

Python Lambda Layer for ARM Lambda

For ARM Image, I downloaded Python Docker Latest Image:

The screenshot shows the Docker Hub page for Python 3.11.6 images. The '3.11.6-bullseye' image for 'linux/arm/v5' is highlighted with a red box. The table below summarizes the data shown in the image:

Image Tag	OS/ARCH	Vulnerabilities	Compressed Size
3.11.6-slim	linux/386	1 C, 0 H, 0 M, 21 L	47.8 MB
	linux/amd64	1 C, 0 H, 0 M, 21 L	46.63 MB
	linux/arm/v5	1 C, 0 H, 0 M, 21 L	43.61 MB
3.11.6-bullseye	linux/386	1 C, 0 H, 7 M, 141 L	340.79 MB
	linux/amd64	1 C, 0 H, 7 M, 141 L	335.46 MB
	linux/arm/v5	1 C, 0 H, 7 M, 141 L	309.26 MB
3.11.6-bookworm	linux/386	1 C, 0 H, 7 M, 93 L	362.98 MB
	linux/amd64	1 C, 0 H, 7 M, 93 L	360.61 MB
	linux/arm/v5	1 C, 0 H, 7 M, 93 L	328.53 MB

I downloaded the highlighted image which says Architecture arm.

Now after downloading, I run the docker image and get it's bash terminal by following command:

The screenshot shows a terminal window with the command `docker run -it python:3.11.6-bullseye /bin/bash` being executed. The terminal output is currently blank, indicating the container has just started.

Then ran the following commands to install package into python directory.

```
sulemanamjad@Muhammads-MacBook-Pro-3 ~ % docker run -it python:3.11.6-bullseye /bin/bash
root@0b82490dc0d6:/# ls
bin boot dev etc home lib media mnt opt proc root run sbin srv sys tmp usr var
root@0b82490dc0d6:/# mkdir python
root@0b82490dc0d6:/# cd python
root@0b82490dc0d6:/python# python --version
Python 3.11.6
root@0b82490dc0d6:/python# pip install stellar-sdk -t .
```

Pynacl package comes with stellar-sdk but it cause some issues.

So I install pynacl package in separate directory:

```
root@0b82490dc0d6:/python# cd ..
root@0b82490dc0d6:/# mkdir pynacl
root@0b82490dc0d6:/# cd pynacl/
root@0b82490dc0d6:/pynacl# pip install pynacl -t .
```

Now run “Ls” in pynacl directory and you will see a few folders and files. Delete these same file from the python directory in which we installed stellar-sdk and move/copy all pynacl files from pynacl directory to python directory.

Now zip the python directory with following command:

```
root@0b82490dc0d6:/pynacl#
root@0b82490dc0d6:/pynacl# cd ..
root@0b82490dc0d6:/# ls
bin boot dev etc home lib media mnt opt proc pynacl python root run sbin srv sys tmp usr var
root@0b82490dc0d6:/# yum update ^C
root@0b82490dc0d6:/# yum install zip ^C
root@0b82490dc0d6:/# zip -r python.zip python/ ^C
root@0b82490dc0d6:/#
```

You may need to install zip command in docker container first. Then zip the python folder with stellar-sdk package.

After zip, you need to get this python.zip file from docker container to your local file system. For this go to new terminal and run these commands:

```
sulemanamjad@Muhammads-MacBook-Pro-3 ~ %
sulemanamjad@Muhammads-MacBook-Pro-3 ~ % docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS        NAMES
0b82490dc0d6   python:3.11.6-bullseye              "/bin/bash"             10 minutes ago Up 9 minutes   modest_mclaren
sulemanamjad@Muhammads-MacBook-Pro-3 ~ % docker cp 0b82490dc0d6:python.zip /path/on/local/machine
sulemanamjad@Muhammads-MacBook-Pro-3 ~ %
```

Get Id of running docker container, copy the python.zip file from docker container to your local machine. Upload this file as lambda layer on your arm function.