



### 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	First release



## 1. Prerequisites

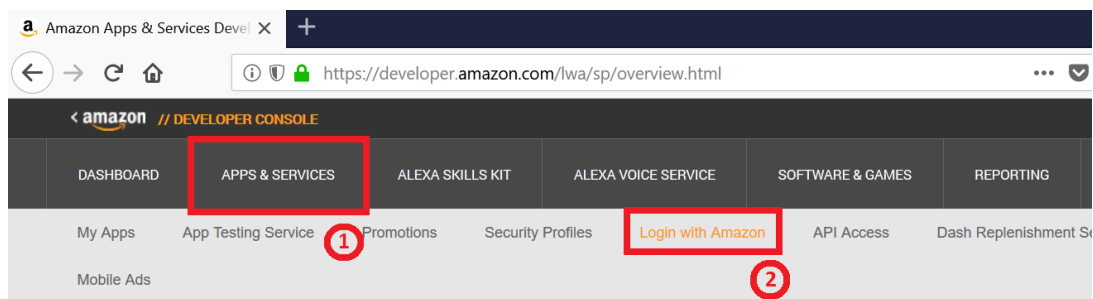
- Register Account: <https://developer.amazon.com>
- Register Account: <https://console.aws.amazon.com>
- External connect from the internet to domoticz (port forwarding, dns name)

## 2. Create oauth2 authorization provider

Alexa smart home skill requires an OAuth2 authorization.

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

2.2. Click « APPS & SERVICES » (1) → « Login with Amazon » (2) → « Create a New Security Profile » (3)



### Login with Amazon

Login with Amazon allows users to login to registered third party websites or apps ('clients') using their Amazon user name and password. Information from their Amazon profile, including name, email address, and zip code. To get started, select an existing Security Profile or create a new one.



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

### Security Profile Management

[Login with Amazon](#)  
[GameCircle](#)  
[Device Messaging](#)

#### Alexa Domoticz OAuth2 - Security Profile

General Web Settings Android/Kindle Settings iOS Settings

These settings apply to all the apps using this security profile. Your security profile credentials — Client ID and Client Secret — allow your app to securely identify itself to Amazon services. [Learn More](#)



2.4. 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 Domoticz OAuth2	<a href="#">Show Client ID and Client Secret</a>

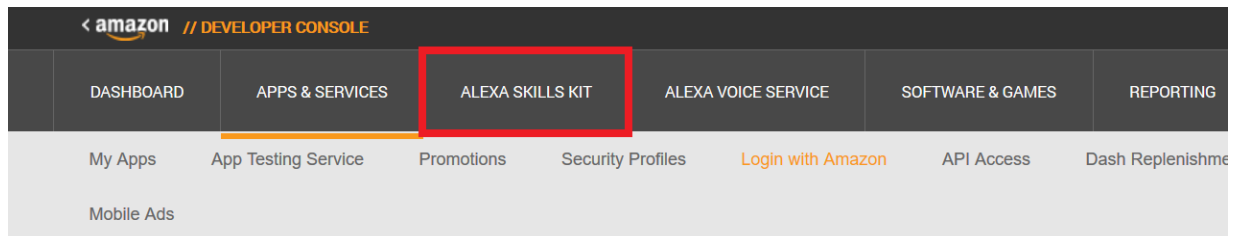
⇒ **Client ID** : amzn1.application-oa2-client.xxxxxxxxxxxxxxxxxxxxxx

