Amazon Alexa Smart Home Skill

Amazon Alexa provides a Smart Home API for richer home automation control without requiring the user to say the skill name, such as:

- *“Alexa, turn off the light.”*
- *“Alexa, set the thermostat to cool.”*
- *“Alexa, is the garage door open?”*

It takes considerable effort to configure. Your Home Assistant instance must be accessible from the Internet, and you need to create an Amazon Developer account and an Amazon Web Services (AWS) account. An easier solution is to use Home Assistant Cloud.

The Emulated Hue integration provides a simpler alternative to use utterances such as *“Alexa, turn on the kitchen light”*. However, it has some limitations since everything looks like a light bulb.

With Home Assistant Cloud, you can connect your Home Assistant instance in a few simple clicks to Amazon Alexa. With Home Assistant Cloud you don’t have to deal with dynamic DNS, SSL certificates or opening ports on your router. Just log in via the user interface and a secure connection with the cloud will be established. Home Assistant Cloud requires a paid subscription after a 30-day free trial.

For Home Assistant Cloud Users, documentation can be found here.

Steps to Integrate an Amazon Alexa Smart Home Skill with Home Assistant:

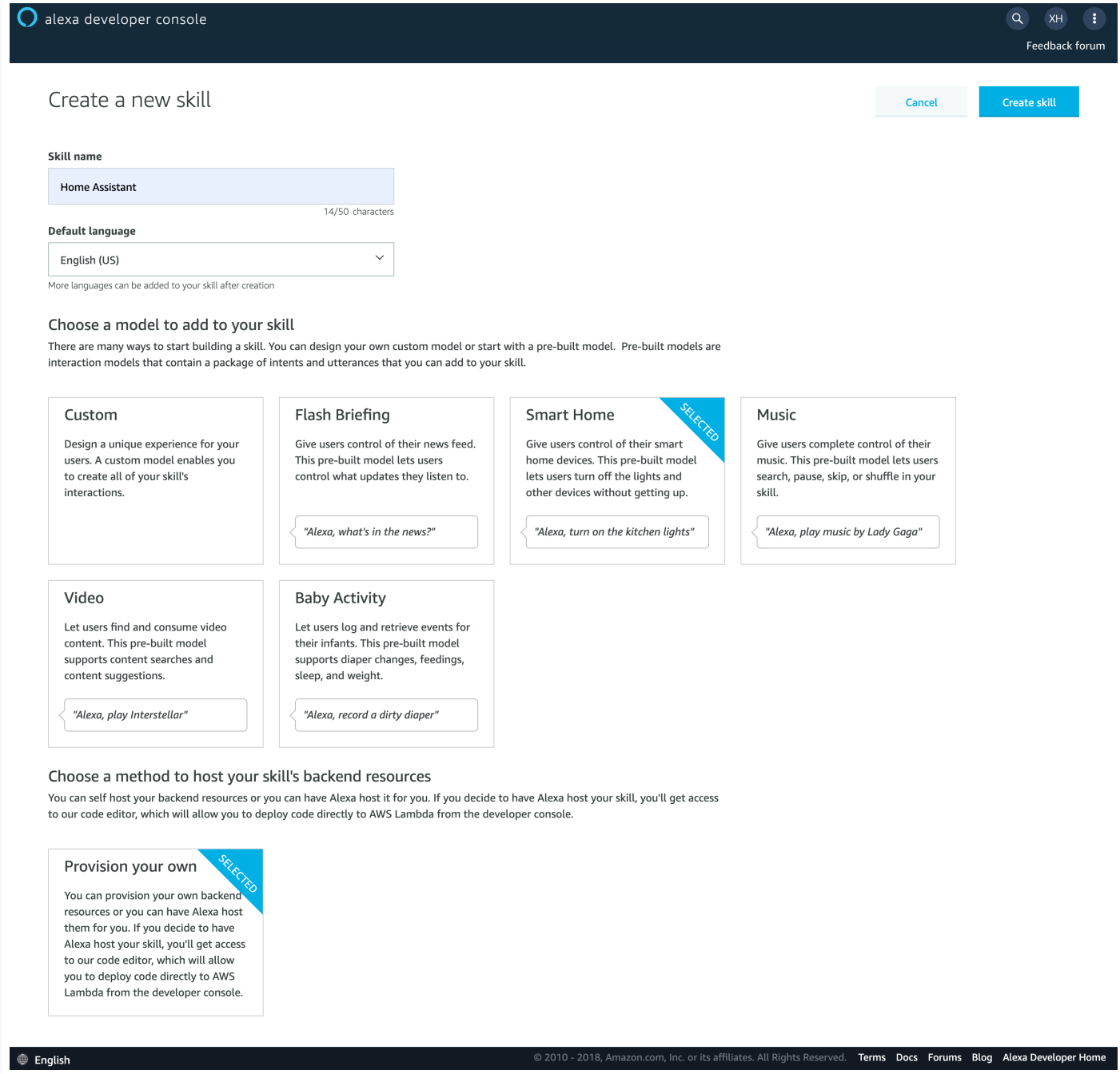
    - Scene
    - Script
    - Sensor
    - Switch, Input Boolean
        - Routines
    - Timer
    - Vacuum
- Alexa Web-Based App
- Troubleshooting
- Debugging

Requirements

- The Alexa Smart Home API requires your Home Assistant instance to be accessible from the internet via HTTPS on port 443 using an SSL/TLS certificate. A self-signed certificate will work, but a certificate signed by an Amazon approved certificate authority is recommended. Read more on our blog about how to set up encryption for Home Assistant. When running Home Assistant, using the Duck DNS add-on is the easiest method.
- An Amazon Developer Account. Sign up here.
- An Amazon Web Services (AWS) account is required to host the Lambda function for your Alexa Smart Home Skill. AWS Lambda is free to use for up to 1-million requests and 1GB outbound data transfer per month.

Create an Amazon Alexa Smart Home Skill

- Sign into the Alexa Developer Console, you can create your free account on the sign-in page. Note this *must* be created with the same Amazon account you use on your Alexa devices and app.
- Go to `Alexa Skills` page if you are not, then click the `Create Skill` button to start the process.
- Input `Skill name` as you like, then select your skill's `Default language`.
- Select `Smart Home` and `Provision your own`, then click `Create skill` button at top right corner.



- In next screen, make sure *v3* is selected in `Payload version` and take note of your `Skill ID`
- Now, you have created a skeleton of Smart Home skill. In the next step we will do some “real” developer work. Keep Alexa Developer Console open, we will need to change the skill configuration later.

Create an AWS Lambda Function

We will write a small piece of code hosted as an AWS Lambda function that will redirect requests from the Alexa Smart Home skill to your Home Assistant instance, then the Alexa integration in Home Assistant will process the request and send back the response. The Lambda function will then deliver the response back to the Alexa Smart Home skill.

There already are some great alternative tutorials and solutions to ours in our community to achieve the same goal of creating your Alexa Smart Home Skill and its connection to Home Assistant, for example: haaska.

Amazon also has provided a step-by-step guide to create a Smart Home Skill, however you have to adapt its sample code to match the Home Assistant API.

