



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.

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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

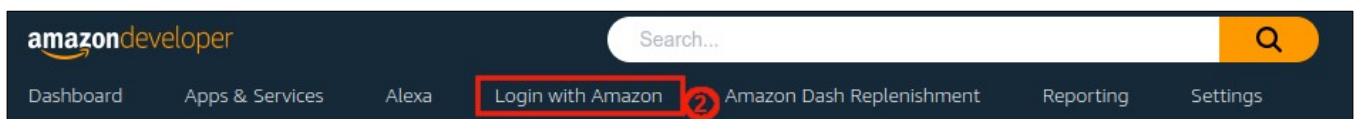
Alexa smart home skill requires an OAuth2 authorization.

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

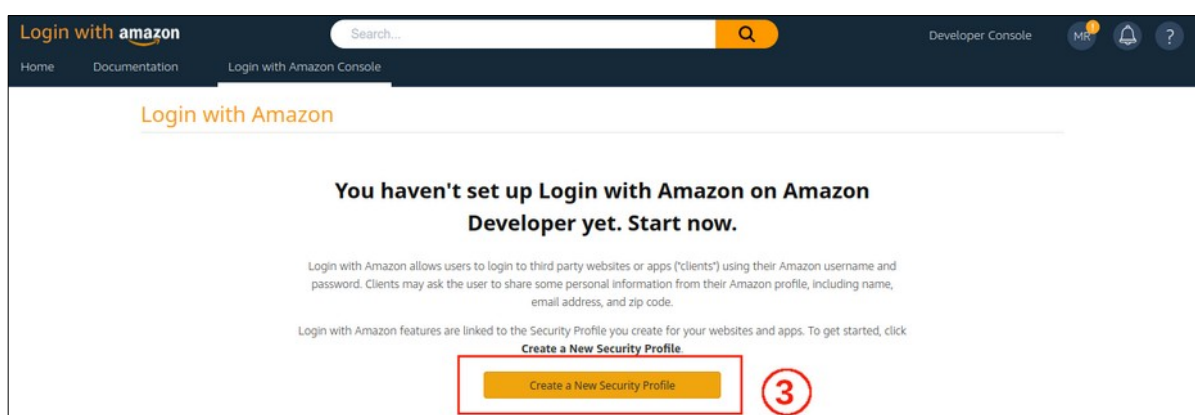
2.2. Click “Developer Console” (1)



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)

Login with amazon

Search...

Developer Console

Home

Documentation

Login with Amazon Console

Security Profile Management

Name your new Security Profile

Choose a name for this security profile. You can create multiple security profiles. You will associate a security profile with one or more apps. Apps that use the same security profile can share some types of data (for example, a "My App - Free" and a "My App - HD" could share data). For a shared security profile, choose a name that applies to all the apps that will use it (for example, "My App profile"). [Learn More](#)

* Indicates a required field

Security Profile Name *

Alexa-DomioitczIdAuth2


Security Profile Description *

OAuth authorization for Domioitcz

Consent Privacy Notice URL *

<https://developer.amazon.com>

Consent Logo Image



1

2

Save

Cancel

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

Login with Amazon Configurations	
Security Profile Name	OAuth2 Credentials
Alexa-Domoitcz OAuth2	Show Client ID and Client Secret


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

 Client Secret : xx

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



The screenshot shows the top navigation bar of the Amazon Developer console. The 'Alexa' menu is open, displaying two options: 'Alexa Skills Kit' and 'Alexa Voice Service'. The 'Alexa Skills Kit' option is highlighted with a light gray background.

Navigation Item	Sub-item
amazon developer	
Search...	
Dashboard	
Apps & Services	
Alexa	Alexa Skills Kit
	Alexa Voice Service
Login with Amazon	
Amazon Dash Replenishment	
Reporting	
Settings	

3.2.Click « Create Skill »

Skills

Earnings

Payments

Hosting

Settings

Alexa Skills [Skill examples](#) | [Learn more](#)

Search by skill name or skill ID

Create Skill

SKILL NAME	LANGUAGE	MODIFIED	STATUS	ACTIONS
------------	----------	----------	--------	---------



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

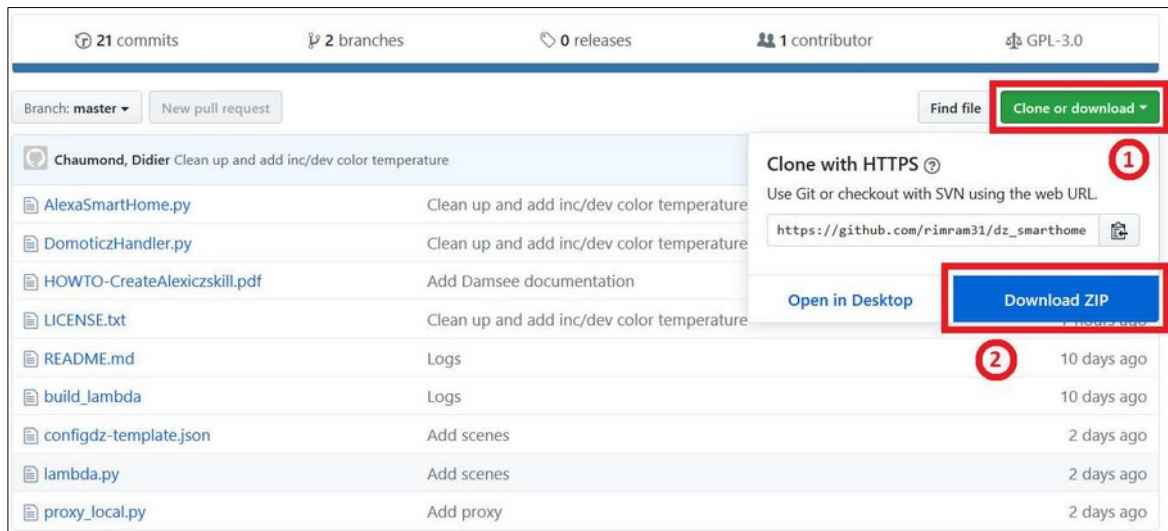
⇒ Skill ID : amzn1.ask.skill.xxxxxxxxxxxxxxxxxxxxxxxxxx

