Important !

This will only discover and interact with devices that are in ROOM PLANS in Domoticz.
This was requested by the community.
You also need to ensure that your Domoticz user can access the devices you want to control through Alexa.

Index

History

Version	Date	§	Comments
V1R0	20180907	All	First release
V1R1	20180910	4, 11	Minor updates (configdz options) and added ColorTemperatureController interface management
V1R2	20221127		Update screenshots to reflect changes in Amazon's developer and AWS consoles web pages

1. Prerequisites

- Register Account: https://developer.amazon.com
- Register Account: https://console.aws.amazon.com
- External connect from the internet to domoticz (port forwarding, dns name)

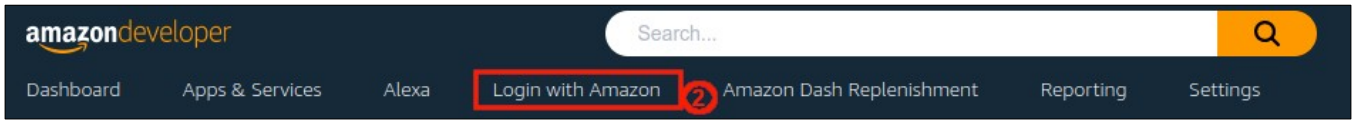
2. Create oauth2 authorization provider

Alexa smart home skill requires an OAuth2 authorization.

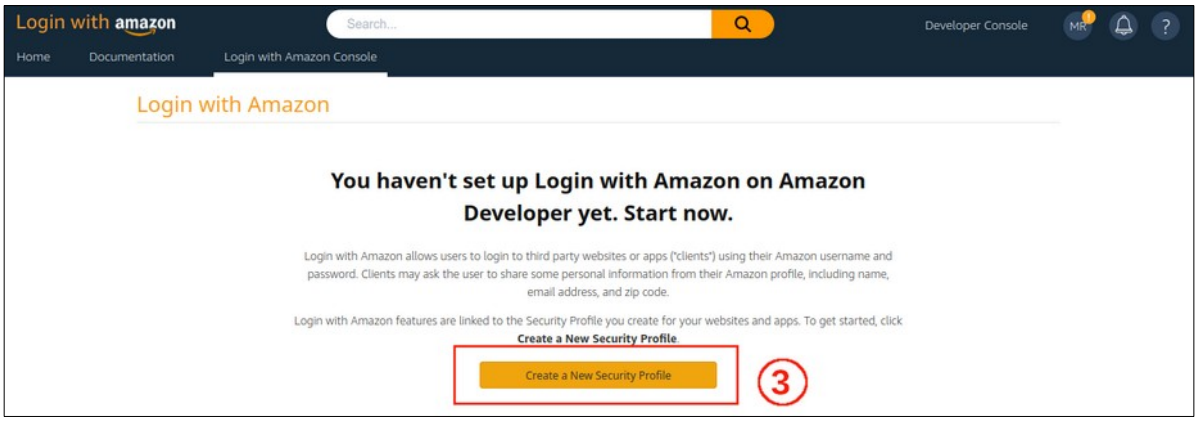
2.1. Sign in : https://developer.amazon.com

2.2. Click “Developer Console” (1)

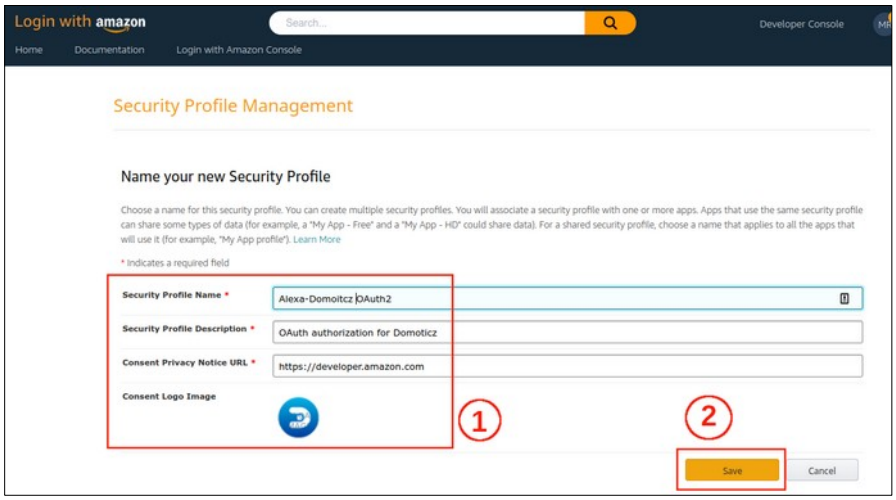
2.3. Click “Login with Amazon” (2)



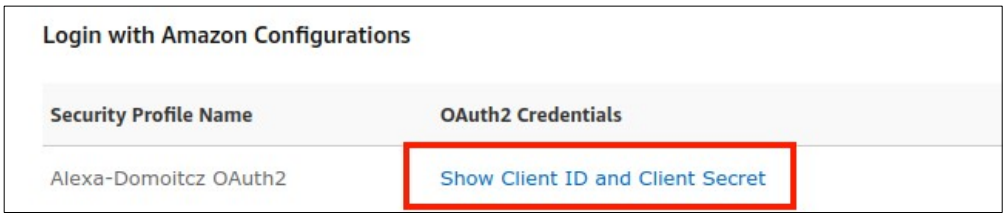
2.4. Click “Create a New Security Profile” (3)



2.5. Type in any Security Profile Name, Description and Privacy URL, (Optional Logo Image) (1) → Click to Save (2)



2.6. Click to “Show Client ID and Client Secret” and save Client ID and Client Secret to NOTEPAD

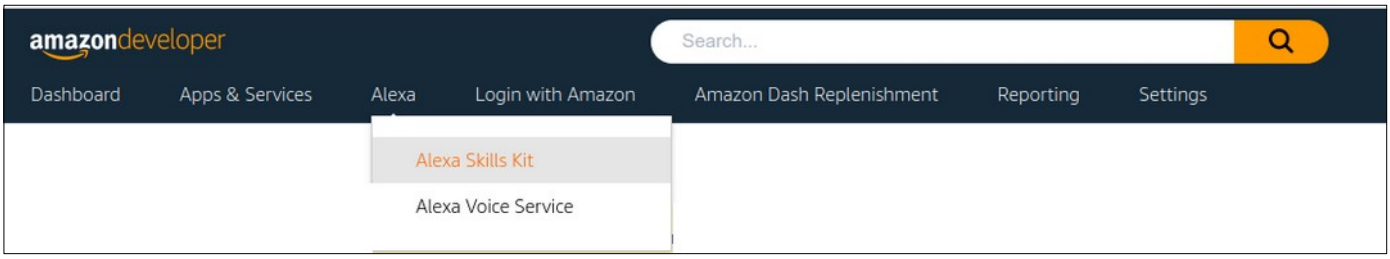


- Client ID : amzn1.application-oa2-client.xxxxxxxxxxxxxxxxxxxxxx
- Client Secret : xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

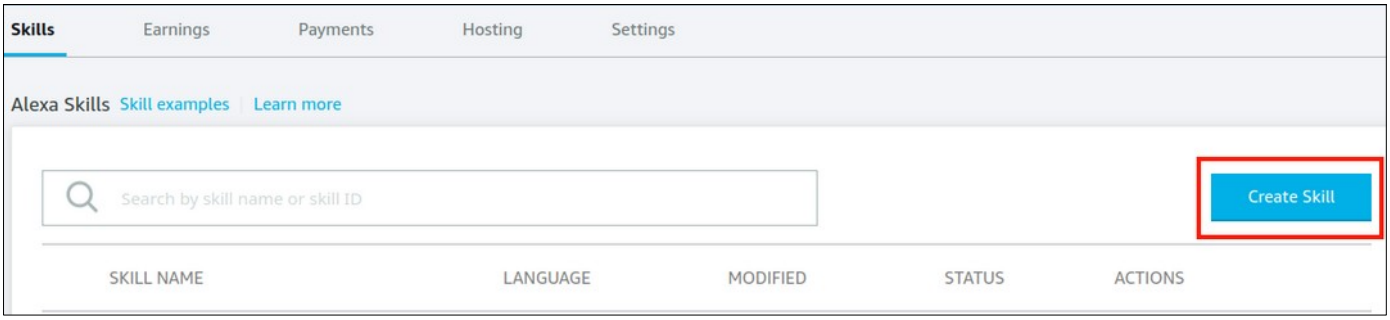
2.7. Do not close this page, one last step is needed at the end