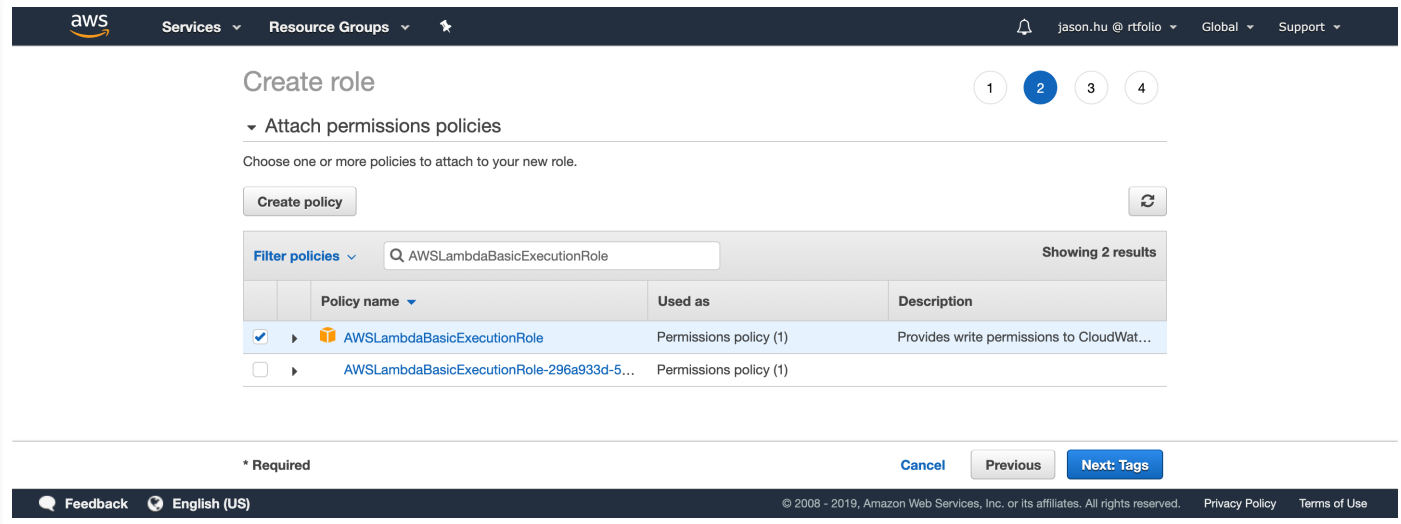
You can follow this document or others, but you cannot mix and match different solutions since they may have different designs.

OK, let's go. You first need to sign in to your AWS console, if you don't have an AWS account yet, you can create a new user here with 12-month free tier benefit. You don't need to worry about the cost if your account has already passed the first 12 months, as AWS provides up to 1 million Lambda requests, 1GB of outbound data and all inbound data for free, every month, for all users. See Lambda pricing for more details.

CREATE AN IAM ROLE FOR LAMBDA

The first thing you need to do after signing into the AWS console is to create an IAM Role for Lambda execution. AWS has very strict access control, so you have to specifically define and assign the required permissions.

- Click `Services` in the top navigation bar, expand the menu to display all AWS services, then under the `Security, Identity, & Compliance` section click `IAM` to navigate to the IAM console. Or you may use this link
- Click `Roles` in the left panel, then click `Create role`, select `AWS Service` -> `Lambda` in the first page of the wizard, then click `Next: Permissions`
- Select `AWSLambdaBasicExecutionRole` policy, then click `Next: Tags`. (Tips: you can use the search box to filter the policy)



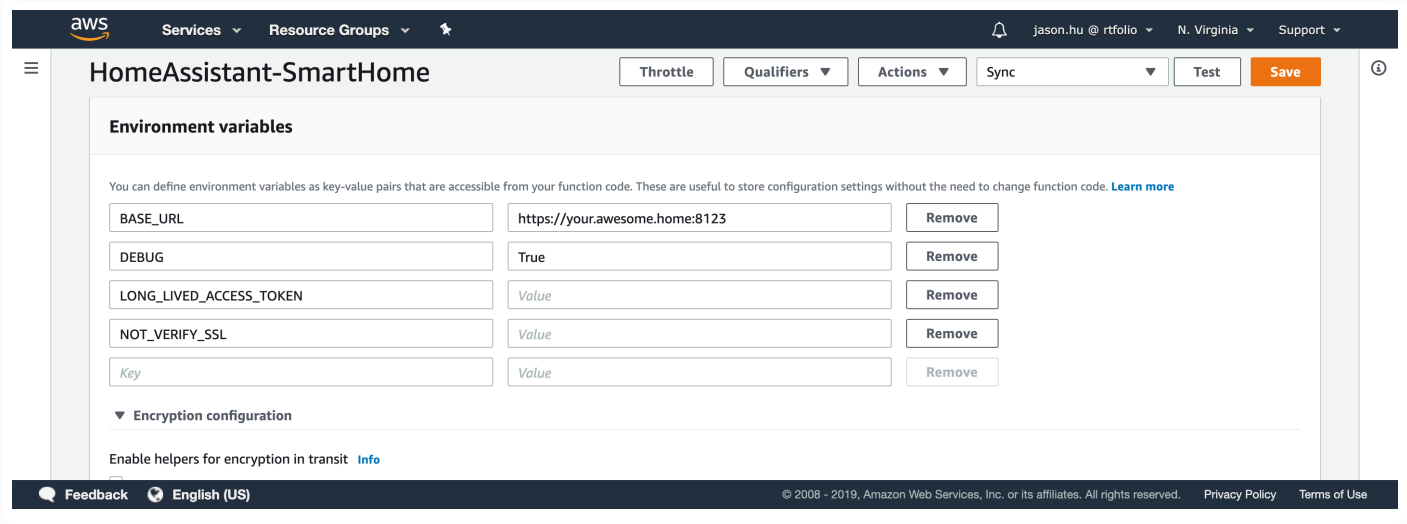
- Give your new role a name, such as `AWSLambdaBasicExecutionRole-SmartHome`, then click the `Create role` button at the bottom of the page. You should be able to find your new role in the roles list now.

ADD CODE TO THE LAMBDA FUNCTION

Next you need create a Lambda function.

- Click `Services` in top navigation bar, expand the menu to display all AWS services, then under `Compute` section click `Lambda` to navigate to Lambda console. Or you may use this link
- **IMPORTANT - Alexa Skills are only supported in certain AWS regions** Your current server location will be displayed on the top right corner (for example, Ohio), make sure you select the server closest to your location / region based on your Amazon account's country, whilst also ensuring that it is within one of the supported regions for Alexa Skills otherwise this will not work!
    - **US East (N.Virginia)** region for English (US) or English (CA) skills
    - **EU (Ireland)** region for English (UK), English (IN), German (DE), Spanish (ES) or French (FR) skills
    - **US West (Oregon)** region for Japanese and English (AU) skills.
- Click `Functions` in the left navigation bar, to display the list of your Lambda functions.
- Click `Create function`, select `Author from scratch`, then input a `Function name`.
- Select *Python 3.9*, *Python 3.8* or *Python 3.7* as `Runtime`.
- Expand the `Change default execution role` dropdown and make sure to select *Use an existing role* as `Execution role`, then select the role you just created from `Existing role` list.
- Click `Create function`, then you can configure the details of Lambda function.
- Expand the `Function overview` (if it isn't already expanded), then click `+ Add trigger` in the left part of the panel, then click `Alexa Smart Home` from the drop down list to add an Alexa Smart Home trigger to your Lambda function.
- You will then be prompted to input the `Skill ID` from the skill you created in previous step. (Tip: you may need switch back to Alexa Developer Console to copy the `Skill ID`.) Then click `Add`.
- Scroll down to `Code source`, then, if it isn't already open the `lambda_function.py`.
- Clear the example code, and copy the Python script from: https://gist.github.com/matt2005/744b5ef548cc13d88d0569eea65f5e5b (modified code to support Alexa's proactive mode, see details below)
- Click the `Deploy` button to publish updated code.
- Navigate to the `Configuration` tab, then select `Environment variables`. You need to add 1 environment variable and, if needed, 3 optional variables. This is done by selecting `Edit` then adding the following:
    - *(required)* Key = BASE_URL, Value = your Home Assistant instance's Internet accessible URL. *Do not include the trailing* `/`.
    - *(optional)* Key = NOT_VERIFY_SSL, Value = *True*. You can set this to *True* to ignore SSL issues, for example if you don't have a valid SSL certificate or you are using a self-signed certificate.