⇒ **Client Secret** : xx

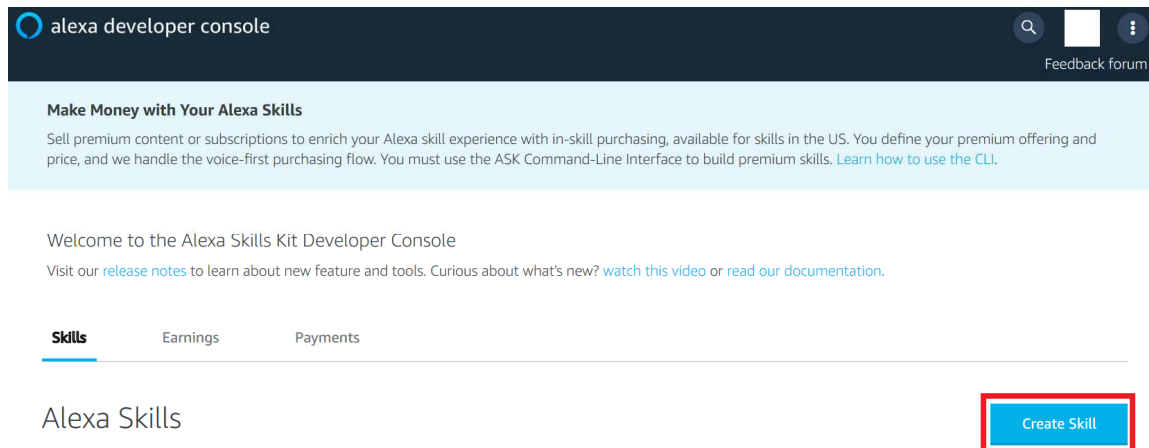
2.5. Do not close this page, one last step is needed at the end

## 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 »

Create a new skill

Skill name

Alexicz

7/50 characters

Default language

French (FR)

More languages can be added to your skill after creation

1

Cancel

Create skill

3

Choose a model to add to your skill

There are many ways to start building a skill. You can design your own custom model or start with a pre-built model. Pre-built models are interaction models that contain a package of intents and utterances that you can add to your skill.

Custom

Design a unique experience for your users. A custom model enables you to create all of your skill's

Flash Briefing

Give users control of their news feed. This pre-built model lets users control what updates they listen to.

Smart Home

Give users control of their smart home devices. This pre-built model lets users turn off the lights and

SELECTED

2

3.4. Copy your amazon skill ID to NOTEPAD

alex developer console

< Your Skills Alexicz Build Test Distribution Certification Analytics

French (FR)

Configure your Endpoint, Setup Account Linking and Start Testing

SMART HOME

ACCOUNT LINKING

PERMISSIONS

Smart Home

1. Payload version \* ⑦

☒ v3 (preferred)

☐ v2 (legacy-deprecated; please select v3)

2. Smart Home service endpoint

AWS Lambda ARN ⑦

Your Skill ID

amzn1.ask.skill.

Copy to clipboard

⇒ Skill ID : amzn1.ask.skill.xxxxxxxxxxxxxxxxxxxxxxx

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

Domoticz Alexa Smart Home skill

4 commits   1 branch   0 releases   1 contributor

Branch: master   New pull request   Find file   Clone or download

rimram31 Update README.md

File	Commit
AlexaSmartHome.py	Firt commit
DomoticzHandler.py	Get description bug
README.md	Update README.md
build_lambda	Simple change zip command
configdz-template.json	Firt commit
lambda.py	Firt commit

Clone with HTTPS  
Use Git or checkout with SVN using the web URL.  
[https://github.com/rimram31/dz\\_smarthome](https://github.com/rimram31/dz_smarthome)  
Open in Desktop   Download ZIP