3. Create Alexa skill

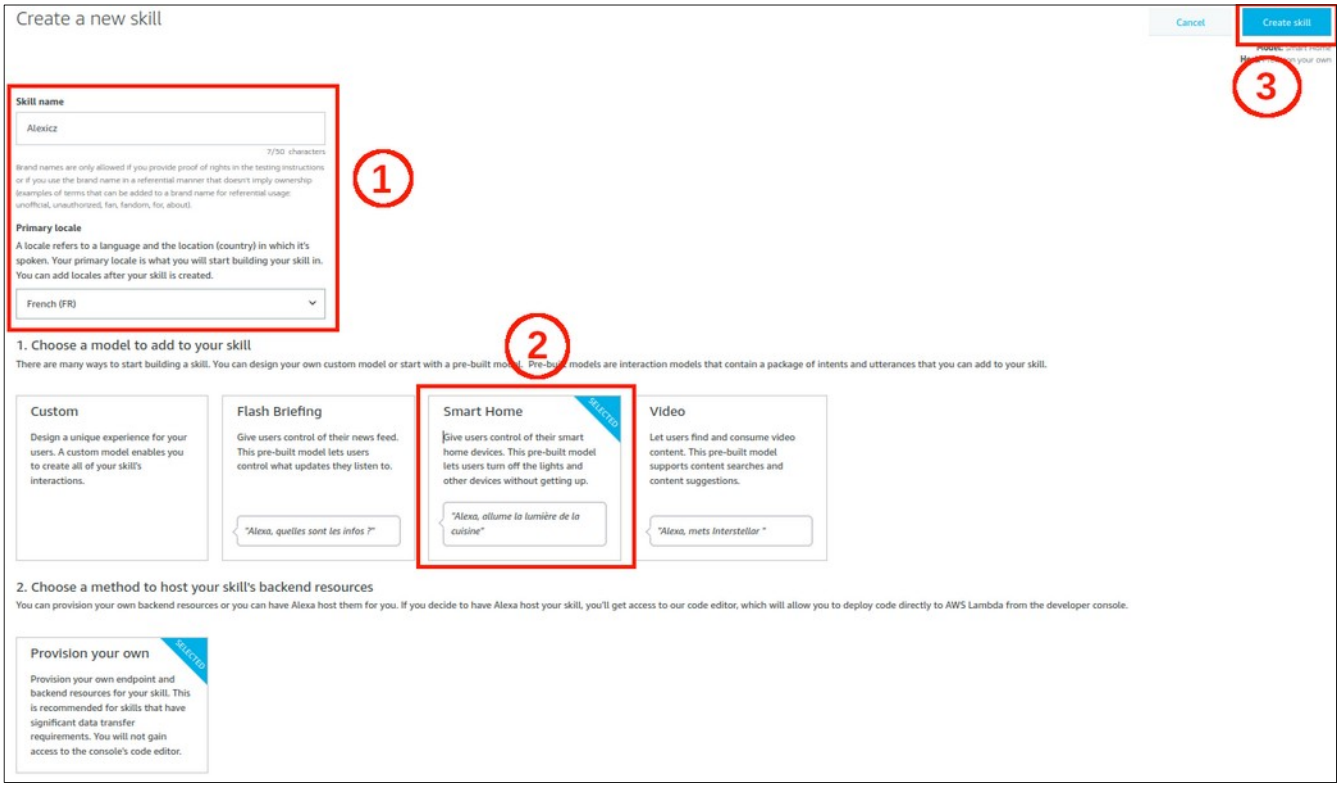
3.1.Open ALEXA SKILLS KIT in new tab



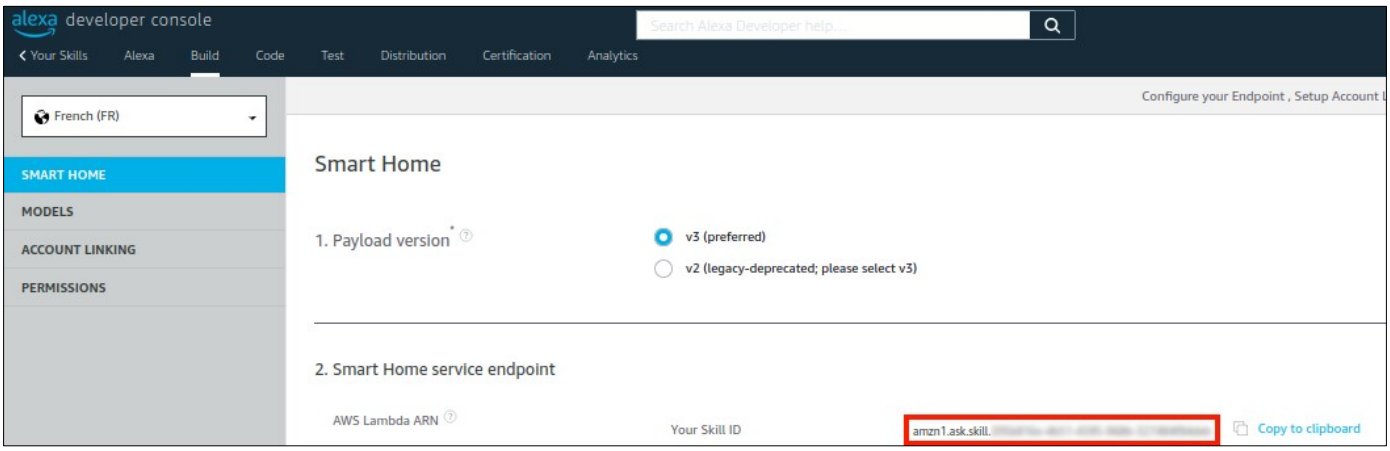
3.2.Click « Create Skill »



3.3. Enter the skill name (Alexicz) and select the default language (FR for example) (1) → Select the Smart Home skill model (2) → Click « Create skill »



3.4. Copy your amazon skill ID to NOTEPAD

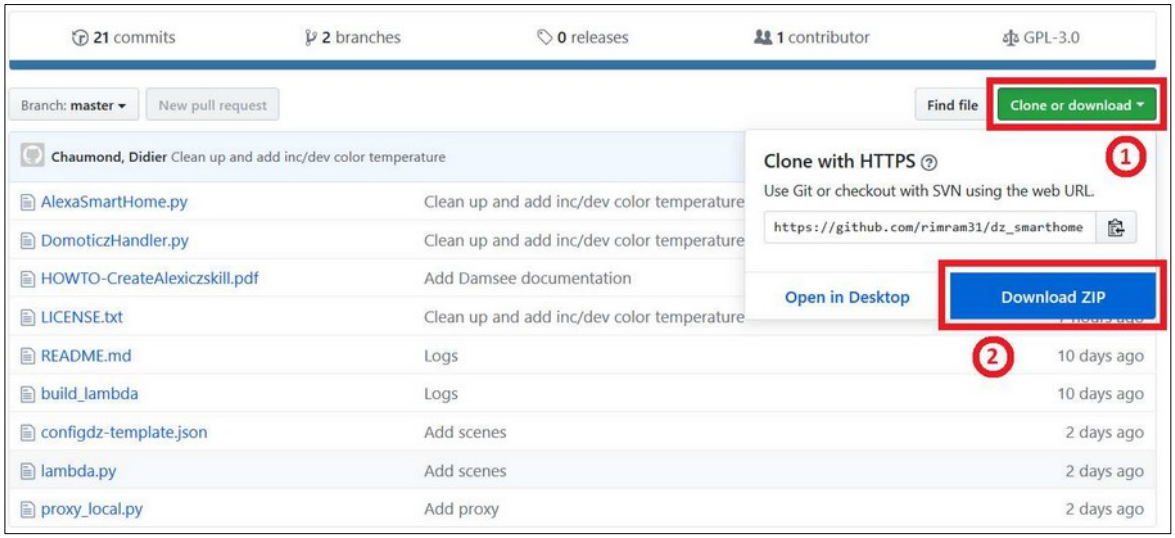


➪ Skill ID : amzn1.ask.skill.xxxxxxxxxxxxxxxxxxxxxx

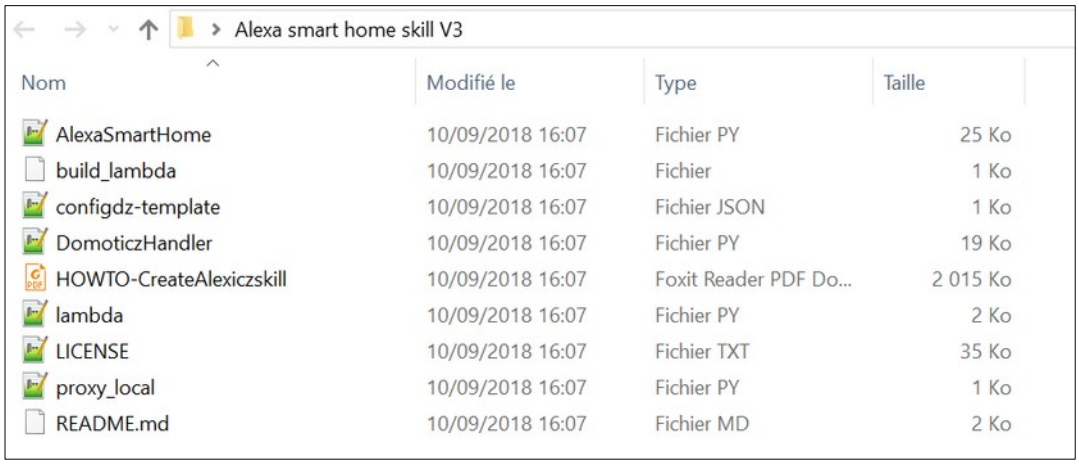
3.5. We now need to create the LAMBDA function, do not close this page