- *(optional)* Key = DEBUG, Value = *True*. Set this variable to log the debug message and to allow the LONG_LIVED_ACCESS_TOKEN
- *(optional, not recommend)* Key = LONG_LIVED_ACCESS_TOKEN, Value = your Home Assistant Long-Lived Access Token. To avoid the use of a long-lived access token you will connect your Alexa Smart Home skill with your Home Assistant user account in the later steps, meaning you don't need to add it here. However, the access token you got from login flow is only valid for 30 minutes. It will be hard for you to test lambda function with the access token in test data. So for your convenience, you can remove the access token from the test data, generate a long-lived access token put here, then the function will fall back to read token from environment variables. (tips: You did not enable the security storage for your environment variables, so your token saved here is not that safe. You should only use it for debugging and testing purpose. You should remove and delete the long-lived access token after you finish the debugging.)



- Now click the `Save` button in the bottom right hand corner.
- Next you need to copy the ARN displayed in the top of the page, which is the identity of this Lambda function. You will need this ARN to continue Alexa Smart Home skill configuration later.

TEST THE LAMBDA FUNCTION

Now, you have created the Lambda function, but before you can test it, you have to set up the necessary aspects of your Home Assistant configuration. Put the following minimal configuration into your `configuration.yaml` file. It will expose all of your supported devices and automations to Alexa. It is strongly recommended to check the configuration section and setup control of which devices and entities are exposed.

```
alexa:
  smart_home:
```

After your Home Assistant has restarted, go back to the `AWS Lambda Console`, you are going to do some tests.

- Navigate to the `Test` tab, then select `Create new event`
- Name your event, for example `Discovery`
- Enter the following data into the code box named `Event JSON`:

```
{
  "directive": {
    "header": {
      "namespace": "Alexa.Discovery",
      "name": "Discover",
      "payloadVersion": "3",
      "messageId": "1bd5d003-31b9-476f-ad03-71d471922820"
    },
    "payload": {
      "scope": {
        "type": "BearerToken"
      }
    }
  }
}
```

- Click `Create` in the top right hand corner.

This test event is a `Discovery` directive, your Home Assistant instance will respond with a list of devices Alexa can interact with. Since this test data is lacking a `token` in `payload.scope`, and your Lambda function will read the `LONG_LIVED_ACCESS_TOKEN` from environment variable.

Click the `Test` button. If you don't have `LONG_LIVED_ACCESS_TOKEN` set, or you haven't enabled `DEBUG` you will get a `INVALID_AUTHORIZATION_CREDENTIAL` response as the execution result.

You can login to your Home Assistant and generate a long-lived access token. After you have entered your long-lived access token into the environment variable `LONG_LIVED_ACCESS_TOKEN` and set the `DEBUG` environment variable to `True`, do not forget to click the `Save` button before you `Test` again.

This time, you will get a list of your devices in the response. 🎉

Configure the Smart Home Service Endpoint

Now remove the long-lived access token (if you want), copy the ARN of your Lambda function, then navigate back to the Alexa Developer Console. You will finish the configuration of the Smart Home skill.

- Return to the Alexa Developer Console, and go to `Alexa Skills` page if you are not.
- Find the skill you just created, click `Edit` link in the `Actions` column.

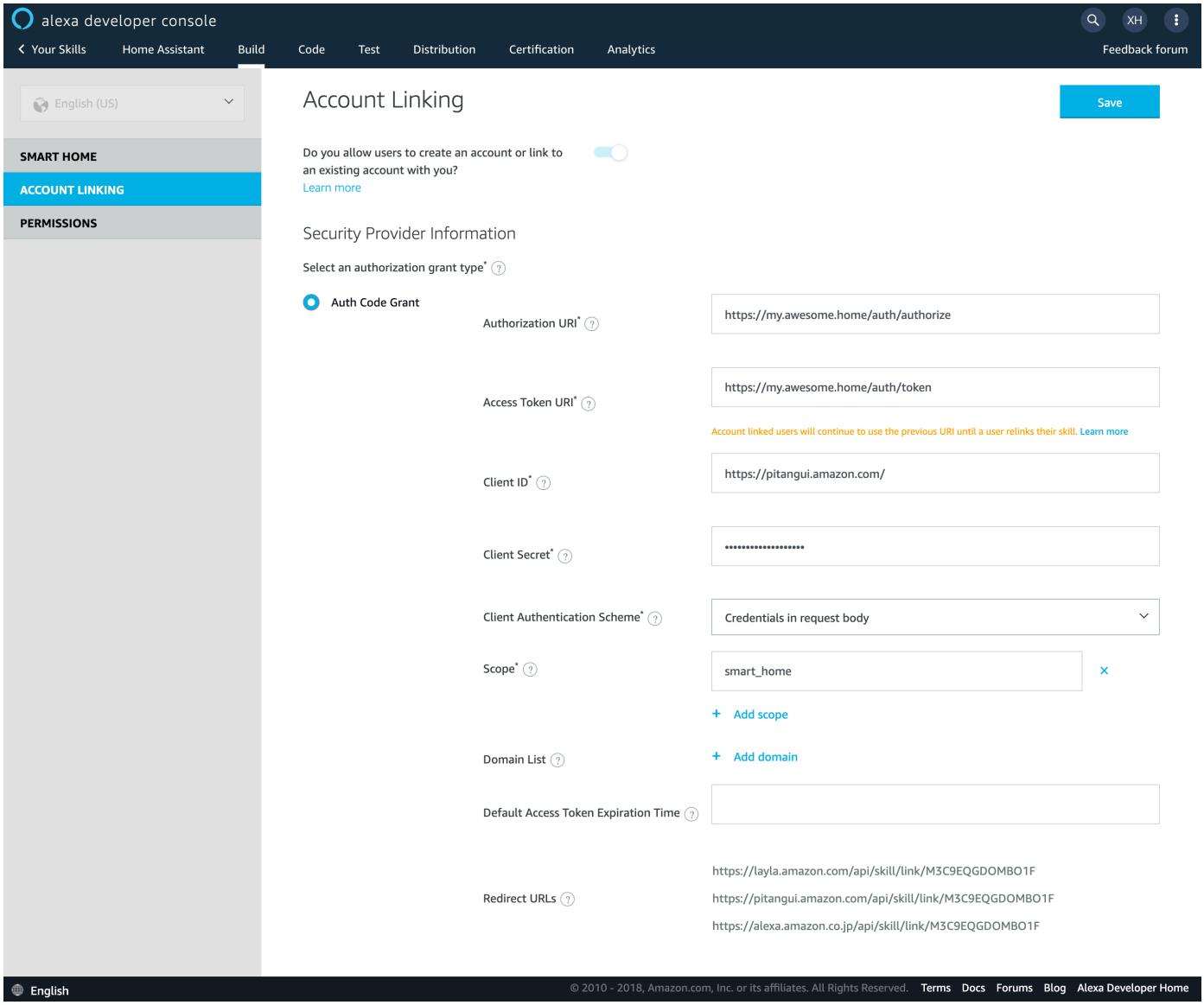
- Click `SMART HOME` in the left navigation bar of build page.
- Fill in `Default endpoint` under `2. Smart Home service endpoint` using the `ARN` you copied from your Lambda function configuration.

