Porting Advisor X86 to ARM for Java Applications

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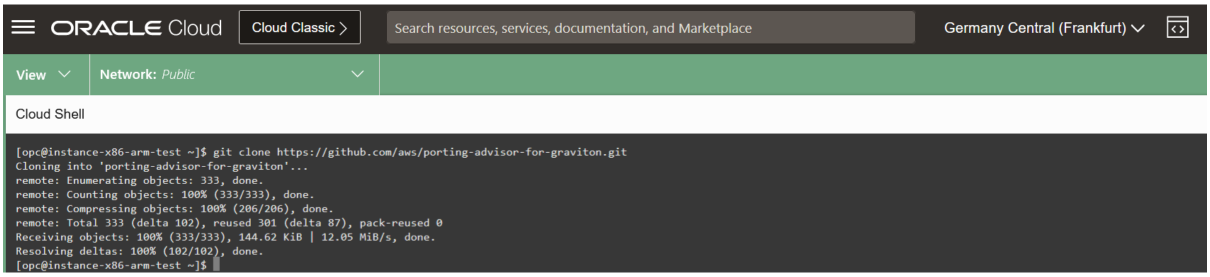
Pre-Requisites – As Tested

- Python 3.10 or above (with PIP3 and venv module installed).
- Open JDK 17 and Maven 3.5 (or above) if you want to scan JAR files for native methods.
- git is installed
- NB – This setup was tested on Ubuntu 18.04 running on OCI VM.standards.E4.Flex shape

Step 1: Git clone the repository

git clone https://github.com/aws/porting-advisor-for-graviton.git

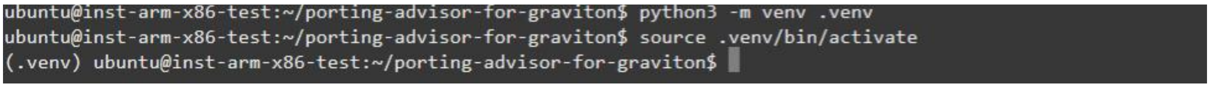

ORACLE Cloud
Cloud Classic >
Search resources, services, documentation, and Marketplace
Germany Central (Frankfurt)
View
Network: Public
Cloud Shell

```
[opc@instance-x86-arm-test ~]$ git clone https://github.com/aws/porting-advisor-for-graviton.git
Cloning into 'porting-advisor-for-graviton'...
remote: Enumerating objects: 333, done.
remote: Counting objects: 100% (333/333), done.
remote: Compressing objects: 100% (206/206), done.
remote: Total 333 (delta 102), reused 301 (delta 87), pack-reused 0
Receiving objects: 100% (333/333), 144.62 KiB | 12.05 MiB/s, done.
Resolving deltas: 100% (102/102), done.
[opc@instance-x86-arm-test ~]$
```

Step 2: Activate the python environment

python3 –m venv .venv

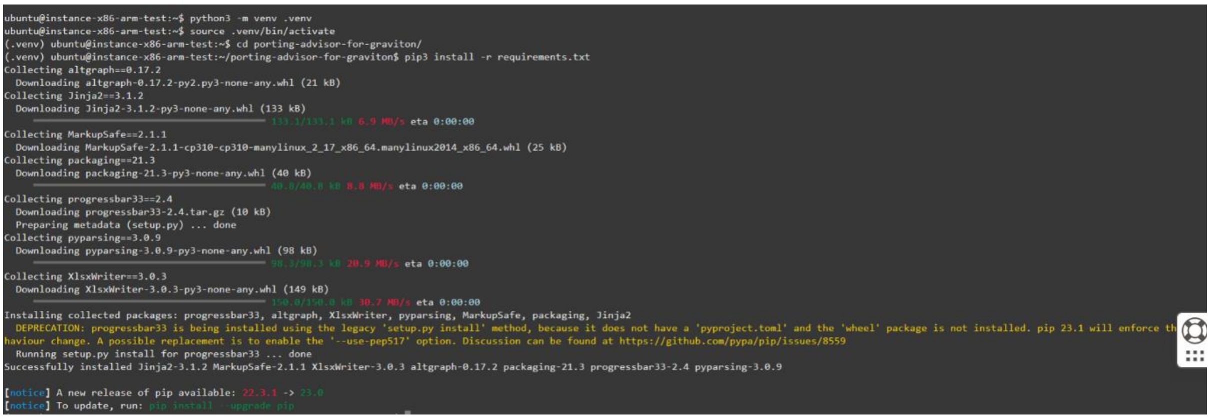
source .venv/bin/activate



```
ubuntu@inst-arm-x86-test:~/porting-advisor-for-graviton$ python3 -m venv .venv
ubuntu@inst-arm-x86-test:~/porting-advisor-for-graviton$ source .venv/bin/activate
(.venv) ubuntu@inst-arm-x86-test:~/porting-advisor-for-graviton$
```