4. Create the function package (prerequisites for the lambda function)

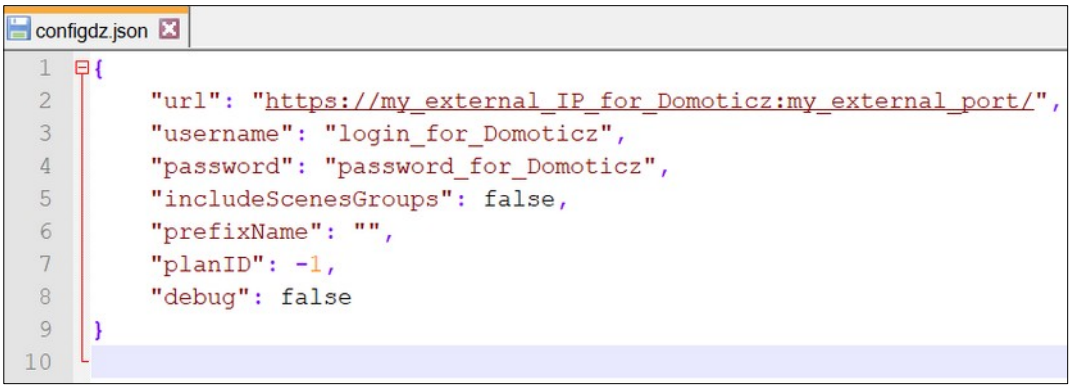
4.1. Connect to https://github.com/rimram31/dz_smarthome, click to download the package (1) and then save the ZIP file on your computer (2)



4.2. Extract the zip file into a directory

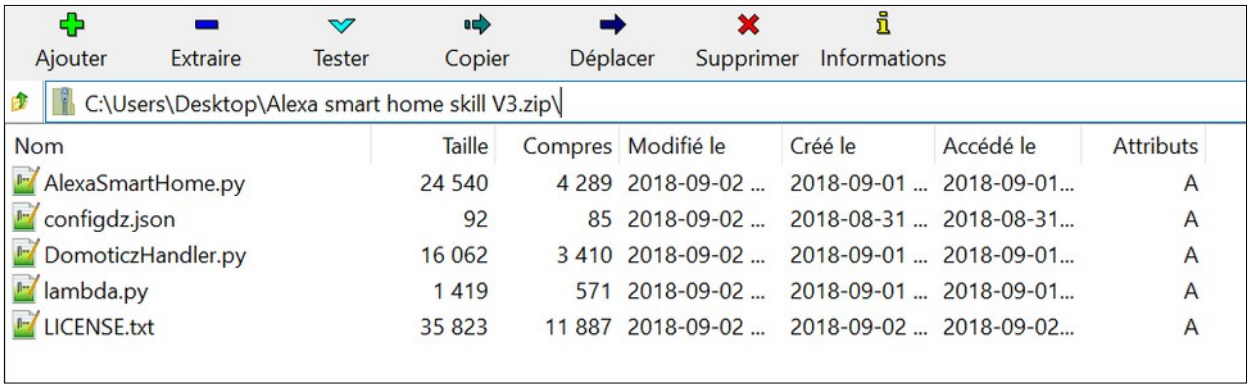


4.3. Rename « configdz-template.json » file to « configdz.json », edit that file with NOTEPAD and fill in your Domoticz connection parameters ; save the file



- ⇨ url : set the URL where Domoticz is accessible from the Internet (from AWS)
- ⇨ username/password : set the username/password you configured to access your DZ devices
- ⇨ includeScenesGroups : true/false if you want to include/discover/use Scenes or Groups
- ⇨ prefixName : set a prefix if needed, leave default otherwise
- ⇨ planID : set the plan ID if you set a specific plan for Alexa devices, leave default otherwise
- ⇨ debug : debug option

4.4. Create the function package / Create the ZIP file (you can exclude the « build_lambda.py », "proxy_local.py" and "README.md" files but you shoud not have any folder in your ZIP file)

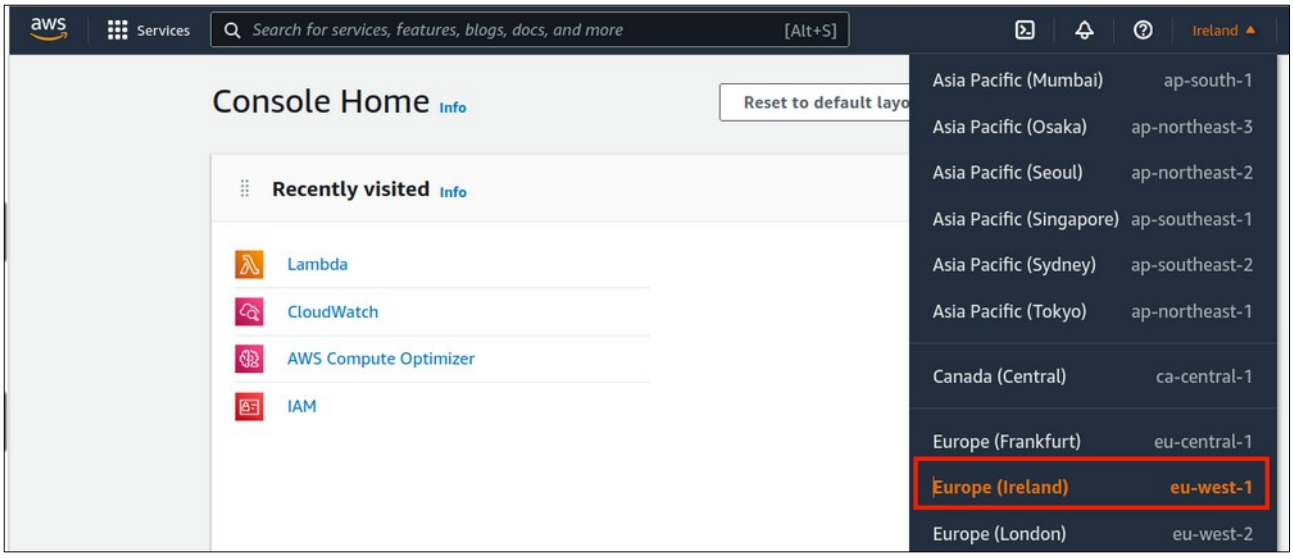


5. Create the LAMBDA function

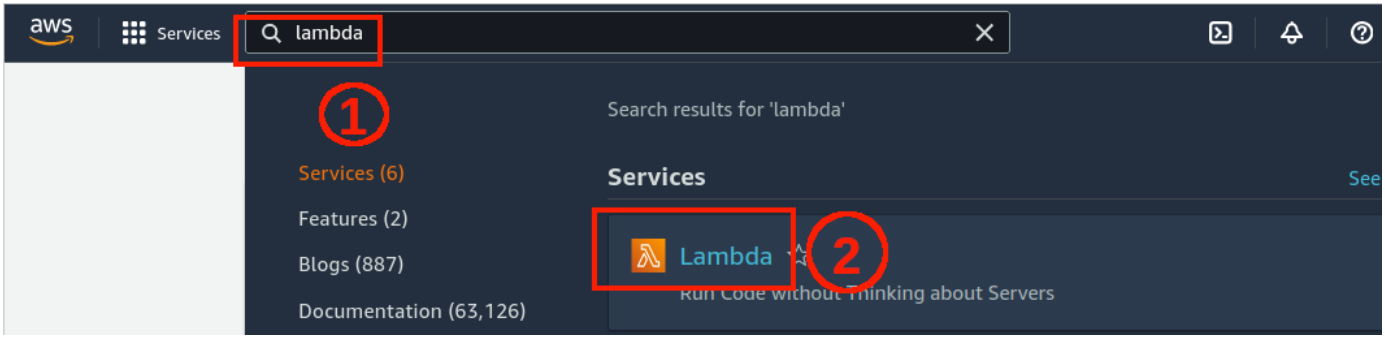
5.1. Sign in : https://console.aws.amazon.com