4.2. Extract the zip file into a directory

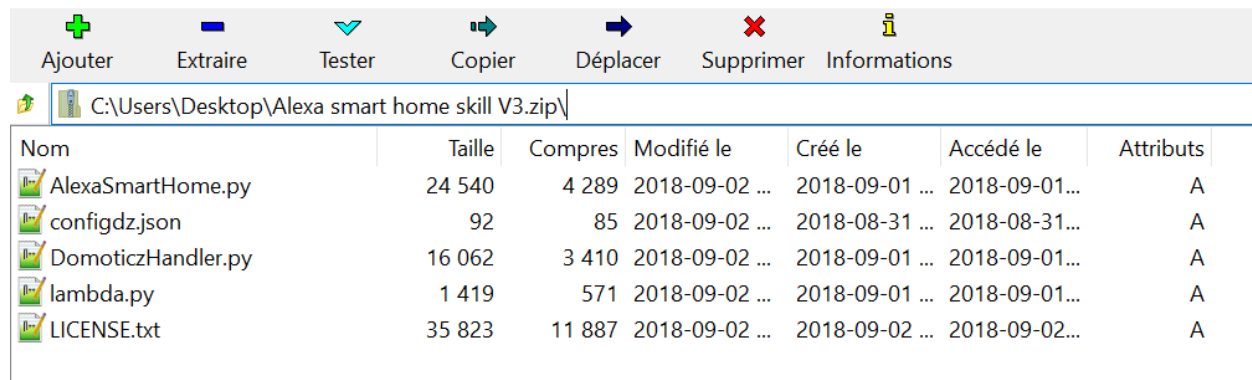
Alexa smart home skill V3					Recherche
	Nom	Modifié le	Type	Taille	
	AlexaSmartHome	02/09/2018 10:31	Fichier PY	24 Ko	
	build_lambda	02/09/2018 10:31	Fichier	1 Ko	
	configdz-template	02/09/2018 10:31	Fichier JSON	1 Ko	
	DomoticzHandler	02/09/2018 10:31	Fichier PY	16 Ko	
	lambda	02/09/2018 10:31	Fichier PY	2 Ko	
	LICENSE	02/09/2018 10:38	Fichier TXT	35 Ko	
	README.md	02/09/2018 10:31	Fichier MD	2 Ko	
	Skill Domoticz	31/08/2018 17:12	Foxit Reader PDF Do...	1 215 Ko	

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

```
configdz.json
1 {
2   "url": "https://my_external_IP_for_domoticz:my_external_port/",
3   "username": "login_for_Domoticz",
4   "password": "password_for_Domoticz",
5   "debug": false
6 }
7
```



4.4. Create the function package / Create the ZIP file (you can exclude the « build\_lambda » and « README.md » files but **you should not have any folder in your ZIP file**)