Account Linking

Alexa needs to link your Amazon account to your Home Assistant account. Therefore Home Assistant can make sure only authenticated Alexa requests are able to access your home's devices. In order to link the account, you have to make sure your Home Assistant can be accessed from Internet at port 443.

- Return to the Alexa Developer Console, go to `Alexa Skills` page if you are not.
- Find the skill you just created, click `Edit` link in the `Actions` column.
- Click `ACCOUNT LINKING` in the left navigation bar of build page
- Do not turn on the "Allow users to link their account to your skill from within your application or website" switch. This will require a Redirect URI, which won't work.
- Input all information required. Assuming your Home Assistant can be accessed by `https://[YOUR HOME ASSISTANT URL]`
  - `Authorization URI`: `https://[YOUR HOME ASSISTANT URL]/auth/authorize`
  - `Access Token URI`: `https://[YOUR HOME ASSISTANT URL]/auth/token`
    - Note: you must use a valid/trusted SSL Certificate for account linking to work
  - `Client ID`:
    - `https://pitangui.amazon.com/` if you are in US
    - `https://layla.amazon.com/` if you are in EU
    - `https://alexa.amazon.co.jp/` if you are in JP and AU (not verified yet)

    The trailing slash is important here.
  - `Client Secret`: input anything you like, Home Assistant does not check this field
  - `Your Authentication Scheme`: make sure you selected *Credentials in request body*. Home Assistant does not support *HTTP Basic*.
  - `Scope`: Click `+ Add scope` and input `smart_home`, Home Assistant is not using it yet, we may use it in the future when we allow more fine-grained access control.
- You can leave `Domain List` and `Default Access Token Expiration Time` as empty.



- Click `Save` button in the top right corner.
- Next, you will use the Alexa Mobile App or the Alexa web-based app to link your account.
    - In the Alexa app, navigate to `More` -> `Skills & Games` -> `Your Skills` -> `Dev`
    - Or In the Alexa web app, navigate to `Skills` -> `Your Skills` in the top right -> `Dev Skill`
    - Click the Smart Home skill you just created.
    - Click `Enable to use`.
    - A new window will open to direct you to your Home Assistant's login screen.
    - After you successfully login, you will be redirected back to the Alexa app.
    - Alexa should automatically start discovering your devices now! This is indicated by a blue ring on your physical devices
    - If not, ask Alexa to `Discover Devices`
- Now, you can ask Alexa from your Echo or the Alexa App, *"Alexa, turn on bedroom light"* 🎉

Alexa Smart Home Component Configuration

Example configuration:

```yaml
alexa:
  smart_home:
    locale: en-US
    endpoint: https://api.amazonalexa.com/v3/events
    client_id: YOUR_SKILL_CLIENT_ID
    client_secret: YOUR_SKILL_CLIENT_SECRET
    filter:
      include_entities:
        - light.kitchen
        - light.kitchen_left
      include_entity_globs:
        - binary_sensor.*_motion
      include_domains:
        - switch
      exclude_entities:
        - switch.outside
    entity_config:
      light.kitchen:
        name: "Custom Name for Alexa"
        description: "The light in the kitchen"
      switch.stairs:
        display_categories: LIGHT
```

CONFIGURATION VARIABLES

Looking for your configuration file?

alexa map REQUIRED

Alexa configuration

smart_home map REQUIRED

Alexa Smart Home configuration

locale string (optional, default: en-US)

The locale of your Alexa devices. Supported locales are `de-DE`, `en-AU`, `en-CA`, `en-GB`, `en-IN`, `en-US`, `es-ES`, `es-MX`, `fr-CA`, `fr-FR`, `it-IT`, `ja-JP`. See Alexa Locale for additional information.

---

endpoint string (optional)

To enable proactive events, you send a message to the Alexa event gateway, send it to the event endpoint that aligns with the geographic availability of your smart home skill. Following is the list of endpoints and the regions they cover. See Proactive Events for more information.

- North America: `https://api.amazonalexa.com/v3/events`
- Europe: `https://api.eu.amazonalexa.com/v3/events`
- Far East: `https://api.fe.amazonalexa.com/v3/events`

---

client_id string (optional)

See Proactive Events for more information.

client_secret string (optional)
See Proactive Events for more information.

filter map
Filter domains and entities for Alexa. (Configure Filter)

include_domains list (optional)
List of domains to include (e.g., `light`).

exclude_domains list (optional)
List of domains to exclude (e.g., `light`).

include_entity_globs list (optional)
Include all entities matching a listed pattern (e.g., `binary_sensor.*_motion`).

exclude_entity_globs list (optional)
Exclude all entities matching a listed pattern (e.g., `binary_sensor.*_motion`).

include_entities list (optional)
List of entities to include (e.g., `light.attic`).

exclude_entities list (optional)
List of entities to exclude (e.g., `light.attic`).

entity_config map (optional)
Configuration for specific entities. All subordinate keys are the corresponding entity ids or the domains, e.g., `alarm_control_panel.woowoo`.

`` map (optional)
Additional options for specific entities.

name string (optional)
Name of the entity to show in Amazon Alexa App.

description string (optional)
Description of the entity to show in Amazon Alexa App.

display_categories string (optional)
Display category and iconography each entity is shown in the Alexa app. Separate each category with a comma. First category is primary.
e.g., `MUSIC_SYSTEM,STREAMING_DEVICE,SPEAKER`. See Alexa Display Categories for a list of available categories.

ALEXA LOCALE

The `locale` should match the location and language used for your Amazon echo devices.

The supported locales are:

- `de-DE`
- `en-AU`
- `en-CA`
- `en-GB`
- `en-IN`
- `en-US`
- `es-ES`
- `es-MX`
- `es-US`
- `fr-CA`
- `fr-FR`
- `hi-IN`
- `it-IT`
- `ja-JP`
- `pt-BR`

See List of Capability Interfaces and Supported Locales.

PROACTIVE EVENTS

The `endpoint`, `client_id` and `client_secret` are optional, and are only required if you want to enable Alexa's proactive mode (i.e., "Send Alexa Events" enabled). Please note the following if you want to enable proactive mode:

- There are different endpoint URLs, depending on the region of your skill. Please check the available endpoints at https://developer.amazon.com/docs/smarthome/send-events-to-the-alexa-event-gateway.html#endpoints
- The `client_id` and `client_secret` are not the ones used by the skill that have been set up using "Login with Amazon" (in the [Alexa Developer Console][amazon-dev-console]: Build > Account Linking), but rather from the "Alexa Skill Messaging" (in the Alexa Developer Console: Build > Permissions > Alexa Skill Messaging). To get them, you need to enable the "Send Alexa Events" permission.
- If the "Send Alexa Events" permission was not enabled previously, you need to unlink and relink the skill using the Alexa App, or else Home Assistant will show the

following error: “Token invalid and no refresh token available. Also, you need to restart your Home Assistant after each disabling/enabling the skill in Alexa.”