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

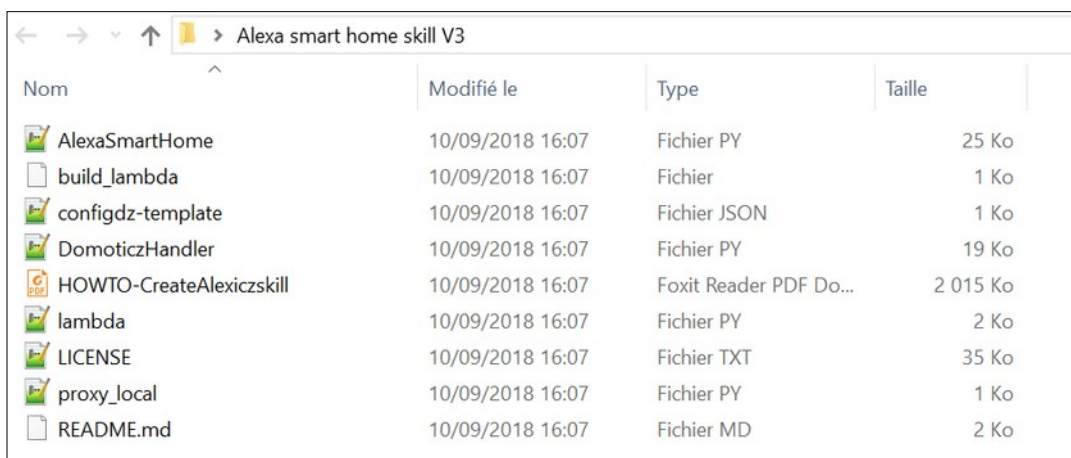


4. Create the function package (prerequisites for the lambda function)

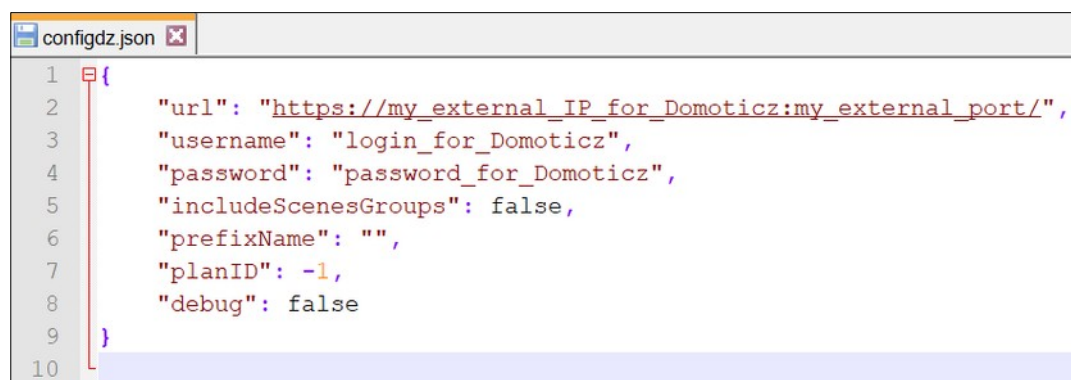
- 4.1. Connect to https://github.com/rimram31/dz_smarthome, click to download the package (1) and then save the ZIP file on your computer (2)



- 4.2. Extract the zip file into a directory



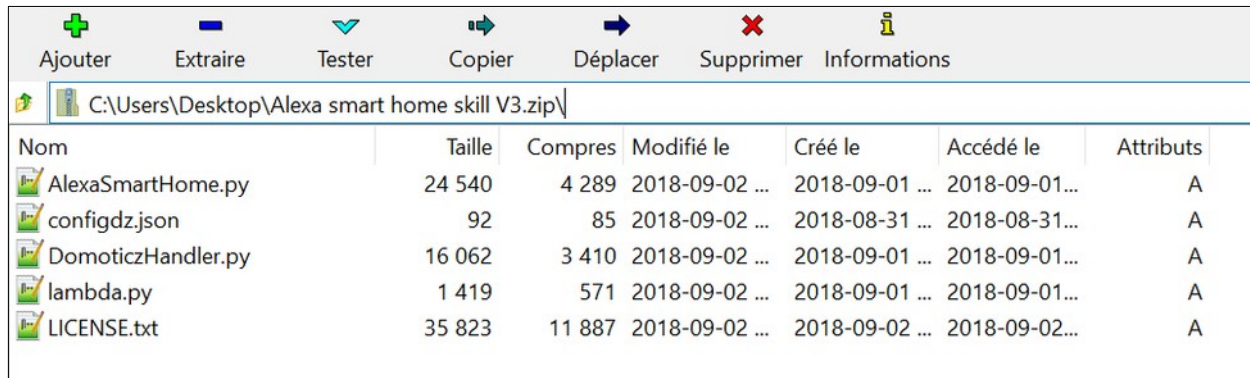
- 4.3. Rename « configdz-template.json » file to « configdz.json », edit that file with NOTEPAD and fill in your Domoticz connection parameters ; save the file





- ⇒ 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 should not have any folder in your ZIP file**)



