

# BitPath-DevKit

IoT Jobs Testing

RADIOSTUDIO



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## 2 Revision History

| Version No | Date       | Author      | Change Log |
|------------|------------|-------------|------------|
| 1.0        | 29/04/2024 | RadioStudio |            |
|            |            |             |            |
|            |            |             |            |

### 3 Remote Jobs using AWS IoT Core FleetHub

#### 3.1 Create a job that installs a package/downloads something into the device

##### 3.1.1 What job are you running?

- First, you need to define what you need to install/download
- For this, we have already uploaded a file **install.py** on the s3 bucket.
- Contents of this file are below (sample code; you don't need to edit anything here)

```
import os

clone1 = 'cd /opt/cs-deploy/ && git clone https://github.com/stevemar/sample-python-app.git'

executer= 'cd /opt/cs-deploy/sample-python-app/ && pip install -r requirements.txt'

os.system(clone1)

os.system(executer)

print("A Sample file. Downloaded to Device and Executed !")
```

- This downloads and installs a sample Python app content.
- Let's run this code on the new device you booted.

##### 3.1.2 How to run this job using IOT core

- The jobs are always in JSON format
- We have already created a JSON file which will run the above job
- Install-01.json is on the same S3 bucket. The content of the documents is below (you don't need to edit anything here)

```
{

"operation": "install",

"version": "1.0",

"packageName": "install.py",

"autoStart": "true",

"workingDirectory": "/opt/iotcore-jobs",

"files": {

"fileName": "install.py",

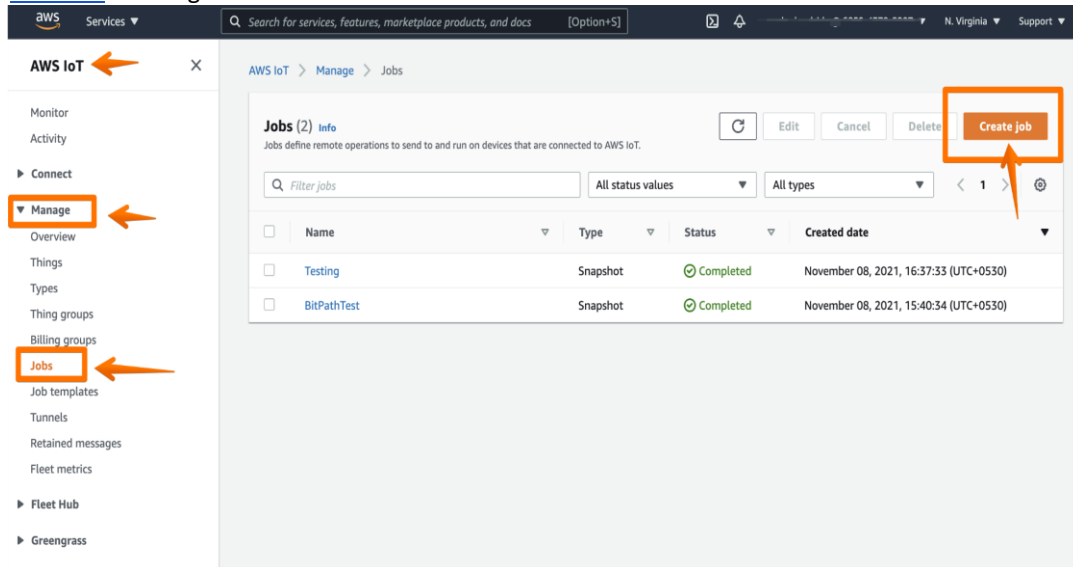
"url": "${aws:iot:s3-presigned-url:https://s3.us-east-1.amazonaws.com/bitpath-jobs-demo/install.py}"

}

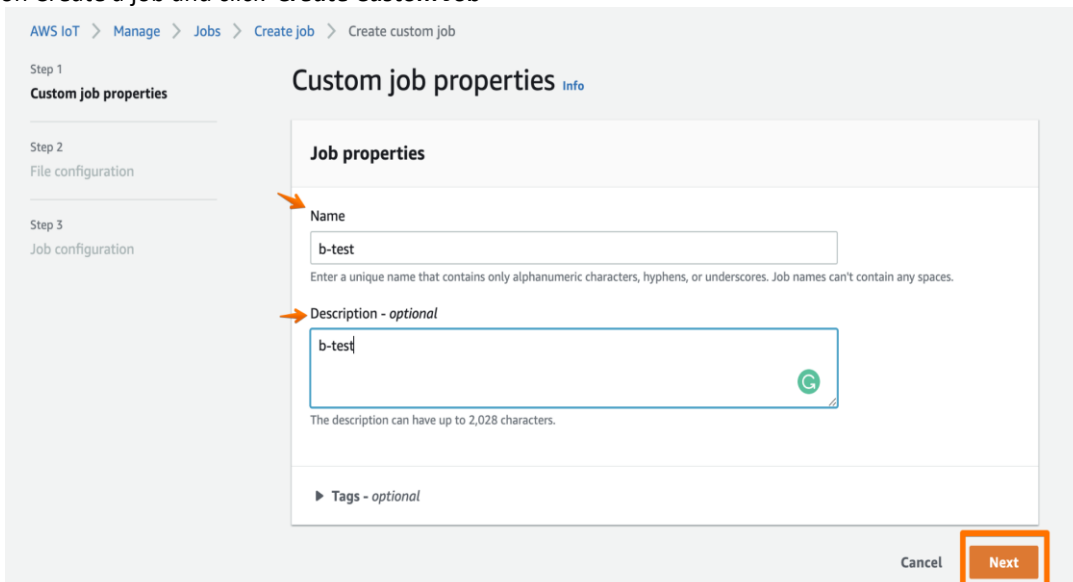
}
```