CONFIGURE FILTER

By default, no entity will be excluded. To limit which entities are being exposed to Alexa, you can use the `filter` parameter. Keep in mind that only supported platforms can be added.

```yaml
# Example filter to include specified domains and exclude specified entities
alexa:
  smart_home:
    filter:
      include_domains:
        - alarm_control_panel
        - light
      include_entity_globs:
        - binary_sensor.*_occupancy
      exclude_entities:
        - light.kitchen_light
```

Filters are applied as follows:

1. No filter
    - All entities included
2. Only includes
    - Entity listed in entities include: include
    - Otherwise, entity matches domain include: include
    - Otherwise, entity matches glob include: include
    - Otherwise: exclude
3. Only excludes
    - Entity listed in exclude: exclude
    - Otherwise, entity matches domain exclude: exclude
    - Otherwise, entity matches glob exclude: exclude
    - Otherwise: include
4. Domain and/or glob includes (may also have excludes)
    - Entity listed in entities include: include
    - Otherwise, entity listed in entities exclude: exclude
    - Otherwise, entity matches glob include: include
    - Otherwise, entity matches glob exclude: exclude
    - Otherwise, entity matches domain include: include
    - Otherwise: exclude
5. Domain and/or glob excludes (no domain and/or glob includes)
    - Entity listed in entities include: include

    - Otherwise, entity listed in exclude: exclude
    - Otherwise, entity matches glob exclude: exclude
    - Otherwise, entity matches domain exclude: exclude
    - Otherwise: include
6. No Domain and/or glob includes or excludes
    - Entity listed in entities include: include
    - Otherwise: exclude

The following characters can be used in entity globs:

`*` - The asterisk represents zero, one, or multiple characters `?` - The question mark represents a single character

See the troubleshooting if for issues setting up the integration.

ALEXA DISPLAY CATEGORIES

Configure a display category to override the display category and iconography each entity is shown in the Alexa app. This makes it easier to find and monitor devices.

```
light.kitchen_light:
  display_categories: LIGHT,SWITCH
```

Devices such as cameras, doorbells, garage doors, and alarm control panels require specific display categories to provide all available features from Amazon Alexa. Overriding the default display category will limit features provided by Amazon Alexa.

See Alexa Display Categories for a complete list

Supported Platforms

Home Assistant supports the following integrations through Alexa using a Smart Home Skill. For Home Assistant Cloud Users, documentation can be found here.

The following integrations are currently supported:

- Requirements
- Create an Amazon Alexa Smart Home Skill
- Create an AWS Lambda Function
    - Create an IAM Role for Lambda

ALARM CONTROL PANEL

Arm and disarm Alarm Control Panel entities. Ask Alexa for the state of the Alarm Control Panel entity.

- *“Alexa, arm my home in away mode.”*
- *“Alexa, arm my home.”*
- *“Alexa, disarm my home.”*
- *“Alexa, is my home armed?”*

Arming

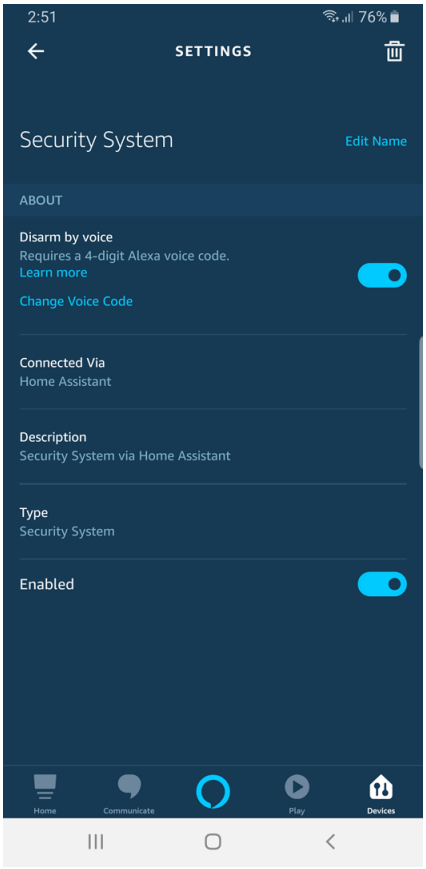
The Alarm Control Panel state must be in the `disarmed` state before arming. Alexa does not support switching from an armed state without first disarming, e.g., switching from `armed_home` to `armed_night`.

The Alarm Control Panel state `armed_custom_bypass` isn’t supported by Alexa and is treated as `armed_home`.

Alexa does not support arming with voice PIN at this time. Therefore if the Alarm Control Panel requires a `code` for arming or the `code_arm_required` attribute is `true`, the entity will not be exposed during discovery. The Alarm Control Panel may default the `code_arm_required` attribute to `true` even if the platform does not support or require it. Use the Entity Customization Tool to override `code_arm_required` to `false` and expose the Alarm Control Panel during discovery.

Disarming

Users must opt-in to the disarm by voice feature in the Alexa App. Alexa will require a 4 digit voice personal identification number (PIN) for disarming. Configure a 4 digit PIN in the Alexa app, or use an existing 4 digit PIN code configured for the Alarm Control Panel.



To use the exiting code configured for the Alarm Control Panel the `code` must be 4 digits and the `code_format` attribute must be `FORMAT_NUMBER`. After discovery, the Alexa app will offer the ability to use the existing `code`, or create an additional 4 digit PIN to use with Alexa.

The existing code is never communicated to Alexa from Home Assistant. During disarming, Alexa will ask for a PIN. The PIN spoken to Alexa is relayed to Home Assistant and passed to the `alarm_control_panel.alarm_disarm` service. If the `alarm_control_panel.alarm_disarm` service fails for any reason, it is assumed the PIN was incorrect and reported to Alexa as an invalid PIN.

ALERT, AUTOMATION, GROUP

Turn on and off Alert, Automation, and Group entities as switches.

- *“Alexa, turn on the front door alert.”*
- *“Alexa, turn off energy saving automations.”*
- *“Alexa, Downstairs to on.”*

BINARY SENSOR

Requires Proactive Events enabled.

Binary Sensors with a `device_class` attribute of `door` `garage_door` `opening` `window` `motion` `presense` are supported.

`device_class`	**Alexa Sensor Type**
`door`	Contact
`garage_door`	Contact
`opening`	Contact
`window`	Contact
`motion`	Motion
`presense`	Motion

Ask Alexa for the state of a contact sensor.

- *“Alexa, is the bedroom window open?”*

Routines

Requires Proactive Events enabled.

Alexa Routines can be triggered with Binary Sensors exposed as contact or motion sensors.

Use the Entity Customization Tool to override the `device_class` attribute to expose a `binary_sensor` to Alexa.

BUTTON, INPUT BUTTON

Activate Buttons and Input Buttons with the button name, or *“turn on”* utterance. They will appear in the Alexa app as scenes.

- *“Alexa, Ring Phone.”*

- *“Alexa, turn on Ring Phone.”*

Routines

Requires Proactive Events enabled.

Alexa Routines can be triggered when Buttons and Input Buttons are pressed.

In order to enable this, buttons will appear to have “presence detection” capability. This is what allows this functionality since Alexa does not support button type devices. To trigger a routine when a button is pressed, select the button in the when menu and then select the “Person” capability.

Doorbell Announcement

Requires Proactive Events enabled.