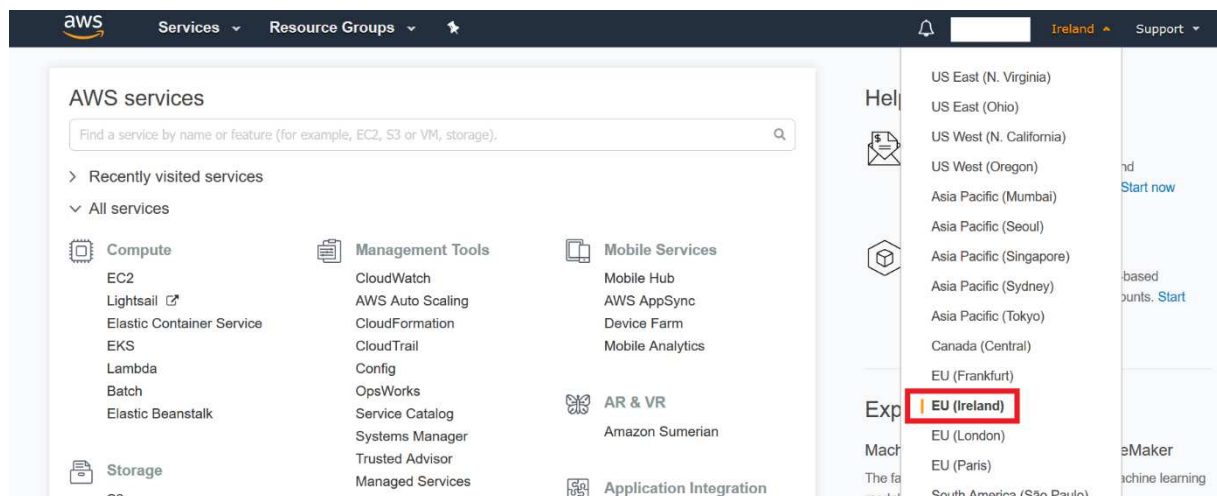


## 5. Create the LAMBDA function

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

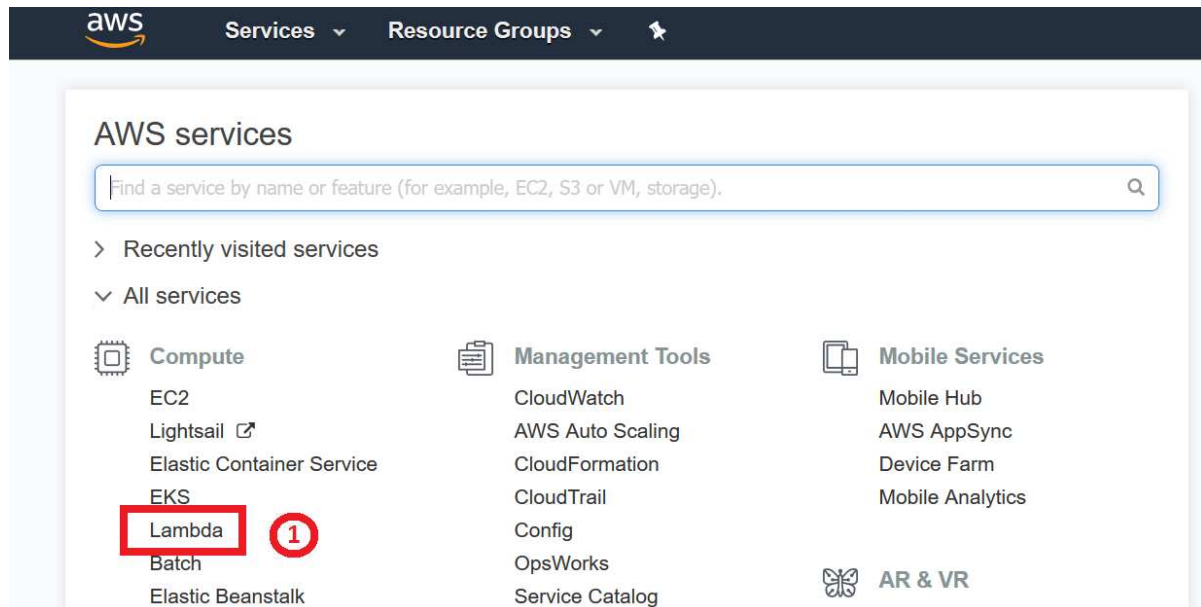
5.2. On the upper right corner, choose your location according the following tab :

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)



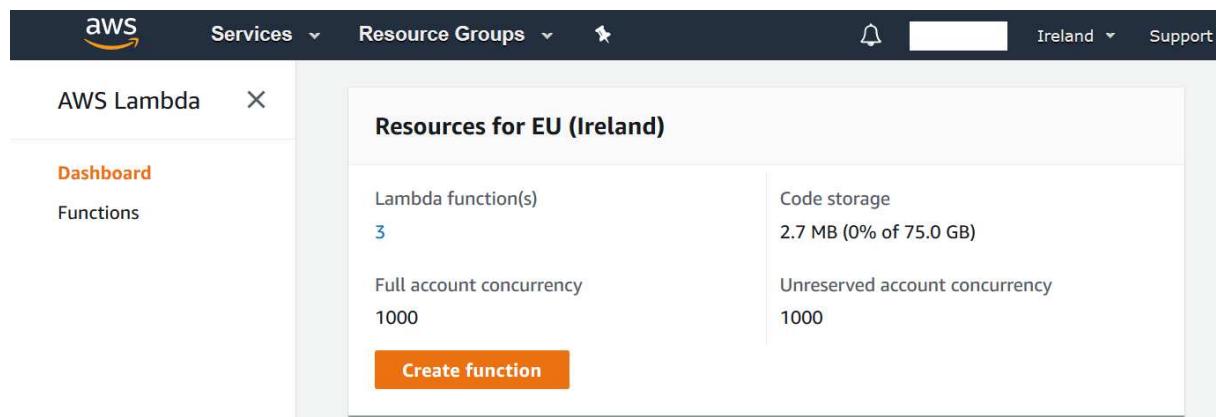


5.3. Under « AWS services / All services / Compute » (or type Lambda in the search bar to find the service by name), click « Lambda » (1)



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 3.6 » (3) → Select the « Create a custom role » as role option (4)

*Note : the « Create a custom role » option should open a new tab or window as described in the next section.*

5.6. Create a new IAM Role and set a name « lambda\_basic\_execution » (1) and then click « Allow » (2)

### AWS Lambda requires access to your resources

AWS Lambda uses an IAM role that grants your custom code permissions to access AWS resources it needs.