5.2. On the upper right corner, choose your location according the following tab :

Skill language	Endpoint Region	Lambda Function Region
English (US), English (CA)	North America	US East (N. Virginia)
English (UK), French (FR), German, Italian, Spanish (ES)	Europe, India	EU (Ireland)
English (IN)	Europe, India	EU (Ireland)
Japanese, English (AU)	Far East	US West (Oregon)



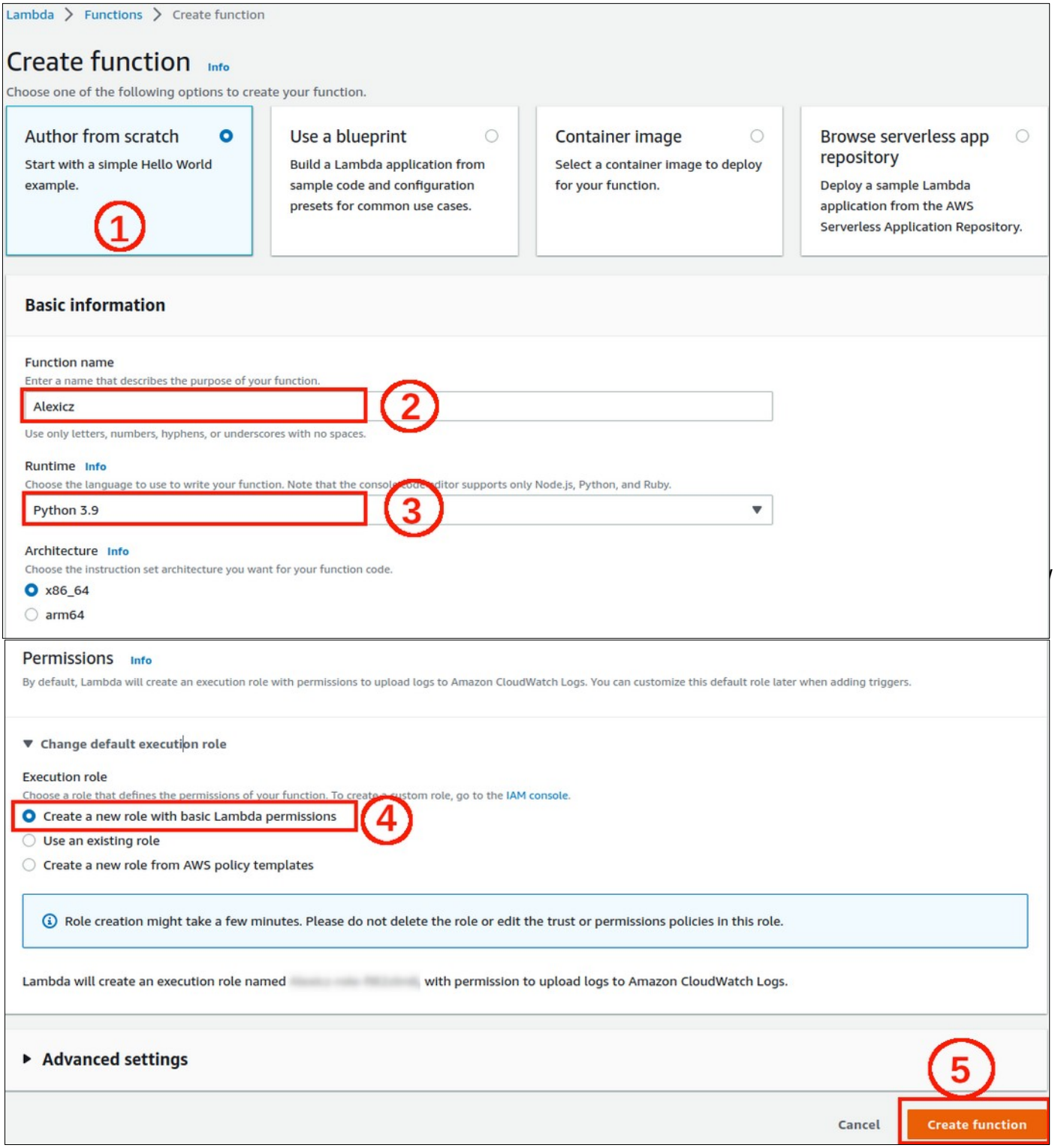
5.3. Enter “lamda” (1) in the search field to find the service by name → click « Lambda » (2) in the results.



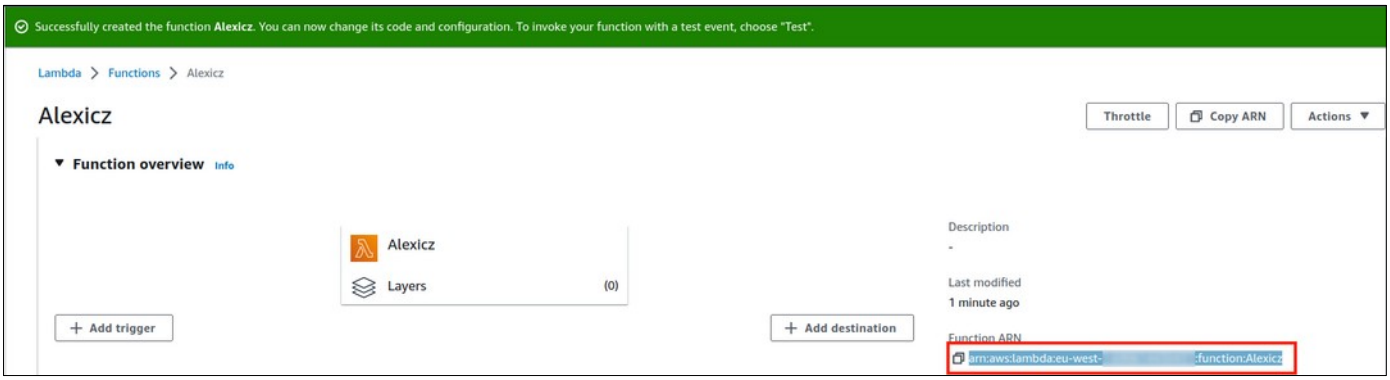
5.4. Click « Create function »

Note : You might not have that screen if you’re creating your first lambda function. You should however get the “Create function” button.

5.5. Click « Author from scratch » (1) → Set a name for your function « alexicz » (2) → Choose the runtime “Python 3.9 “ (3) → Make sure “Create a new role with basic Lamda permissions” is checked (4) → Click “Create Function” (5)