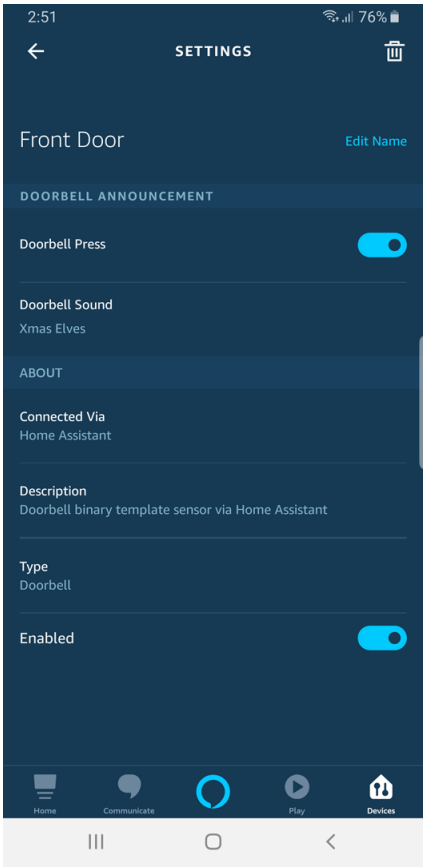
Configure a `binary_sensor` with `display_category` of `DOORBELL` in the `entity_config` to gain access to the doorbell notification settings in the Alexa App.

```yaml
alexa:
  smart_home:
    entity_config:
      binary_sensor.alexa_doorbell:
        name: "Front Door"
```

```
        description: "Doorbell Binary Sensor"
        display_categories: DOORBELL
```

Alexa will announce on all echo devices *“Someone is at the [entity name]”* when a `binary_sensor` state changes from `off` to `on`.

Each Amazon Echo device will need the communication and announcements setting enabled, and the Do Not Disturb feature turned off.



Presence Detection with Binary Sensor

Requires Proactive Events enabled.

Configure a `binary_sensor` that has a `device_class` attribute of `motion` or `presence` and configure `display_category` to `CAMERA` in the `entity_config` to gain access the presence detected notification settings in the Alexa App.

```
alexa:
  smart_home:
    entity_config:
      binary_sensor.driveway_presence:
        name: "Driveway"
        description: "Driveway Presence Sensor"
        display_categories: CAMERA
```

Alexa will announce on all echo devices *“Person detected at [entity name]”*.

Each Echo device will need the communication and Announcements setting enabled, and the Do Not Disturb feature turned off.

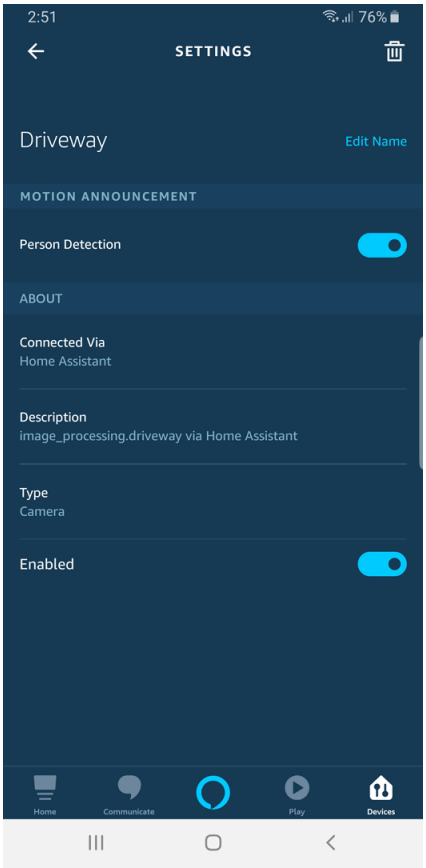


Image Processing entities also support this notification.

CAMERA

View a camera stream on an Amazon echo device.

- *“Alexa, show the front door camera.”*

The `stream` integration is required to stream cameras to Amazon echo devices.

The Amazon echo device will request the camera stream from Home Assistant. The Home Assistant URL must be accessible from the network the Amazon echo device is connected to and must support HTTPS on port 443 with a certificate signed by an Amazon approved certificate authority. These requirements can be satisfied with Home Assistant Cloud, or LetsEncrypt/DuckDNS.

Enable preload stream option for cameras used with echo devices to reduce response time, and prevent timing out before the 6 second limit.

CLIMATE

Single, double, and triple set-point thermostats are supported. The temperature value from the thermostat will also be exposed at a separate temperature sensor.

Set Thermostat Temperature

- *"Alexa, set thermostat to 20."*
- *"Alexa, set the AC to 75."*
- *"Alexa, make it warmer in here."*
- *"Alexa, make it cooler in here."*

Thermostat Mode

- *"Alexa, set living room thermostat to automatic."*
- `DRY` is shown in Alexa app as `DEHUMIDIFY`
- `ECO` is handled as a `preset` in Home Assistant, and will not display in the Alexa app.
- `FAN_ONLY` is not supported by the Alexa voice model and is shown as `OFF` in the Alexa App.

To change the thermostat mode, the exact utterance must be used:

- *"Alexa, set [entity name] to [mode utterance]."*

If the climate entity supports on/off, use *"turn on"* and *"turn off"* utterances with the entity name or the mode utterance.

- *"Alexa, turn on the [mode utterance]."*
- *"Alexa, turn off the [entity name]."*

Alexa supports the following utterances value for climate thermostat mode:

HA Climate Mode	Alexa Mode Utterances
`AUTO`	*"auto"*, *"automatic"*
`COOL`	*"cool"*, *"cooling"*
`HEAT`	*"heat"*, *"heating"*
`ECO`	*"eco"*, *"economical"*
`DRY`	*"dry"*, *"dehumidify"*
`OFF`	*"off"*

COVER

Covers should be configured with the appropriate `device_class`.

Covers with a `device_class` of `blind`, `shade`, `curtin` are shown as an Interior Blind in the Alexa App and Covers with a `window`, `awning`, or `shutter` will show as an Exterior Blind.

Covers with the `device_class` of `garage` are shown as a Garage Door and support the Open by Voice PIN feature.

Use the Entity Customization Tool to override the `device_class` attribute to correctly expose a `cover` to Alexa.

Open/Close/Raise/Lower

Home Assistant configures covers with semantics that provide *"raise"*, *"lower"*, *"open"*, *"close"* utterances for covers. In addition to semantics *"turn on"* / *"turn off"* utterances will also work.

- *"Alexa, open the garage door."*
- *"Alexa, close the curtain."*
- *"Alexa, lower the shades."*
- *"Alexa, raise the roof!"*

Semantics are assigned based on the features supported by the cover. If the cover supports tilt functionality, the semantics *"open"* and *"close"* are assigned to the tilt functionality, and the semantics *"raise"* and *"lower"* are assigned to the position functionality.

If the cover does not support tilt, all semantics *"raise"*, *"lower"*, *"open"*, *"close"* are assigned to the position functionality.

Set Cover Position

Covers that support a set position can be controlled using percentages.

- *"Alexa, set the [entity name] position to thirty percent."*
- *"Alexa, increase [entity name] position by ten percent."*
- *"Alexa, decrease [entity name] position by twenty percent."*

Locale	Friendly Name Synonyms
`en-US`	*"position"*, *"opening"*

Currently, Alexa only supports friendly name synonyms for the `en-US` locale.

Set Cover Tilt

Covers that support tilt position can be controlled using percentages.