▼ Hide Details

### Role Summary ?

Role Lambda execution role permissions

#### Description

IAM Role Create a new IAM Role

Role Name lambda\_basic\_execution

► View Policy Document

Cancel

2

Allow





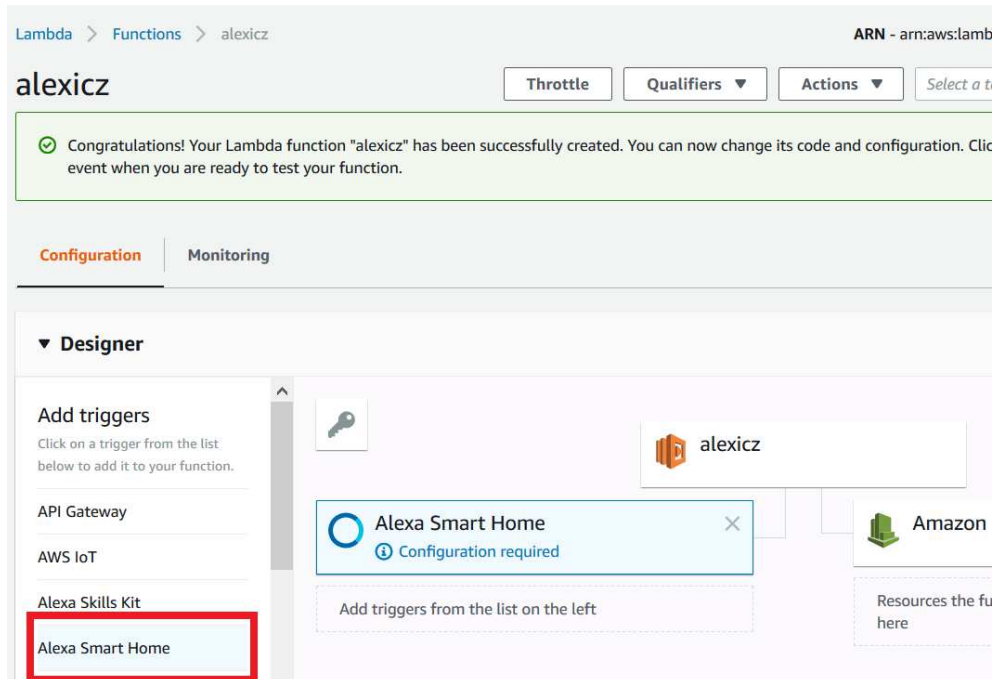
5.7. On the previous page (§ 5.5), select the role « Choose an existing role » (1) → Choose the role « lambda\_basic\_execution » (2) → Click « Create function » (3)

