Run Ngrok  from the command line with:

***sudo ./ngrok http 5000***

5000 is the port number on which you configure the server to work on.You can use any number instead of 5000 as long as you use the same number in your python code.

Open a new terminal session and create a new python file named gpio\_control.py:

***nano gpio\_control.py***

Copy/paste the code from the uploaded file into the new file:

Save and close the file.

Start the flask server with:

***sudo python gpio\_control.py***

Leave both ngrok and gpio\_control.py running while we setup the new skill in AWS...

**Lecture 12:Creating an Alexa skill**

1.First create or login to your [AWS Developer Account](https://developer.amazon.com/).

2.Choose Alexa from the Developer Console.

3.Choose get started with the Alexa skills kit.

4.Choose add a new skill.

5.Set the Skill Name to 'GPIO Control' and the Invocation Name to the word(s) you want to use to activate the skill. Click 'Next' to continue.

6.Now,

Copy/paste the following into the 'Intent Schema' box:

***{***

***"intents": [{***

***"intent": "GPIOControlIntent",***

***"slots": [{***

***"name": "status",***

***"type": "GPIO\_CONTROL"***

***},  
                 {***

***"name": "pin",***

***"type": "AMAZON.NUMBER"***

***}]***

***}]***

***}***

7.Next, click 'Add Slot Type' and under 'Enter Type' write 'GPIO\_CONTROL'. Under 'Enter Values' write:

***on  
off***

Here we are creating an intent called GPIOControlIntent. An intent is basically a reaction scheme structure with variables that the skill would execute for a specific command or utterance. This particular intent which we have created has two slots or variable. The variable named pin is a number, hence, the type declaration AMAZON.NUMBER.The other variable status is used to turn the pin on or off. Since its values ‘on’ and ‘off’ are not present in the Amazon library and we need to define them in the custom slot as shown above.

8.Copy/paste the following into the 'Sample Utterances' box:

***GPIOControlIntent to turn pin {pin} {status}***

Click on 'Save' and then 'Next'.

An utterance is the sentence the user will use to interact with Alexa. An utterance is defined by the intent name first, if the variables in an intent are used, and the variable name, since the sentence must be in between braces.

9.Select 'HTTPS' as the Service Endpoint Type and select a region.

Enter the ngrok URL from step 2 and click 'Next'. The URL should be something like:

<https://ed6ea04d.ngrok.io>

10.Select the 'My development endpoint is a sub-domain of a domain that has a wildcard certificate from a certificate authority' option and click 'Next'.

11.The simplest way to test the Skill would be to use the Voice or Service Simulator found on the Test page. Try entering the following into the 'Enter Utterance' box under the Service Simulator:

turn pin twenty one on

Then hit 'Ask GPIO Control' to run the test.