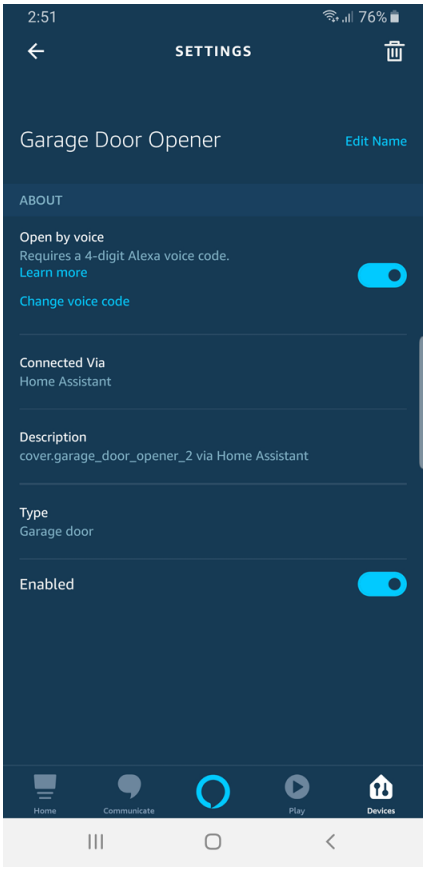
- *“Alexa, set the [entity name] tilt to thirty percent.”*
- *“Alexa, increase [entity name] tilt by ten percent.”*
- *“Alexa, decrease [entity name] tilt by twenty percent.”*

Locale	Friendly Name Synonyms
`en-US`	*“tilt”*, *“angle”*, *“direction”*

Currently, Alexa only supports friendly name synonyms for the `en-US` locale.

Garage Doors

Covers with a `device_class` of `garage` support the Open by Voice PIN feature in the Alexa app. Configure a 4 digit PIN code to open the garage door in the Alexa app.



FAN

Control fan speed, direction, and oscillation.

Fan Speed

The fan device must support percentage based speeds with the `percentage` attribute.

- *“Alexa, set the fan speed to three.”*
- *“Alexa, set the fan speed to fifty percent.”*
- *“Alexa, set the fan power level to fifty percent.”*
- *“Alexa, turn up the speed on the tower fan.”*
- *“Alexa, set the air speed on the tower fan to maximum.”*

Fan Preset Mode

The fan device must support the `preset_mode` attribute.

- *“Alexa, set the fan preset to eco.”*
- *“Alexa, set the fan preset to smart.”*
- *“Alexa, set the fan preset to auto.”*

Currently, Alexa only supports `en-US` locale for preset modes.

Fan Direction

The fan device must support the `direction` attribute.

- *“Alexa, set the fan direction to forward.”*
- *“Alexa, set the fan direction to reverse.”*

Fan Oscillation

The fan device must support the `oscillating` attribute.

- *“Alexa, is oscillate on for the tower fan?”*
- *“Alexa, turn on swivel for the tower fan.”*
- *“Alexa, turn on oscillation mode for the table fan.”*

Locale	Friendly Name Synonyms
`en-US`	*“oscillate”*, *“swivel”*, *“oscillation”*, *“spin”*, *“back and forth”*

Currently, Alexa only supports friendly name synonyms for the `en-US` locale.

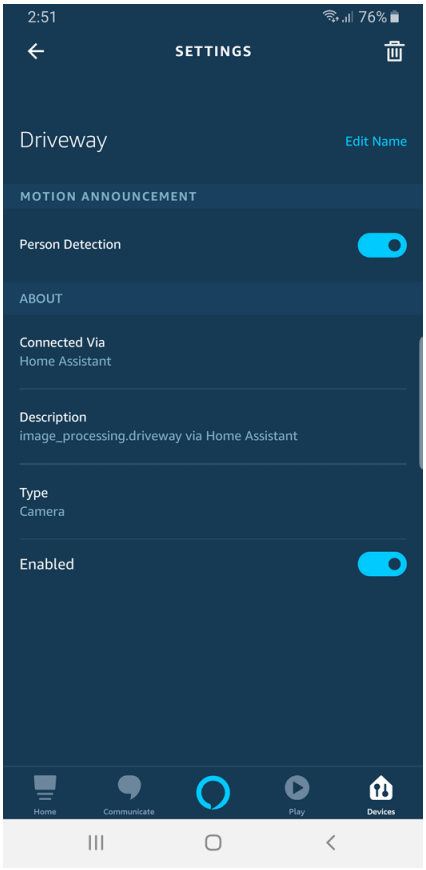
IMAGE PROCESSING

Requires Proactive Events enabled.

Presence Detection Notification

All `image_processing` entities support the presence detected notification settings in the Alexa App. Any state change will trigger the notification.

Alexa will announce on all echo devices *“Person detected at [entity name]”*.



Display category will default to `CAMERA` to enable presence detected notification settings in the Alexa App. Each Echo device will need the communication and Announcements setting enabled, and the Do Not Disturbed feature turned off.

INPUT NUMBER

Control an `input_number` entity with Alexa. Configures Alexa with the `min`, `max`, `step`, and `unit_of_measurement` attributes for the entity.

- *“Alexa, set [entity name] to forty five [unit of measurement].”*
- *“Alexa, increase the [entity name] by two.”*
- *“Alexa, set the [entity name] to maximum.”*

The following table lists the possible friendly name synonyms available for a Input Number with `min: -90, max: 90, step: 45, unit_of_measurement: degrees`.

Fan Range	Friendly Name Synonyms
-90	*“negative ninety”*, *“minimum”*, *“min”*
-45	*“negative forty five”*
0	*“zero”*
45	*“forty five”*
90	*“ninety”*, *“maximum”*, *“max”*

LIGHT

Control lights with *“turn on”* and *“turn off”* utterances, adjust brightness, color, and temperature.

- *“Alexa, turn on the bathroom light.”*
- *“Alexa, turn off the patio light.”*

Brightness

Lights that support brightness can be adjusted with percentages ranging from 0 to 100 percent.

- *“Alexa, set the bedroom light to fifty percent.”*
- *“Alexa, living room lights to one hundred percent.”*

The *“dim”* utterance will decrease the brightness of a light 25 percentage points.

- *“Alexa, dim the bathroom light.”*

Color Temperature

Adjust lights that support color temperature using the following friendly names:

- *“Alexa, set the dining room softer.”*
- *“Alexa, make the living room warmer.”*
- *“Alexa, set the dining room cooler.”*
- *“Alexa, make the living room light whiter.”*
- *“Alexa, make the living room warm white.”*
- *“Alexa, set the kitchen to daylight.”*

The following table lists the possible friendly name synonyms available to lights that support color temperature.

Color Temperature in Kelvin	Friendly Name Synonyms
2200	*“warm”*, *“warm white”*
2700	*“incandescent”*, *“soft white”*
4000	*“white”*
5500	*“daylight”*, *“daylight white”*
7000	*“cool”*, *“cool white”*

Use *“warmer”*, *“softer”*, *“cooler*, *“whiter”* utterances to adjust color temperature by 50 `mired` (approximately 300-500 degree kelvin change).

- *“Alexa, set the dining room softer.”*
- *“Alexa, make the living room warmer.”*
- *“Alexa, set the dining room cooler.”*
- *“Alexa, make the living room light whiter.”*

Color

Set the light color using the CSS basic color keywords or extended color keywords as the friendly color name.

- *“Alexa, set the front porch light to blue.”*
- *“Alexa, set the bedroom light to red.”*
- *“Alexa, change the kitchen to the color crimson.”*

LOCK

- *“Alexa, lock my front door.”*
- *“Alexa, unlock the dungeon.”*

Unlocking

To unlock, Alexa will require a 4 digit voice personal identification number (PIN) for unlocking. Configure a 4 digit PIN in the Alexa app to unlock locks.