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

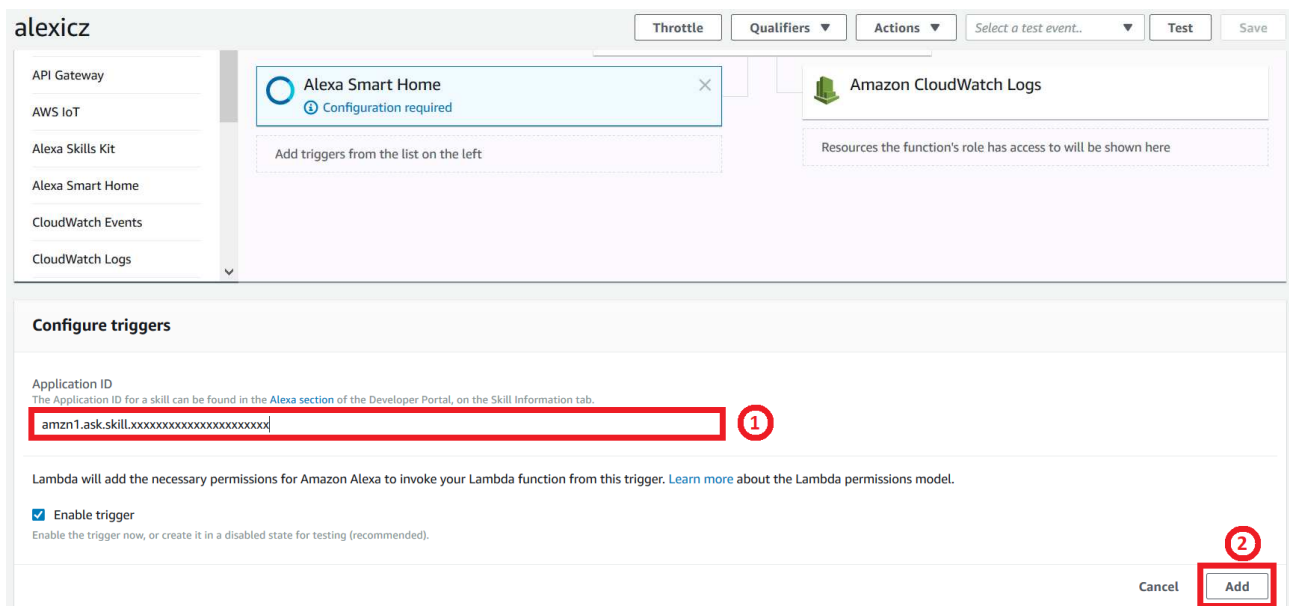
⇒ **ARN** : `arn:aws:lambda:eu-west-1:xxxxxxx:function:alexicz`



5.9. Add a Smart Home trigger to your function : Click « Alexa Smart Home » under the « Add triggers » section



5.10. Scroll down the page and configure with your SKILL ID (the one you get on § 3.4) (1) and click « Add » (2)





- 5.11. Click on « alexicz » to configure the function (1) → Change the handler information to « lambda.event\_handler » (2) → Select the « Upload a ZIP file » option (3) → Click to upload your function (4) and select the package you created previously (§4)

alexicz

Throttle Qualifiers Actions Select a test event.. Test Save

**Add triggers**  
Click on a trigger from the list below to add it to your function.

API Gateway  
AWS IoT  
Alexa Skills Kit  
Alexa Smart Home  
CloudWatch Events  
CloudWatch Logs

**Function code** info

Code entry type: Upload a .ZIP file (3)

Runtime: Python 3.6

Handler: lambda.event\_handler (2)

Function package\*: Upload (4) | Alexa smart home skill V3.zip (20.5 kB)

For files larger than 10 MB, consider uploading via S3.

- 5.12. Scroll down the page and set the description

alexicz

Throttle Qualifiers Actions Select a test event.. Test Save

► Encryption configuration

**Tags**

You can use tags to group and filter your functions. A tag consists of a case-sensitive key-value pair. [Learn more.](#)

Key Value Remove

**Execution role**

Defines the permissions of your function. Note that new roles may not be available for a few minutes after creation. [Learn more](#) about Lambda execution roles.

Choose an existing role

Existing role  
You may use an existing role with this function. Note that the role must be assumable by Lambda and must have Cloudwatch Logs permissions.

lambda\_basic\_execution

**Basic settings**

Description: Alexa smart home skill LAMBDA function for Domoticz

Memory (MB) Info  
Your function is allocated CPU proportional to the memory configured.