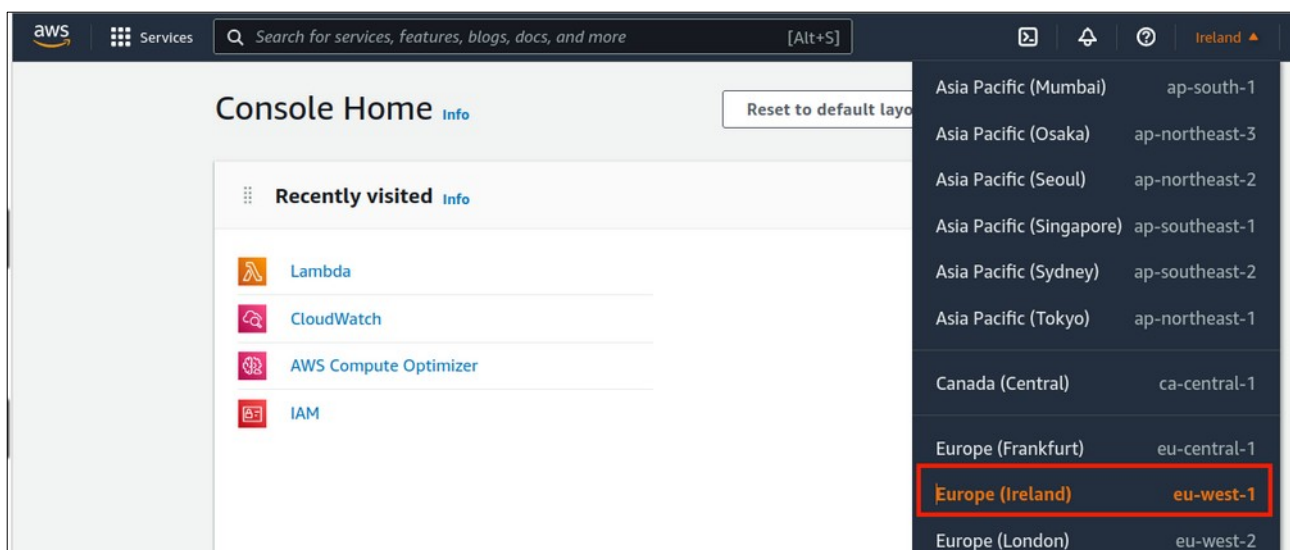
Nom	Taille	Compres	Modifié le	Créé le	Accédé le	Attributs
AlexaSmartHome.py	24 540	4 289	2018-09-02 ...	2018-09-01 ...	2018-09-01...	A
configdz.json	92	85	2018-09-02 ...	2018-08-31 ...	2018-08-31...	A
DomoticzHandler.py	16 062	3 410	2018-09-02 ...	2018-09-01 ...	2018-09-01...	A
lambda.py	1 419	571	2018-09-02 ...	2018-09-01 ...	2018-09-01...	A
LICENSE.txt	35 823	11 887	2018-09-02 ...	2018-09-02 ...	2018-09-02...	A

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 :

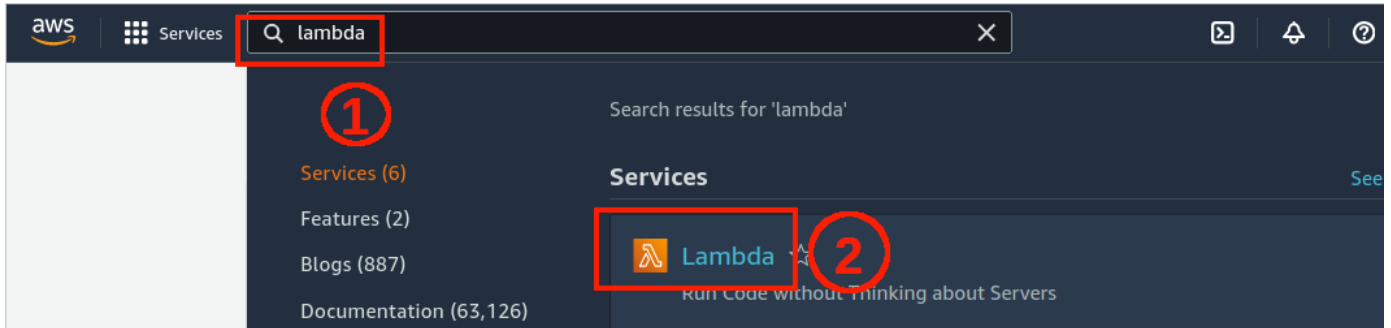
Skill language	Endpoint Region	Lambda Function Region
English (US), English (CA)	North America	US East (N. Virginia)
English (UK), French (FR), German, Italian, Spanish (ES)	Europe, India	EU (Ireland)
English (IN)	Europe, India	EU (Ireland)
Japanese, English (AU)	Far East	US West (Oregon)



The screenshot shows the AWS Management Console interface. In the 'Recently visited' section, 'Lambda' is selected. On the right, a dropdown menu for region selection is open, showing various regions. The 'Europe (Ireland)' option is highlighted with a red box, corresponding to the 'eu-west-1' region code.