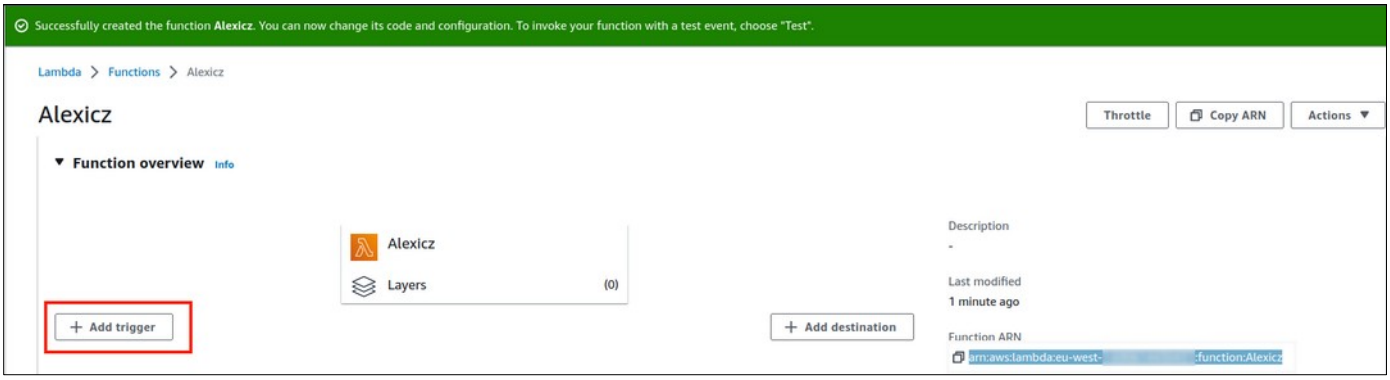


5.6. Your lambda function is now created, please copy your LAMBDA ID to NOTEPAD

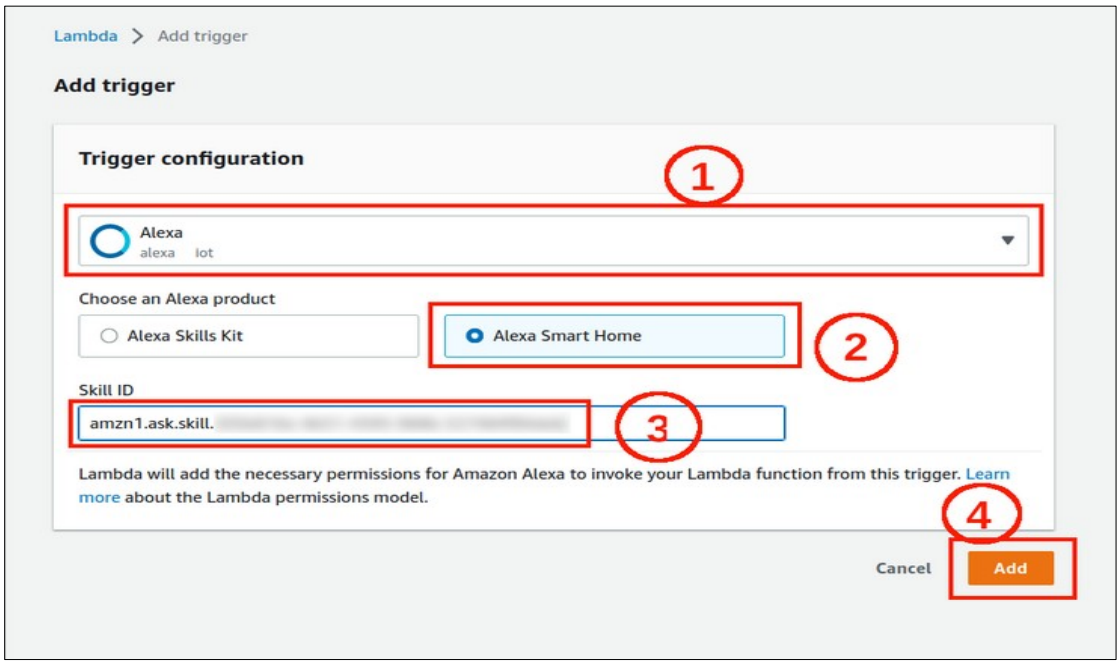


➪ ARN : arn:aws:lambda:eu-west-1: xxxxxxxxxxxxxxxxxxxxxx:function:alexicz

5.7. Add a Smart Home trigger to your function : Click "+ Add Trigger"

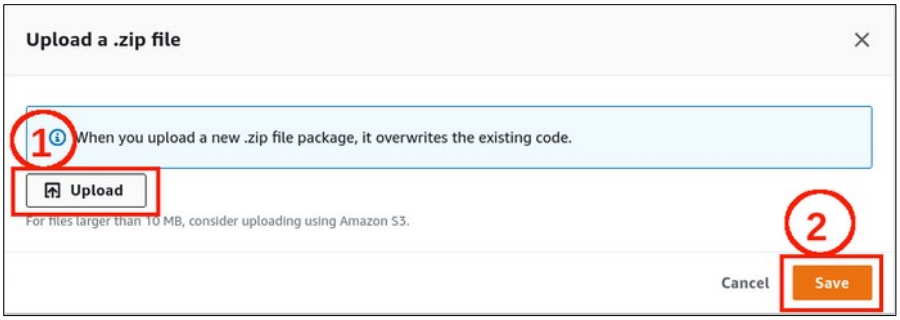


5.8. Select "Alexa" (1) → "Alexa Smart Home" (2) → Paste Skill Id (3) → Click "Add" (4)

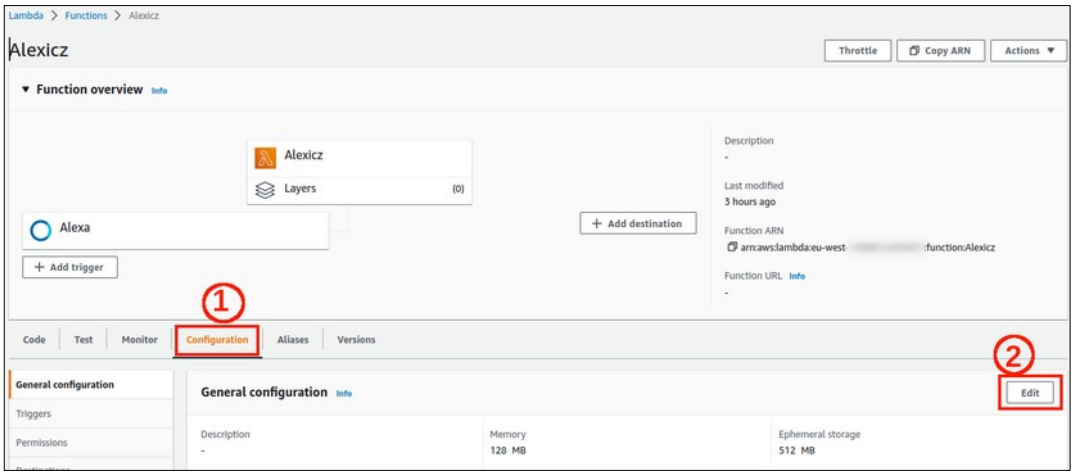


5.9. Scroll down to “Code” tab (1) → select “.zip file” (2) in the “Upload from” drop-down menu

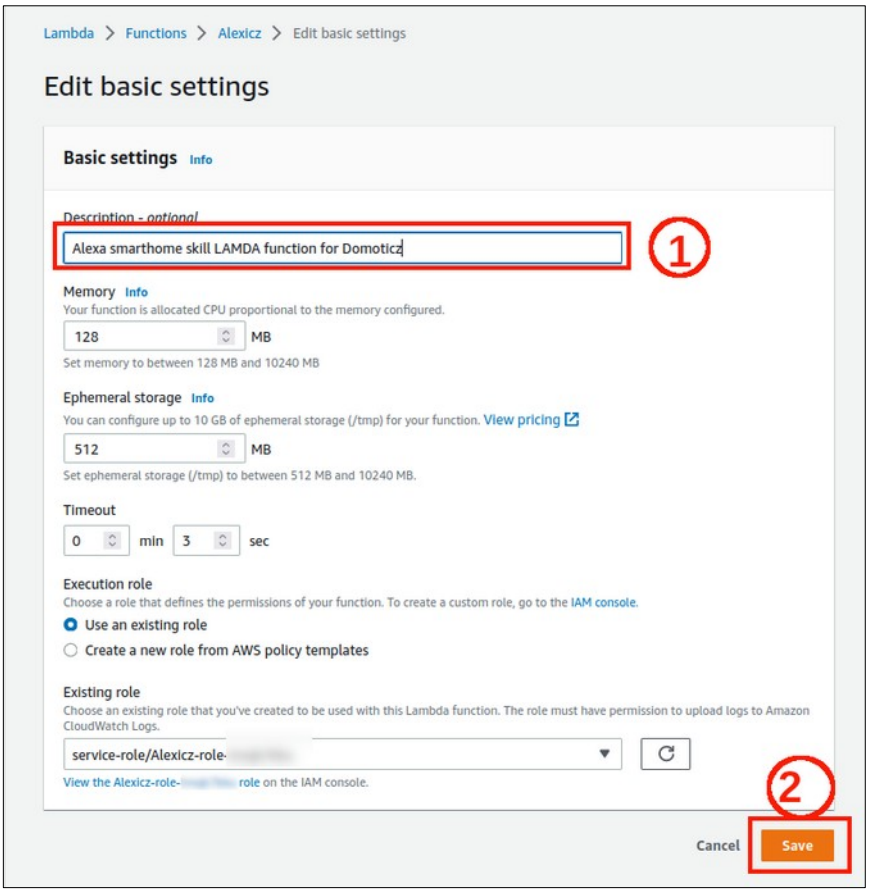
5.10. Click “Upload” (1) to upload .zip file package you created previously in §4 → Click “Save” (2)