MEDIA PLAYER

Change Channel

- *“Alexa, change the channel to 200 on the Living Room TV.”*
- *“Alexa, change the channel to PBS on the TV.”*

- *“Alexa, next channel on the Living Room TV.”*
- *“Alexa, channel up on the TV.”*
- *“Alexa, channel down on the TV.”*

Speaker Volume

- *“Alexa, set the volume of the speakers to 50.”*
- *“Alexa, turn the volume down on the stereo by 20.”*
- *“Alexa, turn the volume down on Living Room TV.”*
- *“Alexa, mute speakers.”*
- *“Alexa, unmute speakers.”*
- *“Alexa, lower the volume on the stereo.”*
- *“Alexa, volume up 20 on the speakers.”*

Equalizer Mode

Supports changing the Media Player `sound_mode` from the preset `sound_mode_list`.

- *“Alexa, set mode to movie on the TV.”*

Alexa only supports the following modes: `movie`, `music`, `night`, `sport`, `tv`.

Inputs

Supports changing the Media Player `source` from the preset `source_list`.

- *“Alexa, change the input to DVD on the Living Room TV.”*

Home Assistant will attempt to translate the `media_player` `source_list` into a valid `source` name for Alexa. Alexa only supports the following input names:

`AUX 1`, `AUX 2`, `AUX 3`, `AUX 4`, `AUX 5`, `AUX 6`, `AUX 7`, `BLURAY`, `CABLE`, `CD`, `COAX 1`, `COAX 2`, `COMPOSITE 1`, `DVD`, `GAME`, `HD RADIO`, `HDMI 1`, `HDMI 2`, `HDMI 3`, `HDMI 4`, `HDMI 5`, `HDMI 6`, `HDMI 7`, `HDMI 8`, `HDMI 9`, `HDMI 10`, `HDMI ARC`, `INPUT 1`, `INPUT 2`, `INPUT 3`, `INPUT 4`, `INPUT 5`, `INPUT 6`, `INPUT 7`, `INPUT 8`, `INPUT 9`, `INPUT 10`, `IPOD`, `LINE 1`, `LINE 2`, `LINE 3`, `LINE 4`, `LINE 5`, `LINE 6`, `LINE 7`, `MEDIA PLAYER`, `OPTICAL 1`, `OPTICAL 2`, `PHONO`, `PLAYSTATION`, `PLAYSTATION 3`, `PLAYSTATION 4`, `SATELLITE`, `SMARTCAST`, `TUNER`, `TV`, `USB DAC`, `VIDEO 1`, `VIDEO 2`, `VIDEO 3`, `XBOX`

Playback State

Requires Proactive Events enabled.

Seek

- *“Alexa, skip 30 seconds on device.”*
- *“Alexa, go back 10 seconds on device.”*

SCENE

Activate scenes with scene name, or *“turn on”* utterance. Home Assistant does not support deactivate or *“turn off”* for scenes at this time.

- *“Alexa, Party Time.”*
- *“Alexa, turn on Party Time.”*

SCRIPT

Run script with script name, or *“turn on”* utterance. Deactivate a running script with *“turn off”* utterance.

- *“Alexa, Party Time.”*
- *“Alexa, turn on Party Time.”*
- *“Alexa, turn off Party Time.”*

SENSOR

Requires Proactive Events enabled.

Only temperature sensors are configured at this time.

- *“Alexa, what’s the temperature in the kitchen?”*
- *“Alexa, what’s the upstairs temperature?”*
- *“Alexa, what’s the temperature of my ex-girlfriend’s heart?”*

SWITCH, INPUT BOOLEAN

Support *“turn on”* and *“turn off”* utterances.

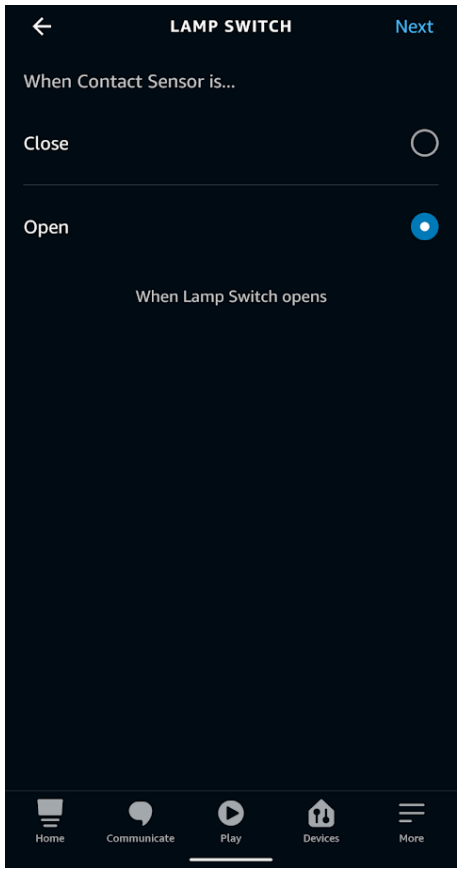
- *“Alexa, turn on the vacuum.”*
- *“Alexa, turn off the lights.”*

Routines

Requires Proactive Events enabled.

Alexa Routines can be triggered when Switches and Input Booleans change state.

In order to enable this, Switches and Input Booleans will appear as contact sensors in the when menu of Alexa Routines. This is because Alexa does not support triggering routines from switch-type devices, only from contact and motion sensors. In this menu when you select a switch, `Open` corresponds to `on` and `Close` corresponds to `off`.



TIMER

Start a timer with using the *“turn on”* utterance.

- *“Alexa, turn on the laundry.”*

Cancel a timer using the *“turn off”* utterance.

- *“Alexa, turn off the laundry.”*

Pause and Restart Timer entities in Home Assistant.

- *“Alexa, pause the microwave.”*
- *“Alexa, hold the sous vide.”*
- *“Alexa, restart the microwave.”*

To avoid issues with Alexa built in timer functionality. The timer entity can not include the word "timer" in the friendly name.

VACUUM

Support *“turn on”* and *“turn off”* utterances. Pause and Resume

- *“Alexa, turn on the vacuum.”*
- *“Alexa, pause the vacuum.”*
- *“Alexa, restart the vacuum.”*

Alexa Web-Based App

The following is a list of regions and the corresponding URL for the web-based Alexa app:

- United States: `https://alexa.amazon.com`
- United Kingdom: `https://alexa.amazon.co.uk`
- Germany: `https://alexa.amazon.de`
- Japan: `https://alexa.amazon.co.jp`
- Canada: `https://alexa.amazon.ca`
- Australia: `https://alexa.amazon.com.au`
- India: `https://alexa.amazon.in`
- Spain: `https://alexa.amazon.es`
- France: `https://alexa.amazon.fr`
- Italy: `https://alexa.amazon.it`

Troubleshooting

BINARY SENSOR NOT AVAILABLE IN ROUTINE TRIGGER

Binary Sensors with a `device_class` attribute of `door` `garage_door` `opening` `window` `motion` `presense` are supported.

Use the Entity Customization Tool to override the `device_class` attribute to expose a `binary_sensor` to Alexa.

TOKEN INVALID AND NO REFRESH TOKEN AVAILABLE

Disable and re-enable the skill using the Alexa App; then restart Home Assistant.

Debugging

The Alexa integration will log additional information about state updates and other messages when the log level is set to `debug`. Add the relevant line below to the `configuration.yaml`:

If using Alexa with an Alexa Smart Home Skill and Lambda function such as haaska:

YAML Copy

```yaml
logger:
  default: info
  logs:
    homeassistant.components.alexa: debug
```

If using Home Assistant Cloud you also need to debug `hass_nubucasa.iot`:

```yaml
logger:
  default: info
  logs:
    homeassistant.components.alexa: debug
    hass_nabucasa.iot: debug
```