Now, let's run this using the IOT core.

Go to [AWS IoT](#):>Manage:>Jobs



Click on Create a job and click **Create Custom Job**



Now, under **Things to run this job**, choose your device (you can spot the device based on the hostname you have chosen)

Under the **job file, s3 url**: click the browse s3 button, choose bitpath-jobs-demo bucket, and **install-01.json** as the JSON file.

### Job targets [Info](#)

A custom job is a remote operation that is sent to and runs on one or more devices connected to AWS IoT. Job targets are the things and thing groups that represent the devices that should run this job.

Things to run this job

Choose existing things

bithpath-dev-bitpath-dev-31-1635830879839 X

Thing groups to run this job

Choose existing thing groups

### File [Info](#)

The job file defines the operation to perform on the job targets. For additional security, files can contain a presigned URL, or code signing placeholders.

#### Job file

A JSON file to upload to S3.

S3 URL

s3://bitpath-jobs-demo/install-01.jso X

View

Browse S3

#### Pre-sign resource URLs

For an extra layer of security you can pre-sign URLs that refer to resources in your job file, like a binary for a firmware update.

Pre-signing role

bithpath-dev-fleet-role ▼

Clear

Create role

Timeout

The duration of a pre-signing URL is available from 1 minute to 1 hour.

| Minutes       | Seconds      |
|---------------|--------------|
| <div>60</div> | <div>0</div> |
| 1-60          | 0-59         |

Cancel

Previous

Next

Click on next. Under **job run type**, choose the *snapshot*

## Job configuration Info

### Job configuration

#### Job run type

Configure how your job will deploy to the job targets.

☐ Snapshot

Your job completes after it deploys to all of the job targets.

☐ Continuous

Your job continues to deploy to devices that are added to the thing groups in the job target list.

#### Additional configurations - optional

► Rollout configuration

► Job executions timeout configuration

► Abort configuration

Cancel

Previous

Submit

- Click submit, and your jobs should start running on the device.
- After 2-3 minutes, log in to the device to verify if it downloaded this Python program. You can verify that there will be a sample-python-app folder under **/opt/cs-deploy**.
- This means your job was run **successfully** by IOT core.

## 4 Rollback of the job (Delete the download item / uninstall the package)

- The steps are the same as for installing; we just ran another job to uninstall this.
- Please follow the same steps from v. (Go to [AWS IOT](#):>Manage:>Jobs) on how to run this job **using IOT core**
- The only change is to select the file **uninstall-01.json** file this time.
- This should delete the **sample-python-app** under **/opt/cs-deploy**.
- What jobs we run can be verified by looking at the file **uninstall-01.json** and **rollback.py** on the s3 bucket.



## 5 References