5.11. Scroll down the page and click the “Configuration” tab (1) → Click “Edit” (2)



5.12. Fill in the “Description” field (1) → Click “Save” (2)



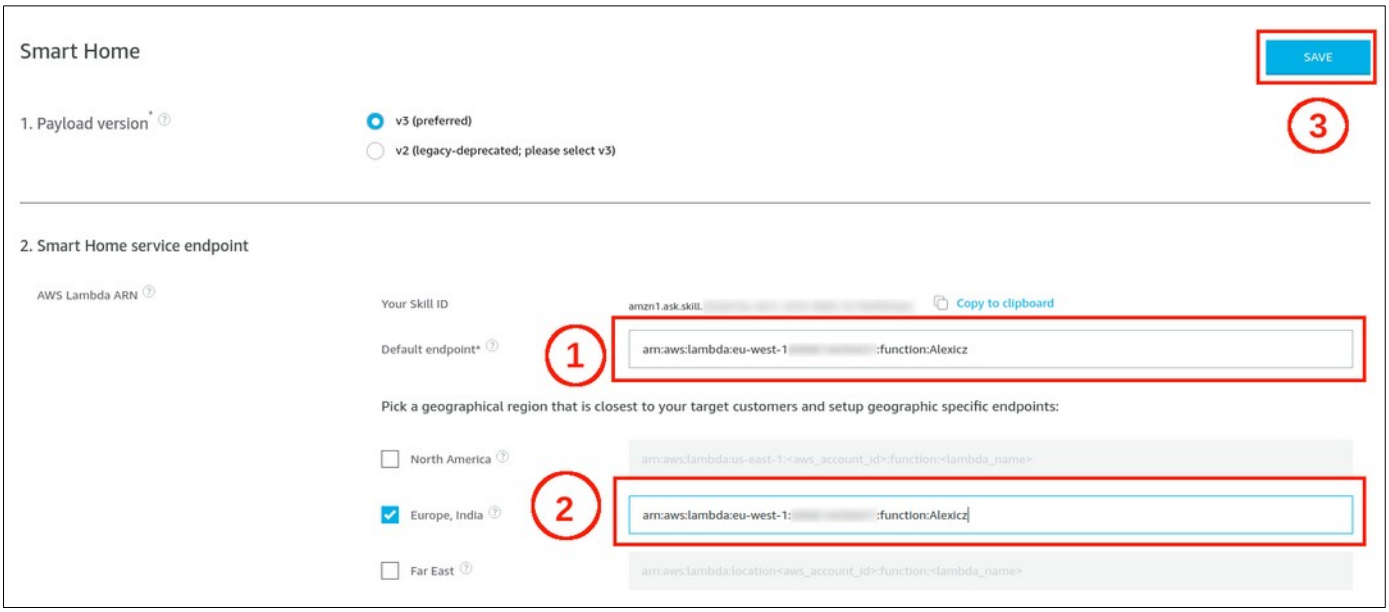
5.13. The lambda function is now saved (no action required at this step)

6. Finish the configuration

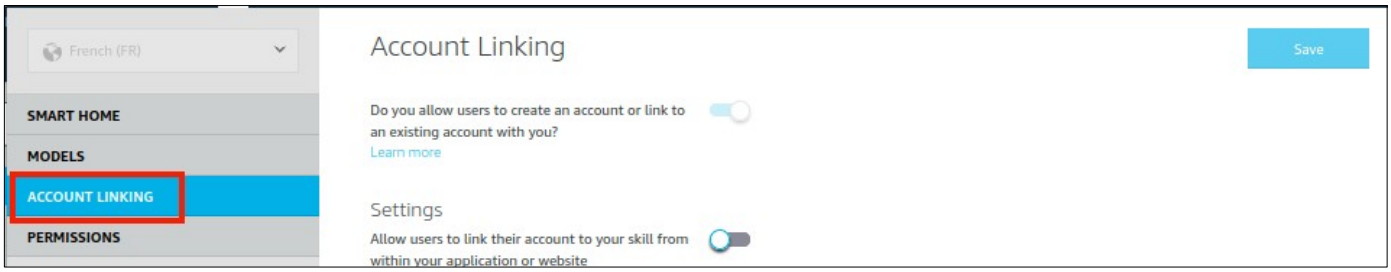
6.1.Open the configuration page for your skill (see § 3.6)

6.2.Fill in the « AWS Lambda ARN » : Default endpoint (1) and the one regarding your region (2)

- Click SAVE (3)

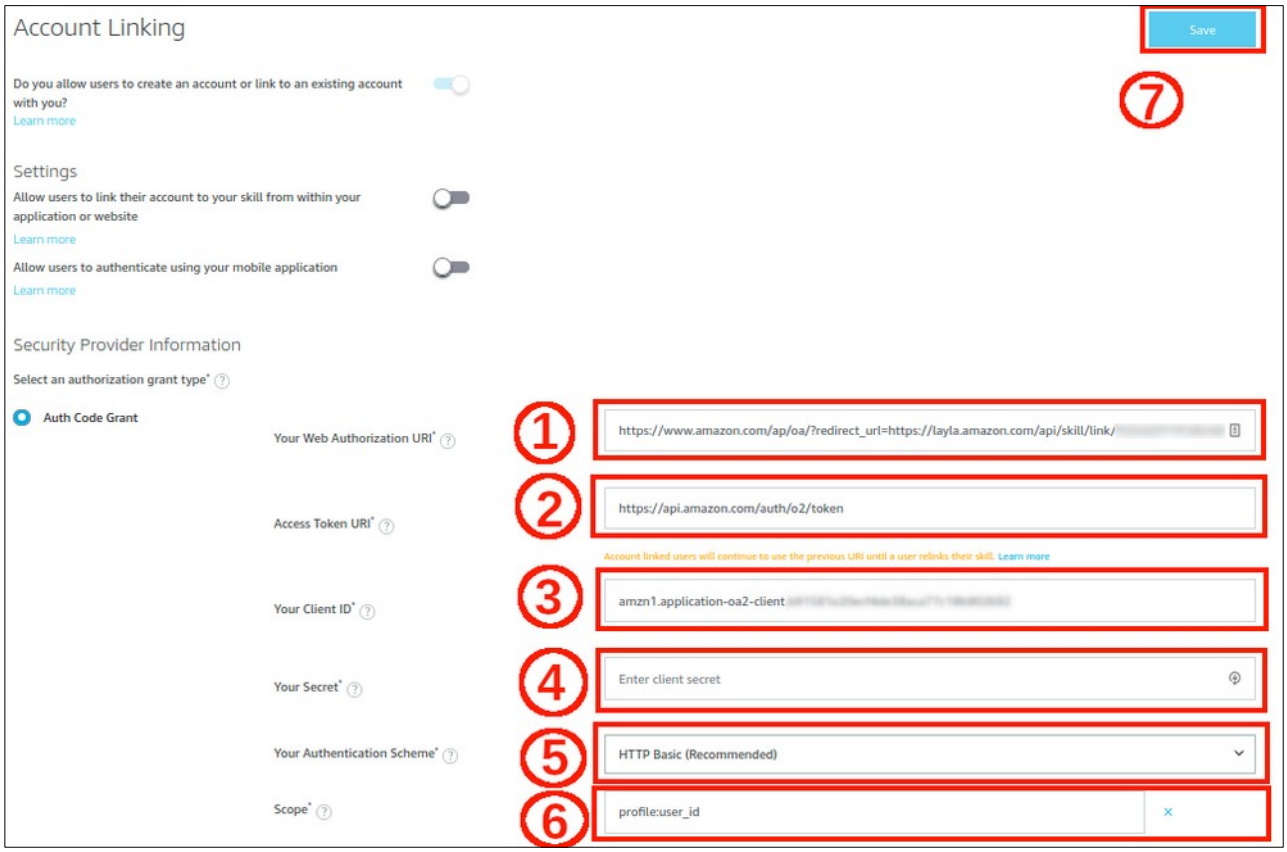


6.3.Click on « ACCOUNT LINKING » as this is required for Alexa Smart Home skill by Amazon

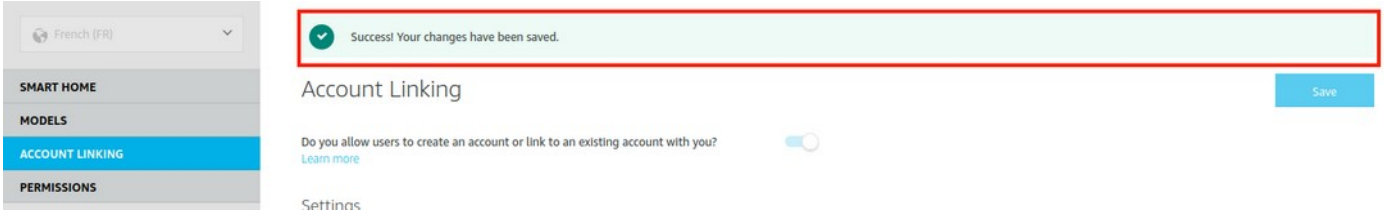


6.4.Fill in the requested information and click SAVE (7)