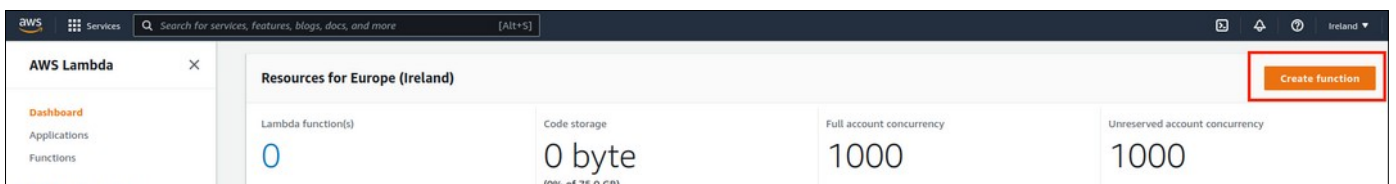


5.3. Enter “lamda” (1) in the search field to find the service by name → click « Lambda » (2) in the results.



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)

Lambda > Functions > Create function

Create function Info

Choose one of the following options to create your function.

Author from scratch ☒
Start with a simple Hello World example.
1

Use a blueprint ☐
Build a Lambda application from sample code and configuration presets for common use cases.

Container image ☐
Select a container image to deploy for your function.

Browse serverless app repository ☐
Deploy a sample Lambda application from the AWS Serverless Application Repository.

Basic information

Function name
Enter a name that describes the purpose of your function.
 2
Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.
 3

Architecture Info
Choose the instruction set architecture you want for your function code.
☒ x86_64
☐ arm64

Permissions Info

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ Change default execution role

Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☒ Create a new role with basic Lambda permissions **4**
☐ Use an existing role
☐ Create a new role from AWS policy templates

Role creation might take a few minutes. Please do not delete the role or edit the trust or permissions policies in this role.

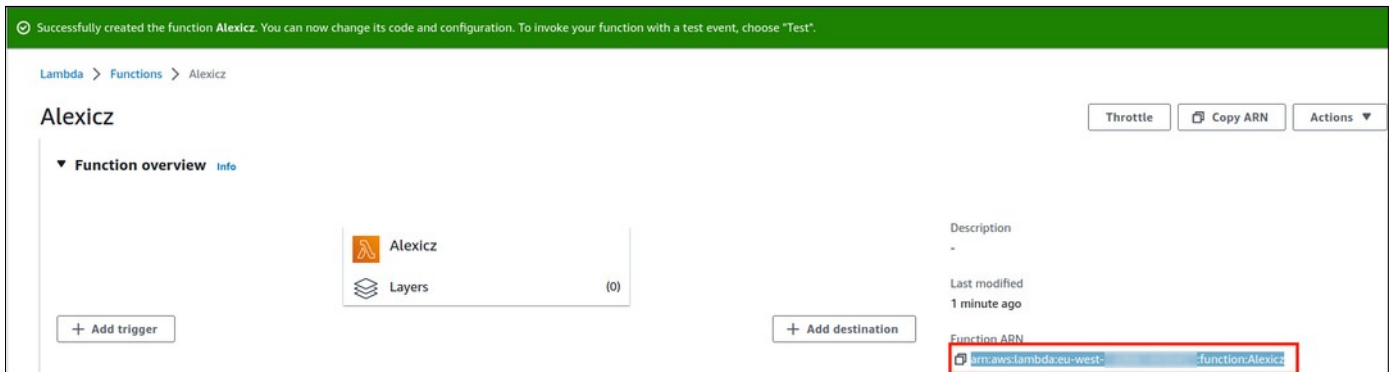
Lambda will create an execution role named `lambda-role-XXXXXX` with permission to upload logs to Amazon CloudWatch Logs.