128 MB

Timeout Info

- 5.13. Save the function

Lambda > Functions > alexicz

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

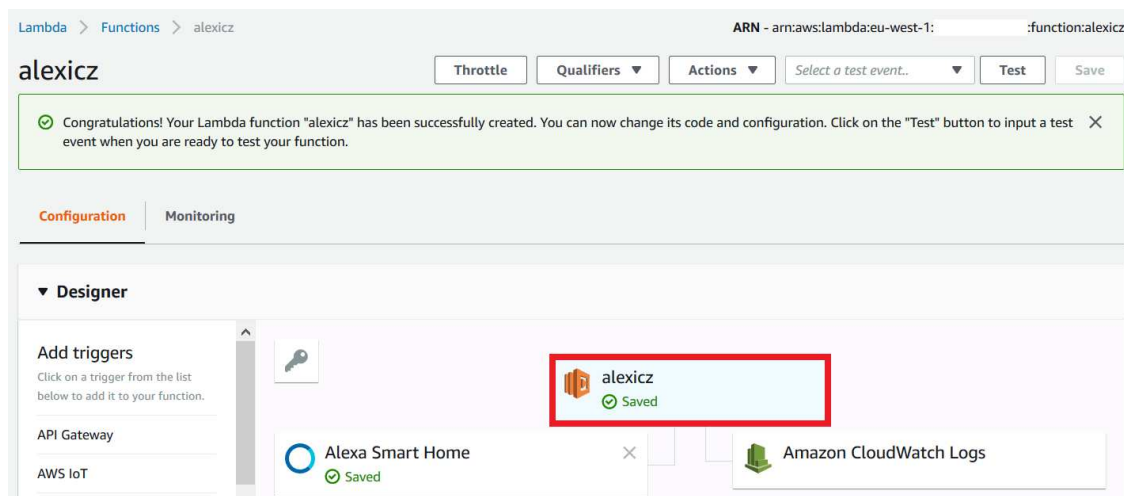
alexicz

Throttle Qualifiers Actions Select a test event.. Test Save

✓ Congratulations! Your Lambda function "alexicz" has been successfully created. You can now change its code and configuration. Click on the "Test" button to input a test event when you are ready to test your function. ✕



5.14. 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)

Smart Home

1. Payload version\* <sup>?</sup> ☒ v3 (preferred) ☐ v2 (legacy-deprecated; please select v3)

2. Smart Home service endpoint

AWS Lambda ARN <sup>?</sup> Your Skill ID amzn1.ask.skill. <sup>?</sup> [Copy to clipboard](#)

Default endpoint\* <sup>?</sup>  <sup>1</sup>

Pick a geographical region that is closest to your target customers and setup geographic specific endpoints:

☐ North America <sup>?</sup>  <sup>2</sup>

☒ Europe, India <sup>?</sup>  <sup>2</sup>

[SAVE](#) <sup>3</sup>

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

French (FR) <sup>?</sup>

Configure your Endpoint , Setup Account Linking and Start Testing <sup>?</sup> [TEST YOUR SKILL](#)

SMART HOME

ACCOUNT LINKING

PERMISSIONS

Smart Home

1. Payload version\* <sup>?</sup> ☒ v3 (preferred) ☐ v2 (legacy-deprecated; please select v3)

[SAVE](#)



### 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](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://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.xxxxxxxxxxxxxxxxxxxxxxxxxx
  - 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 »

### Account Linking

Do you allow users to create an account or link to an existing account with you?  
[Learn more](#)



7

### Security Provider Information

Select an authorization grant type\*

☒ Auth Code Grant

Authorization URI\*

1

Access Token URI\*

2

Client ID\*

3

Client Secret\*

4

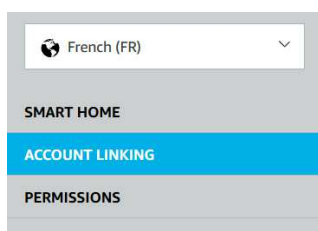
Client Authentication Scheme\*

5

Scope\*

6

### 6.5. Your skill has been saved



### Account Linking



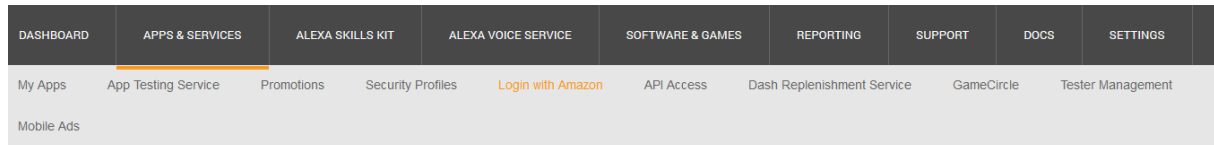
Do you allow users to create an account or link to an existing account with you?