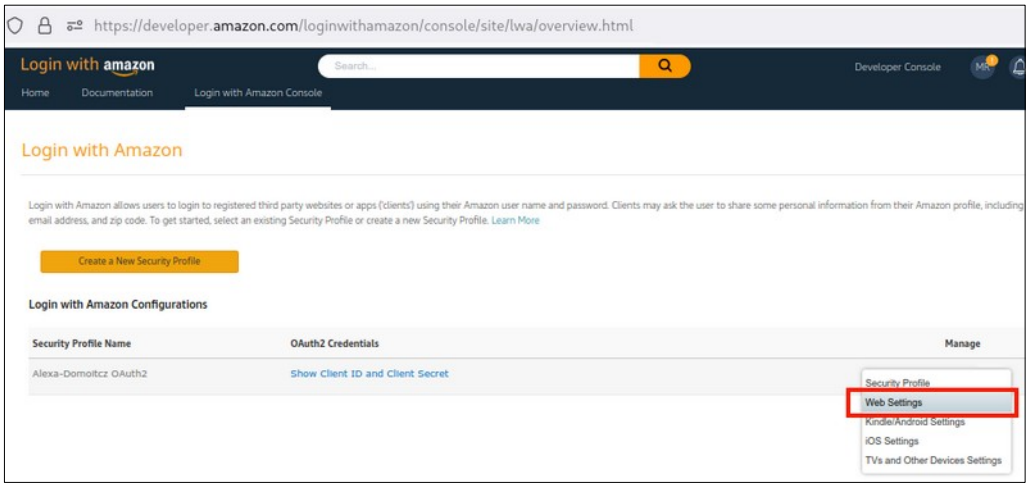
- Authorization URI (1) : https://www.amazon.com/ap/oa/?redirect_url=https://layla.amazon.com/api/skill/link/xxxxxxx
  - Concat the 2 following strings :
    - https://www.amazon.com/ap/oa/?redirect_url=
    - https://layla.amazon.com/api/skill/link/xxxxxxx (you can find that string at the end of the page « Redirect URLs »
- Access Token URI (2) : https://api.amazon.com/auth/o2/token
- Client ID (3) : amzn1.application-oa2-client.xxxxxxxxxxxxxxxxxxxxx
  - You can find your Client ID in § 2.4
- Client Secret (4) : xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  - You can find your Client Secret in § 2.4
- Client Authentication Scheme (5) : http Basic (Recommended)
  - That should be the default option
- Scope (6) : profile:user_id
  - Add the text « profile:user_id »
- Click “Save” (7)



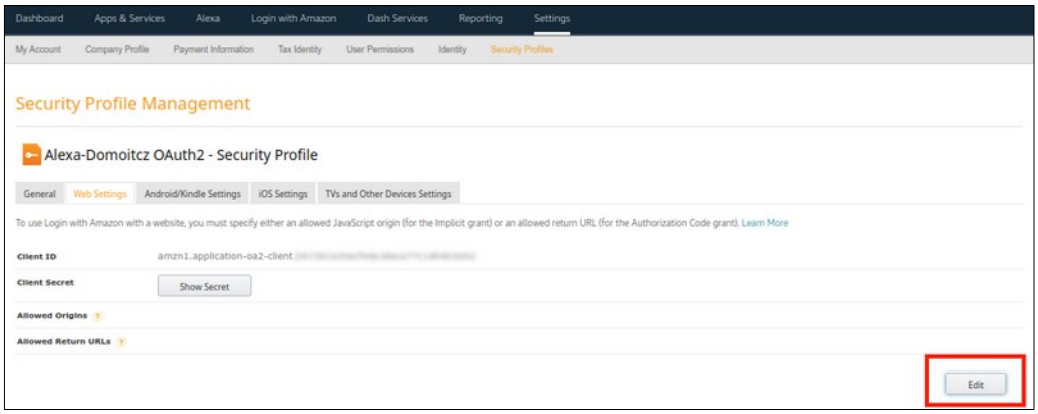
6.5. Your skill has been saved



6.6. Open the configuration page for your skill (see § 2.4) and select « Web Settings » in the configuration tool

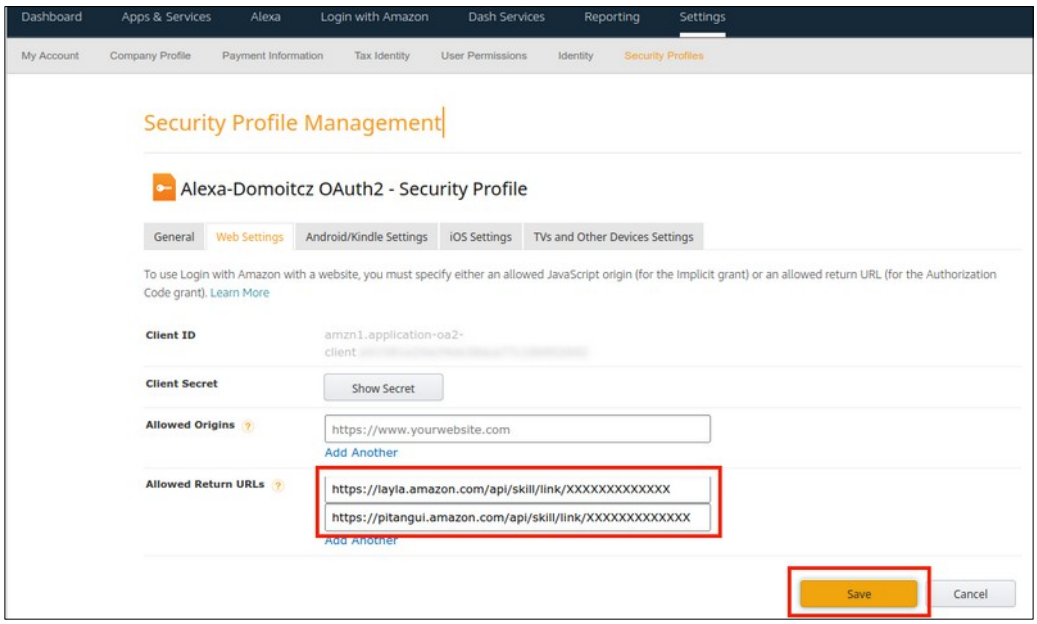


6.7. Click “Edit”



6.8. Configure the « Allowed Return URLs » and click « Save »

Note : You can find those URLs at the bottom of the page « Account Linking » in the skill setup (§ 6.4)



CONGRATS : You’ve done it ! You now have to enable your skill within your Alexa account.

7. Enable Alexicz smart home skill in Alexa

7.1.Open alexa app or alexa website (https://alexa.amazon.com)

7.2.Click to « Skills » and then to « Your skills »

7.3.Click « DEV SKILLS »

7.4.Select « Alexicz » skill and click to activate

7.5.Login with your amazon credentials

7.6.Search devices in smart home

8. Additional information

It's possible the set a device name only for Alexa. In some cases, this is needed because Alexa does not understand the name because the name is too long or too complicated.

Open Domoticz and the device you want to setup.

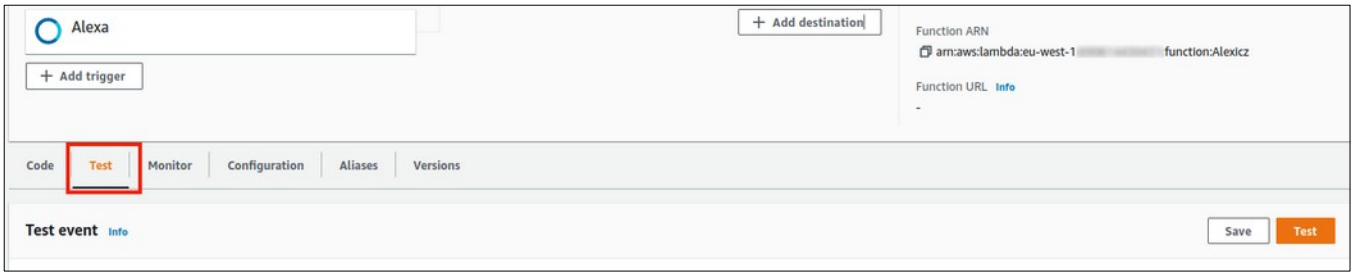
Write in the « Description: » field : Alexa_Name: Your_Name_for_Alexa

Device Name « Store C1 » will now therefore be ignored from Alexa and the new name is "Store chambr

9. Tests

9.1.Testing via Lambda

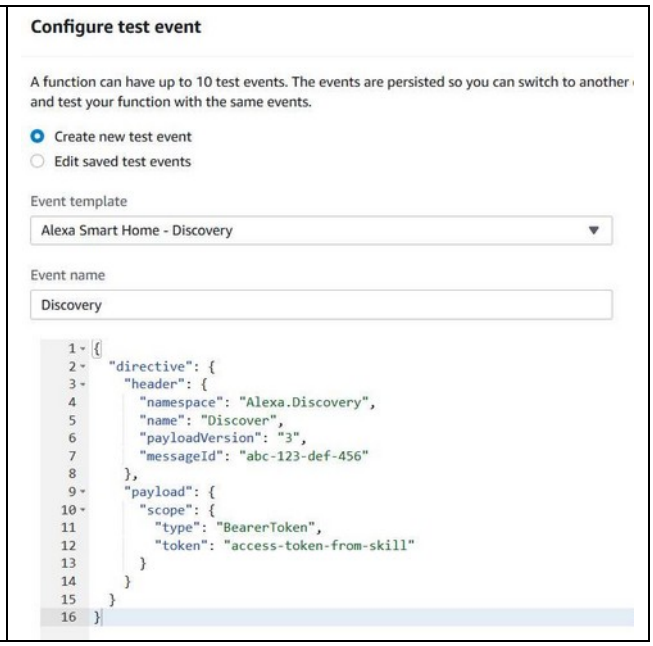
Once logged on https://console.aws.amazon.com, select your LAMBDA function and scroll down to “test” tab that will allow you to send requests to your Domoticz and interact with it (without having to install/enable the smart home skill within your Alexa account/device).