► Advanced settings **5**

Cancel Create function

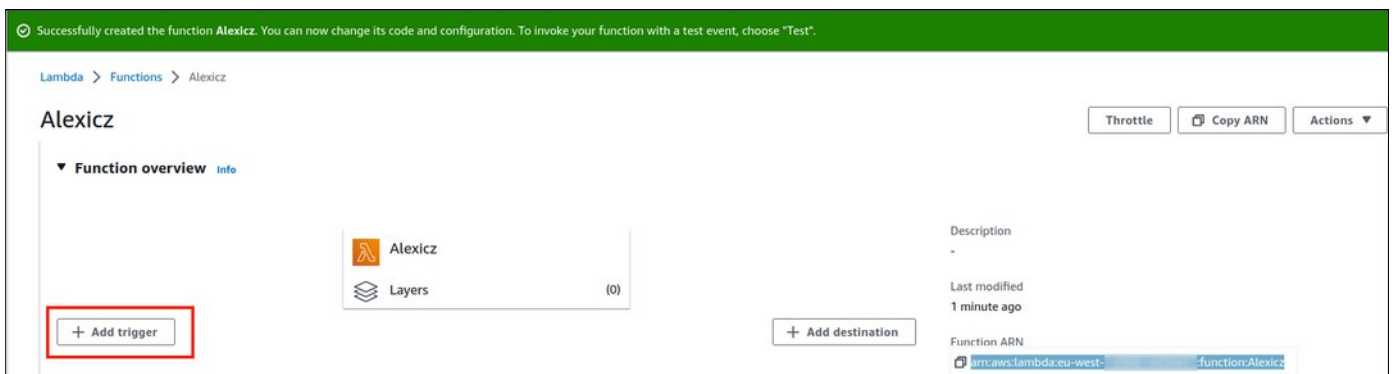


5.6. Your lambda function is now created, please copy your LAMBDA ID to NOTEPAD

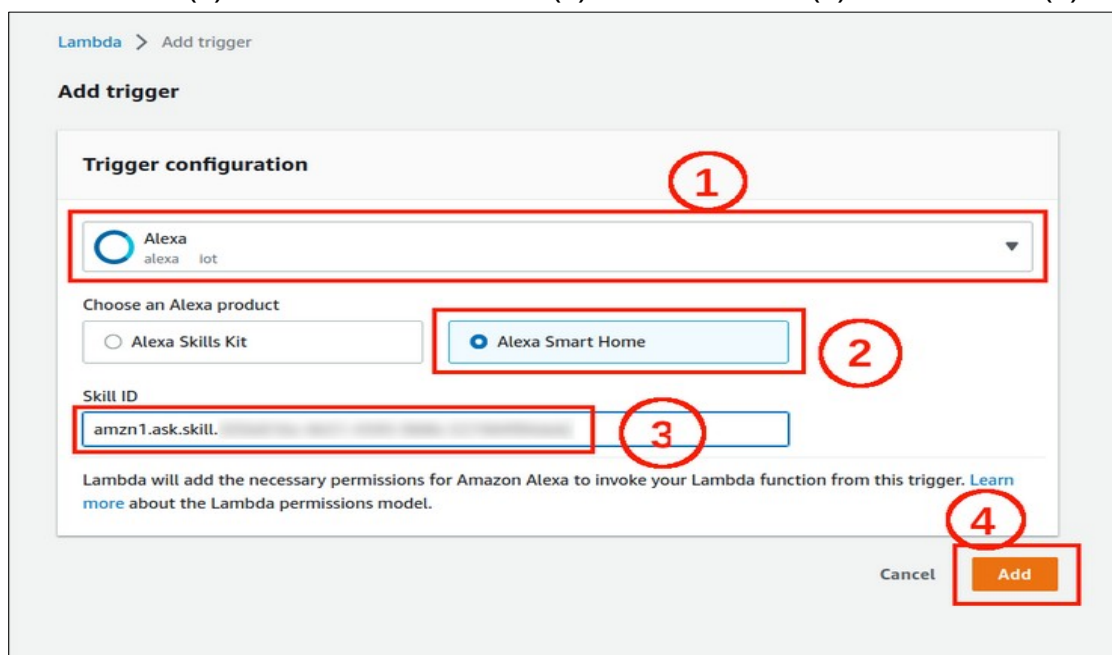


⇒ ARN : arn:aws:lambda:eu-west-1:xxxxxx:xxxxxx:function:alexicz

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

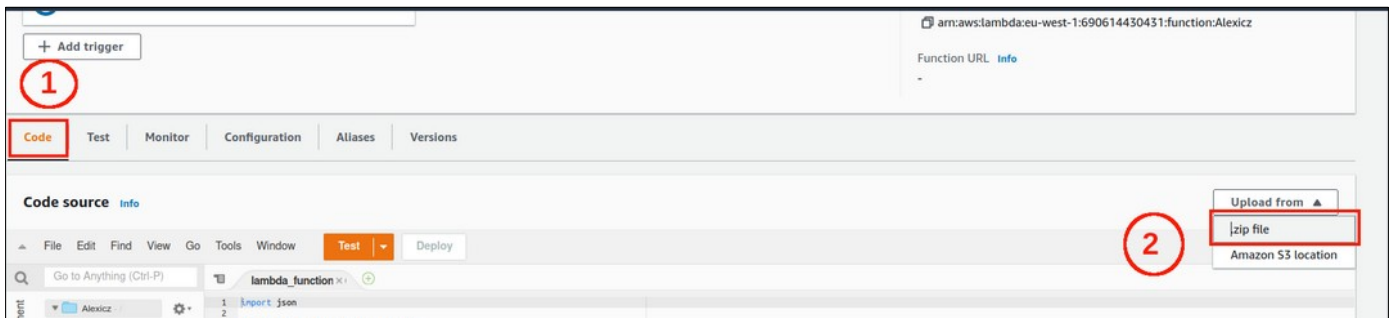


5.8. Select “Alexa” (1) → “Alexa Smart Home” (2) → Paste Skill Id (3) → Click “Add” (4)

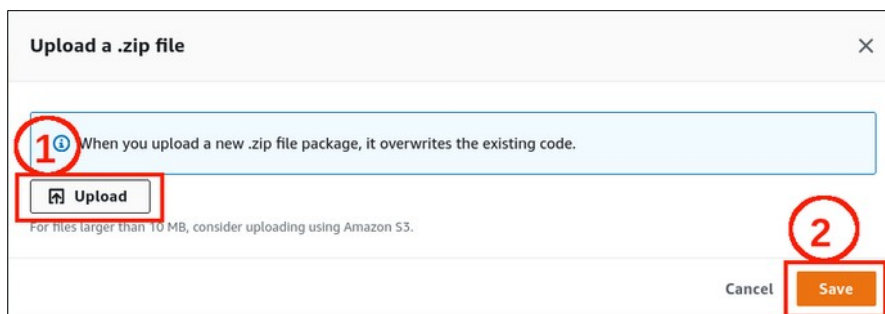