[Learn more](#)



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



### Login with Amazon

Login with Amazon allows users to login to registered third party websites or apps ("clients") using their Amazon user name and password. Clients may ask the user to share some personal information from their Amazon profile, including name, email address, and zip code. To get started, select an existing Security Profile or create a new Security Profile. [Learn More](#)

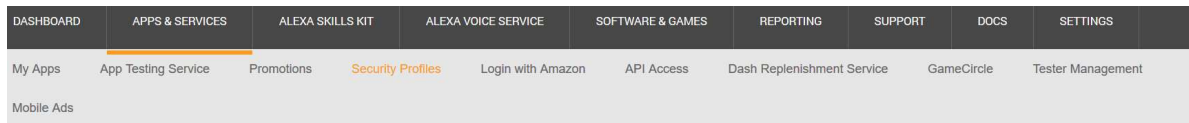
Create a New Security Profile

#### Login with Amazon Configurations

Security Profile Name	OAuth2 Credentials	Manage
Alexa Domoticz OAuth2	<a href="#">Show Client ID and Client Secret</a>	<div><div>Security Profile</div><div>Web Settings</div><div>Kindle/Android Settings</div><div>iOS Settings</div></div>

## 6.7. 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)*



### Security Profile Management

[More Information](#)  
[Login with Amazon](#)  
[GameCircle](#)  
[Device Messaging](#)

#### Alexa Domoticz OAuth2 - Security Profile

General Web Settings Android/Kindle Settings iOS Settings

To use Login with Amazon with a website, you must specify either an allowed JavaScript origin (for the Implicit grant) or an allowed return URL (for the Authorization Code grant). [Learn More](#)

Allowed Origins ?	<input type="text" value="https://www.yourwebsite.com"/> <a href="#">Add Another</a>
Allowed Return URLs ?	<div><input type="text" value="https://layla.amazon.com/api/skill/link/xxxxxxxxxxxx"/> <input type="text" value="https://pitanguia.amazon.com/api/skill/link/xxxxxxxxxxxx"/> <a href="#">Add Another</a></div>

Cancel

Save

**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

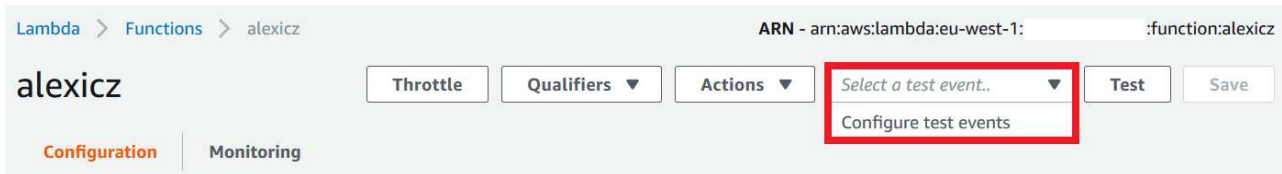
Device Name « Store C1 » will now therefore be ignored from Alexa and the new name is “Store chambre”.



## 9. Tests

### 9.1. Testing via Lambda

Once logged on <https://console.aws.amazon.com>, select your LAMBDA function and « Configure test events » 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>	<div><b>Configure test event</b></div> <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>	<div><b>Configure test event</b></div> <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>
--	---

## 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](https://www.domoticz.com/wiki/Domoticz_API/JSON_URL%27s)

## 11. Working features

Interface	Directive	Supported languages
Alexa	<a href="#">ReportState</a>	EN, FR, GE, IT, JP, ES
Alexa.TemperatureSensor	<a href="#">ReportState</a>	EN, FR, GE, IT, JP, ES
Alexa.PowerController	<a href="#">TurnOn / TurnOff</a>	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	<a href="#">SetTargetTemperature / AdjustTargetTemperature / SetThermostatMode / ResumeSchedule</a>	EN, FR, GE, IT, ES
Alexa.PercentageController	<a href="#">SetPercentage / AdjustPercentage</a>	EN, FR, GE, IT, JP, ES
Alexa.BrightnessController	<a href="#">AdjustBrightness / SetBrightness</a>	EN, FR, GE, IT, JP, ES
Alexa.ColorController	<a href="#">SetColor</a>	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

\* *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`