Here are samples : 1 for Discovery, 1 to get temperature, 1 to turn on a light.
Just copy one in the « Configure test event » box, change the endpointId to a ID you get from the Discovery feature (eg. TemperatureSensor-Domoticz_IDX / SwitchLight-Domoticz_IDX) and test it.

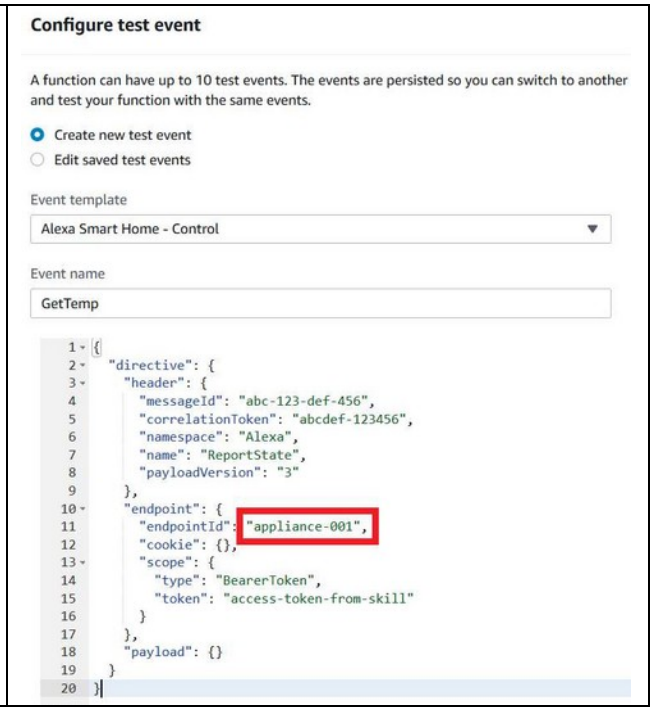
➪ Discovery Directive

```
{
  "directive": {
    "header": {
      "namespace": "Alexa.Discovery",
      "name": "Discover",
      "payloadVersion": "3",
      "messageId": "abc-123-def-456"
    },
    "payload": {
      "scope": {
        "type": "BearerToken",
        "token": "access-token-from-skill"
      }
    }
  }
}
```



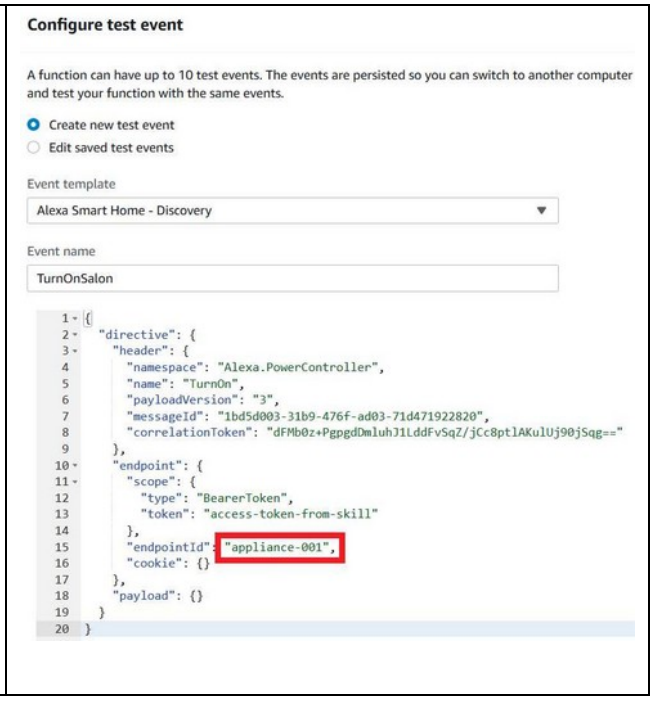
⇨ Get temperature sensor information, change the endpointId with a « TemperatureSensor-Domoticz_IDX » temperature sensor

```
{
  "directive": {
    "header": {
      "messageId": "abc-123-def-456",
      "correlationToken": "abcdef-123456",
      "namespace": "Alexa",
      "name": "ReportState",
      "payloadVersion": "3"
    },
    "endpoint": {
      "endpointId": "appliance-001",
      "cookie": {},
      "scope":{
            "type":"BearerToken",
            "token":"access-token-from-
skill"
      }
    },
    "payload": {
    }
  }
}
```



⇨ Turn on a light device, change the endpointId with a « SwitchLight-Domoticz IDX » light device

```
{
  "directive": {
    "header": {
      "namespace":
"Alexa.PowerController",
      "name": "TurnOn",
      "payloadVersion": "3",
      "messageId": "1bd5d003-31b9-476f-
ad03-71d471922820",
      "correlationToken":
"dFMb0z+PgpgdDmluhJ1LddFvSqZ/
jCc8ptlAKulUj90jSqg=="
    },
    "endpoint": {
      "scope": {
        "type": "BearerToken",
        "token": "access-token-from-skill"
      },
      "endpointId": "appliance-001",
      "cookie": {}
    },
    "payload": {}
  }
}
```



9.2.Live

N/A

10.References

Steps to Build a Smart Home Skill (incl. « Lambda Function Region » information)

➪ https://developer.amazon.com/docs/smarthome/steps-to-build-a-smart-home-skill.html

Smart Home Skill API Message Reference

➪ https://developer.amazon.com/docs/smarthome/smart-home-skill-api-message-reference.html

Domoticz software

➪ http://www.domoticz.com/

Domoticz JSON API documentation

➪ https://www.domoticz.com/wiki/Domoticz_API/JSON_URL%27s

11.Working features

Interface	Directive	Supported languages
Alexa	ReportState	EN, FR, GE, IT, JP, ES
Alexa.TemperatureSensor	ReportState	EN, FR, GE, IT, JP, ES
Alexa.ContactSensor	ReportState	?
Alexa.MotionSensor	ReportState	?
Alexa.PowerController	TurnOn / TurnOff	EN, FR, GE, IT, JP, ES
Alexa.PowerLevelController	SetPowerLevel / AdjustPowerLevel	EN, FR, GE, IT, JP, ES
Alexa.LockController	Lock/Unlock	EN, GE, IT, JP, ES
Alexa.ThermostatController	SetTargetTemperature / AdjustTargetTemperature / SetThermostatMode / ResumeSchedule	EN, FR, GE, IT, ES
Alexa.PercentageController	SetPercentage / AdjustPercentage	EN, FR, GE, IT, JP, ES
Alexa.BrightnessController	AdjustBrightness / SetBrightness	EN, FR, GE, IT, JP, ES
Alexa.ColorController	SetColor	EN, FR, GE, IT, JP, ES
Alexa.ColorTemperatureController	DecreaseColorTemperature / IncreaseColorTemperature / SetColorTemperature	EN, FR, GE, IT, JP, ES
Alexa.CameraStreamController	InitializeCameraStreams	EN, FR, GE, IT, ES
Alexa.ChannelController	ChangeChannel / SkipChannels	EN, GE
Alexa.InputController	SelectInput	EN, GE
Alexa.PlaybackController	FastForward / Next / Pause / Play / Previous / Rewind / StartOver / Stop	EN, GE
Alexa.StepSpeaker	AdjustVolume / SetMute	EN, GE
Alexa.Speaker	SetVolume / AdjustVolume / SetMute	EN, GE
Alexa.Cooking	SetCookingMode	EN-US
Alexa.Cooking.TimeController	CookByTime / AdjustCookTime	EN-US
Alexa.Cooking.PresetController	CookByPreset	EN-US
Alexa.TimeHoldController	Hold / Resume	EN-US
Alexa.SceneController	Activate / Deactivate (** only for groups)	EN, FR, GE, IT, JP, ES

** Working feature

12.Need help ?

Please refer to the Domoticz forum for help : http://www.domoticz.com/forum/

You can include the output of the following commands to help the debug :

- `http(s)://yourDomoticz/json.htm?type=devices&rid=nnn`
- `http(s)://yourDomoticz/json.htm?type=devices&used=true`