5.9. Scroll down to “Code” tab (1) → select “.zip file” (2) in the “Upload from” drop-down menu

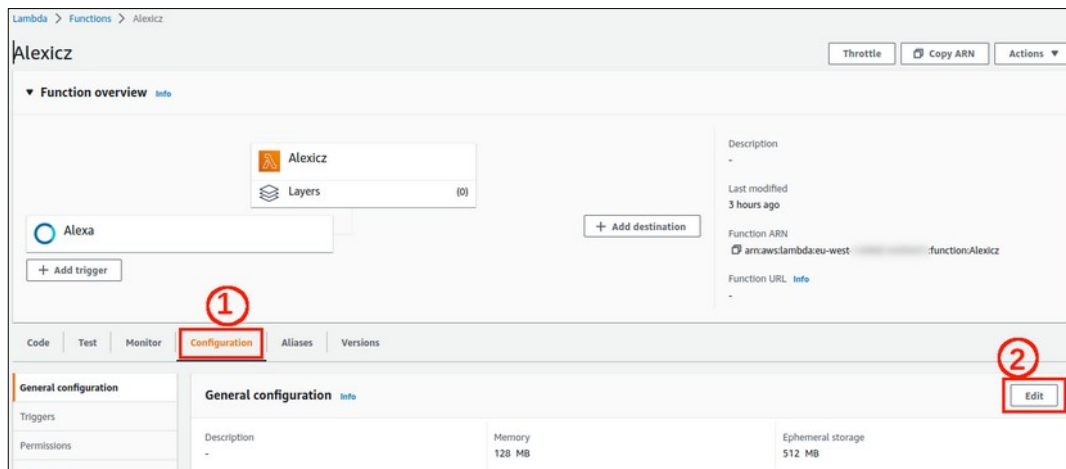


5.10. Click “Upload” (1) to upload .zip file package you created previously in §4 → Click “Save” (2)

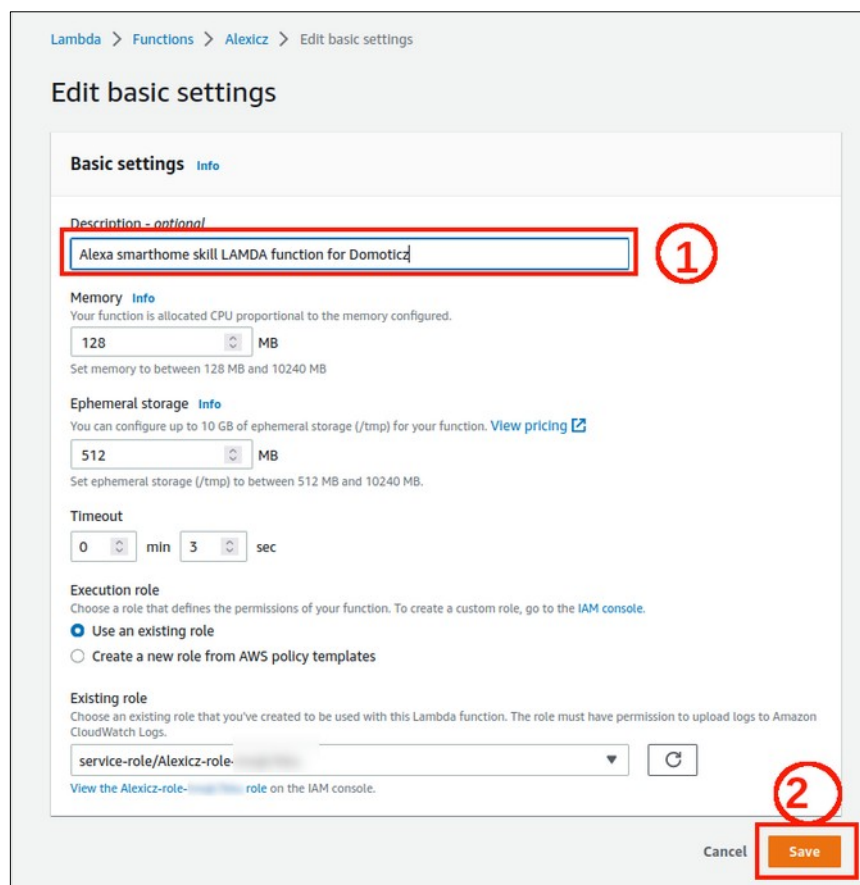




5.11. Scroll down the page and click the “Configuration” tab (1) → Click “Edit” (2)



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





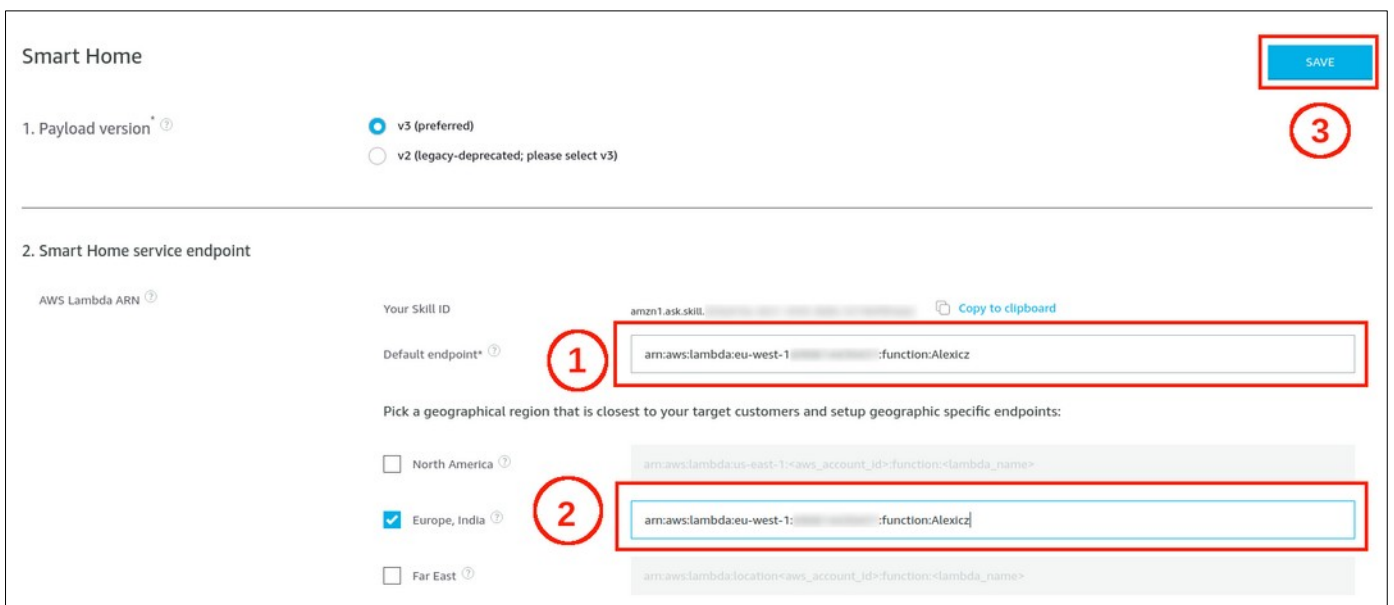
5.13. The lambda function is now saved (no action required at this step)



