on START LISTENING:



Now take your preferred Logitech remote control (Harmony remote control or Logitech smartphone app), select the Roku 4 device and press a random key. The received command(s) should now show up in HA.

Example:

If this is not the case then something went wrong and you should go through the steps conscientiously again.





Now you know how to find out how a specific Roku 4 command sent from your Logitech remote is being recognized by HA. This gives you the possibility to use any of those commands for specific actions/automations in HA. Nevertheless, to prevent unnecessary issues, it is strongly suggested to use all the commands and settings the same way they are being used in this tutorial.

Also, if you want to check if the command misconfigurations mentioned above were being solved, you can test it anytime with the `roku_command` event listening method.

Creating startup/shutdown scripts in Home Assistant

Now comes the interesting part with a little bit of `.yaml` automation steps in HA.

We will have two main parts here: One for **startup** and one for **shutdown** you Batocera system.

Let's do the **startup** part first:



For your understanding: HA has its own Wake on LAN (WoL) client already installed by default so you can use it right out of the box.

From the HA main menu, navigate to:

Configuration → Automations & Scenes → Scripts → + ADD SCRIPT

Configure the following values (leave the rest untouched on default settings):

Setting	Value
Name	<your_Custom_Script_Name> (e.g. PowerOnBatocera)
Action type	Call service
Service	wake_on_lan.send_magic_packet
MAC address	<your_Batocera_system's_MAC_address> (e.g. 00:80:41:AE:FD:7E)

Now click on SAVE SCRIPT.

Now let's do the **shutdown** part:

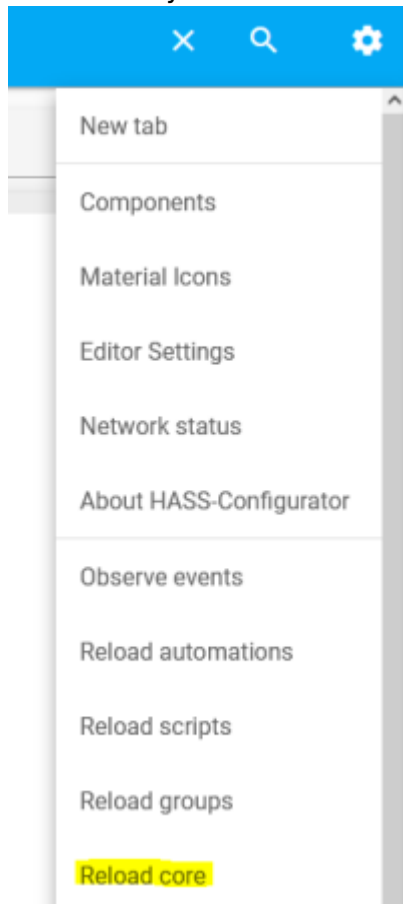
From the HA main menu go to the sidebar and click on File editor (if you don't have that option please install the [File editor](#) HA add-on first by using the HA's Add-ons menu). Then open the file `/config/configuration.yaml` and paste the following code:

```
shell_command:
  batocera_poweroff: ssh -i /config/ssh/id_rsa -o 'StrictHostKeyChecking=no'
  root@<your_Batocera_system's_static_IP_address/hostname> 'poweroff'
```


Example:

```
64 # Shell commands:-
65 # Beware: It is mandatory to place the SSH authentication keys inside the '/config/.ssh' directory! Other directories will not work for automations!
66 shell_command:-
67 batocera_poweroff: ssh -i /config/.ssh/id_rsa -o 'StrictHostKeyChecking=no' root@10.2.1.3 'batocera-es-swissknife --shutdown' > /dev/null 2>&1 &
```

Now reload your HA core from within the file editor:



Now, from the HA main menu, navigate to:

Configuration → Automations & Scenes → Scripts → + ADD SCRIPT

Configure the following values (leave the rest untouched on default settings):

Setting	Value
Name	<your_Custom_Script_Name> (e.g. PowerOffBatocera)
Action type	Call service
Service	kodi.call_method
Targets	Click on Choose entity and select your Kodi instance which we had created before (e.g. 192.168.1.3)
Method	System.Shutdown

Now click on ADD ACTION...

Setting	Value
Action type	wait for time to pass (delay)
Duration	00:00:10:00

Now click on ADD ACTION...

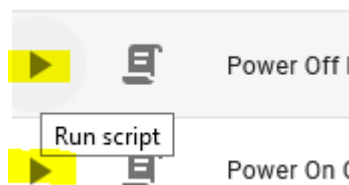
Setting	Value
Action type	Call service

Setting	Value
Service	shell_command.batocera_poweroff

Now click on SAVE SCRIPT.

Testing steps

You can now test if you can launch those scripts manually. If you launch the PowerOnBatocera script manually, the system should start. If you launch the PowerOffBatocera script manually, the system should power off. Test it by clicking on the according *PowerOnBatocera* and *PowerOffBatocera* triangle button from the HA Configuration → Automation and Scripts → Scripts menu:



If it does not work, something went wrong and you should go through the steps conscientiously again.

Creating automations in Home Assistant

Now we are going to do the real magic: The implementation for real home automation.

Let's do the **startup** automation first:

From the HA main menu navigate to:

Configuration → Automations & Scenes → Automations → + ADD AUTOMATION → Start with an empty automation

Configure the following values (leave the rest untouched on default settings):

Setting	Value
Name	<your_Custom_Automation_Name> (e.g. PowerOnBatocera)
Trigger type	Event
Event type	roku_command
Event data	source_name: EmulatedRoku and type: keypress and key: PowerOn
Action type	Call service
Service	script.PowerOnBatocera

Now click on SAVE.

Now let's do the **shutdown** automation:

From the HA main menu navigate to:

Configuration → Automations & Scenes → Automations → + ADD AUTOMATION → Start with an empty automation

Configure the following values (leave the rest untouched on default settings):

Setting	Value
Name	<your_Custom_Automation_Name> (e.g. PowerOffBatocera)
Trigger type	Event
Event type	roku_command

Setting	Value
Event data	source_name: EmulatedRoku and type: keypress and key: PowerOff
Action type	Call service
Service	script.PowerOffBatocera

Now click on SAVE.

That's it! Oh boy, how cool is that? You are now able to power on/off your Batocera system with just one click from your Logitech Harmony remote control. Feel free to integrate the Roku 4 device into your Logitech Harmony activities so you can power on/off all of your devices (e.g. TV, AV receiver, amplifier, HTPC, ...) with just one click with a single activity.

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