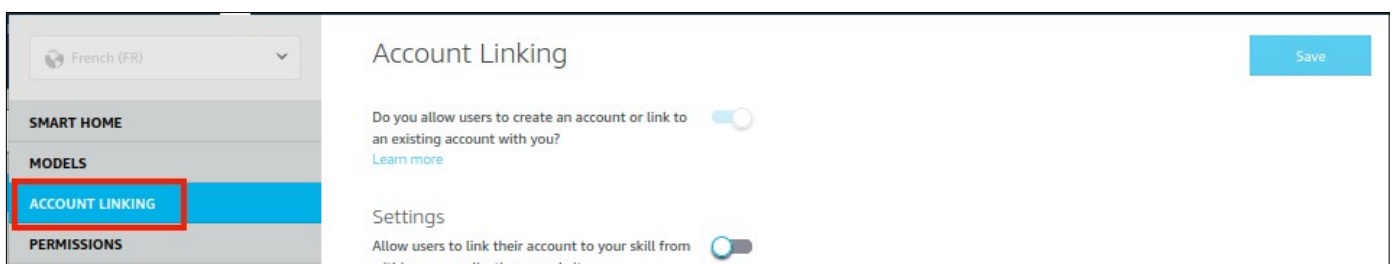
6. Finish the configuration

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.xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
 - You can find your Client ID in § 2.4
- ⇒ Client Secret (4) : xx
 - 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)

Account Linking

Do you allow users to create an account or link to an existing account with you? ☒

Settings

Allow users to link their account to your skill from within your application or website ☐

Allow users to authenticate using your mobile application ☐

Security Provider Information

Select an authorization grant type* (?)

☒ Auth Code Grant

Your Web Authorization URI* (?) ①

Access Token URI* (?) ②

Your Client ID* (?) ③

Your Secret* (?) ④

Your Authentication Scheme* (?) ⑤

Scope* (?) ⑥

Save ⑦

6.5. Your skill has been saved

French (FR)

SMART HOME

MODELS

ACCOUNT LINKING

PERMISSIONS

Success! Your changes have been saved.

Account Linking

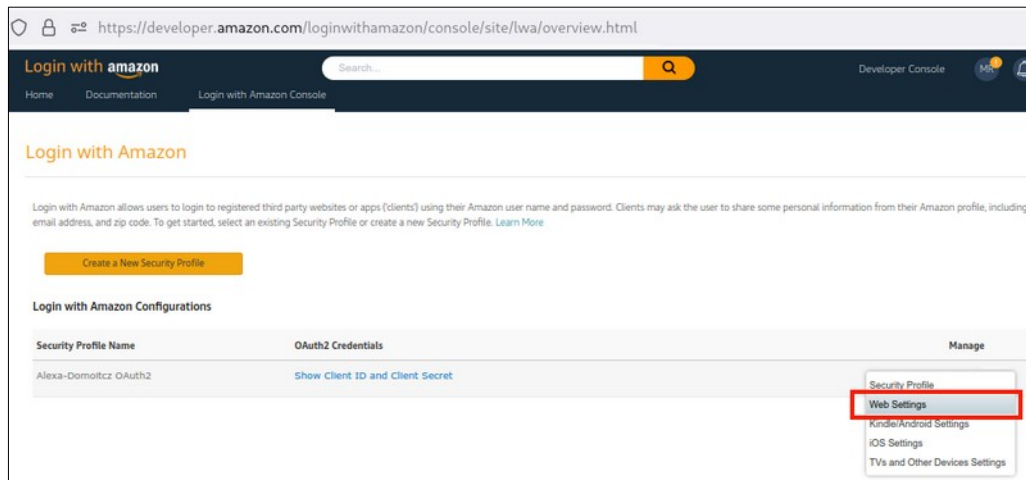
Do you allow users to create an account or link to an existing account with you? ☒

Settings

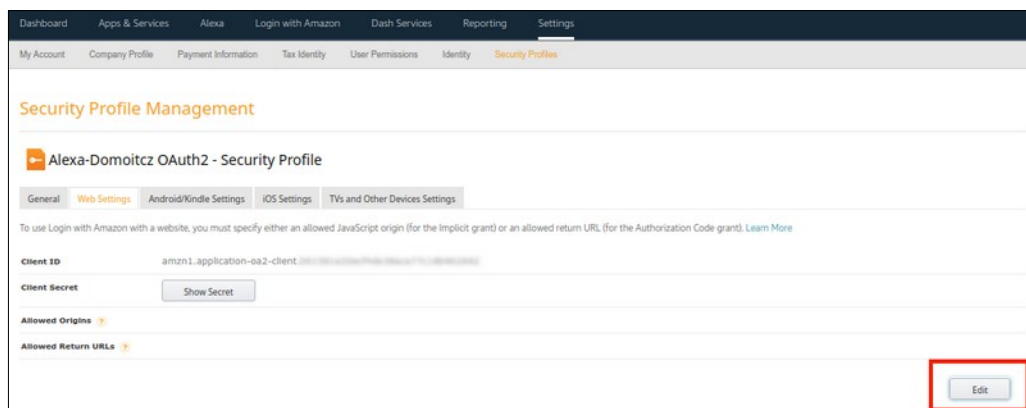
Save



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

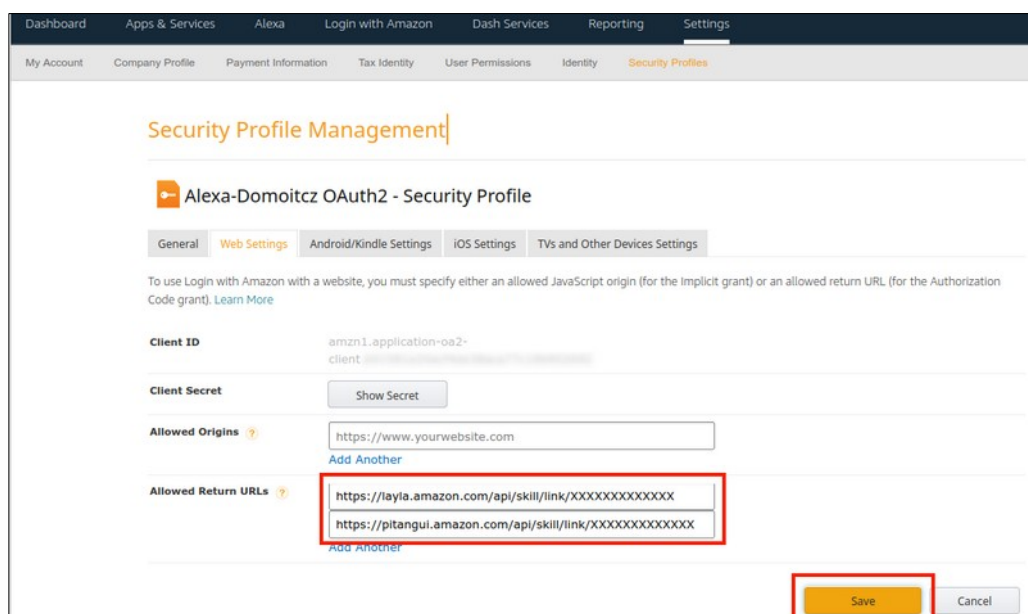


6.7. Click “Edit”



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 to 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`

Name: Store C1

Switch Type: Blinds

On Action: (Should start with http://, https:// or script://)

Off Action: (Should start with http://, https:// or script://)

Protected: ☐

Description: Alexa_Name:Store chambre

Save Delete

Device Name « Store C1 » will now therefore be ignored from Alexa and the new name is “Store chambre”



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"
      }
    }
  }
}
```

Configure test event

A function can have up to 10 test events. The events are persisted so you can switch to another and test your function with the same events.

☒ Create new test event
☐ Edit saved test events

Event template
Alexa Smart Home - Discovery ▼

Event name
Discovery

```
1- {
2-   "directive": {
3-     "header": {
4-       "namespace": "Alexa.Discovery",
5-       "name": "Discover",
6-       "payloadVersion": "3",
7-       "messageId": "abc-123-def-456"
8-     },
9-     "payload": {
10-      "scope": {
11-        "type": "BearerToken",
12-        "token": "access-token-from-skill"
13-      }
14-    }
15-  }
16- }
```



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

<pre>{ "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": { } } }</pre>	<p>Configure test event</p> <p>A function can have up to 10 test events. The events are persisted so you can switch to another and test your function with the same events.</p> <p><input checked="" type="radio"/> Create new test event <input type="radio"/> Edit saved test events</p> <p>Event template Alexa Smart Home - Control</p> <p>Event name GetTemp</p> <pre>1- { 2- "directive": { 3- "header": { 4- "messageId": "abc-123-def-456", 5- "correlationToken": "abcdef-123456", 6- "namespace": "Alexa", 7- "name": "ReportState", 8- "payloadVersion": "3" 9- }, 10- "endpoint": { 11- "endpointId": "appliance-001", 12- "cookie": {}, 13- "scope": { 14- "type": "BearerToken", 15- "token": "access-token-from-skill" 16- } 17- }, 18- "payload": {} 19- } 20- }</pre>
--	---

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

<pre>{ "directive": { "header": { "namespace": "Alexa.PowerController", "name": "TurnOn", "payloadVersion": "3", "messageId": "1bd5d003-31b9-476f-ad03-71d471922820", "correlationToken": "dFMb0z+PgpgdDmluhJ1LddFvSqZ/jCc8ptlAKulUj90jSg==" }, "endpoint": { "scope": { "type": "BearerToken", "token": "access-token-from-skill" }, "endpointId": "appliance-001", "cookie": {} }, "payload": {} } }</pre>	<p>Configure test event</p> <p>A function can have up to 10 test events. The events are persisted so you can switch to another computer and test your function with the same events.</p> <p><input checked="" type="radio"/> Create new test event <input type="radio"/> Edit saved test events</p> <p>Event template Alexa Smart Home - Discovery</p> <p>Event name TurnOnSalon</p> <pre>1- { 2- "directive": { 3- "header": { 4- "namespace": "Alexa.PowerController", 5- "name": "TurnOn", 6- "payloadVersion": "3", 7- "messageId": "1bd5d003-31b9-476f-ad03-71d471922820", 8- "correlationToken": "dFMb0z+PgpgdDmluhJ1LddFvSqZ/jCc8ptlAKulUj90jSg==" 9- }, 10- "endpoint": { 11- "scope": { 12- "type": "BearerToken", 13- "token": "access-token-from-skill" 14- }, 15- "endpointId": "appliance-001", 16- "cookie": {} 17- }, 18- "payload": {} 19- } 20- }</pre>
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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`