Step 3: Install the python requirements

pip3 install –r requirements.txt



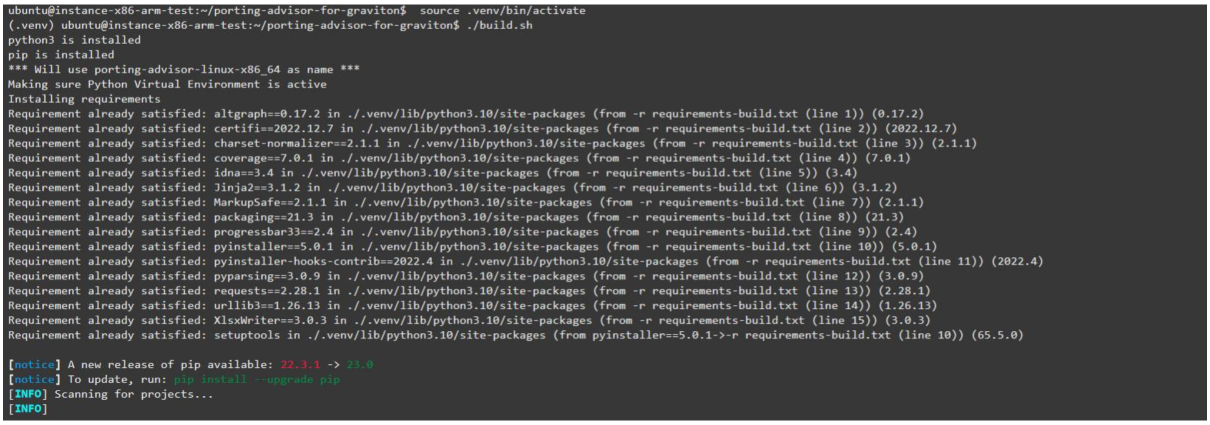
```
ubuntu@instance-x86-arm-test:~$ python3 -m venv .venv
ubuntu@instance-x86-arm-test:~$ source .venv/bin/activate
(.venv) ubuntu@instance-x86-arm-test:~$ cd porting-advisor-for-graviton/
(.venv) ubuntu@instance-x86-arm-test:~/porting-advisor-for-graviton$ pip3 install -r requirements.txt
Collecting altgraph==0.17.2
  Downloading altgraph-0.17.2-py2.py3-none-any.whl (21 kB)
Collecting Jinja2==3.1.2
  Downloading Jinja2-3.1.2-py3-none-any.whl (133 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 133.1/133.1 kB 6.9 MB/s eta 0:00:00
Collecting MarkupSafe==2.1.1
  Downloading MarkupSafe-2.1.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (25 kB)
Collecting packaging==21.3
  Downloading packaging-21.3-py3-none-any.whl (40 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 40.8/40.8 kB 8.8 MB/s eta 0:00:00
Collecting progressbar33==2.4
  Downloading progressbar33-2.4.tar.gz (10 kB)
  Preparing metadata (setup.py) ... done
Collecting pyparsing==3.0.9
  Downloading pyparsing-3.0.9-py3-none-any.whl (98 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 98.3/98.3 kB 20.9 MB/s eta 0:00:00
Collecting XlsxWriter==3.0.3
  Downloading XlsxWriter-3.0.3-py3-none-any.whl (149 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 150.0/150.0 kB 30.7 MB/s eta 0:00:00
Installing collected packages: progressbar33, altgraph, XlsxWriter, pyparsing, MarkupSafe, packaging, Jinja2
  DEPRECATION: progressbar33 is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is not installed. pip 23.1 will enforce th
haviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://github.com/pypa/pip/issues/8559
  Running setup.py install for progressbar33 ... done
Successfully installed Jinja2-3.1.2 MarkupSafe-2.1.1 XlsxWriter-3.0.3 altgraph-0.17.2 packaging-21.3 progressbar33-2.4 pyparsing-3.0.9

[notice] A new release of pip available: 22.3.1 -> 23.0
[notice] To update, run: pip install --upgrade pip
```

Step 4: Generate a self-conatined binary by running the build.sh script.

It will be output to a folder called `dist`.

./build.sh

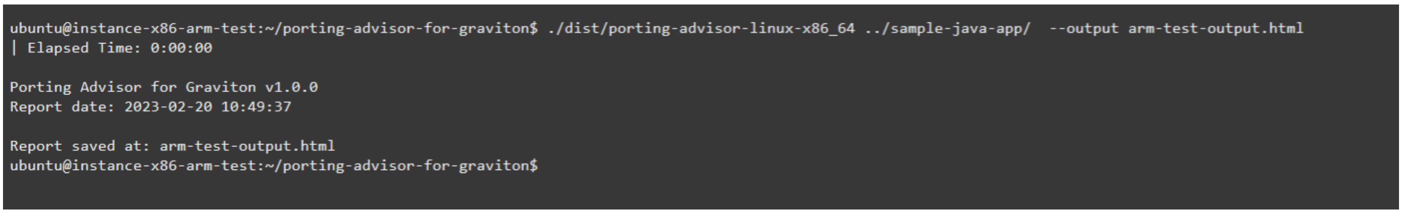


```
ubuntu@instance-x86-arm-test:~/porting-advisor-for-graviton$  source .venv/bin/activate
(.venv) ubuntu@instance-x86-arm-test:~/porting-advisor-for-graviton$ ./build.sh
python3 is installed
pip is installed
*** Will use porting-advisor-linux-x86_64 as name ***
Making sure Python Virtual Environment is active
Installing requirements
Requirement already satisfied: altgraph==0.17.2 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 1)) (0.17.2)
Requirement already satisfied: certifi==2022.12.7 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 2)) (2022.12.7)
Requirement already satisfied: charset-normalizer==2.1.1 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 3)) (2.1.1)
Requirement already satisfied: coverage==7.0.1 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 4)) (7.0.1)
Requirement already satisfied: idna==3.4 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 5)) (3.4)
Requirement already satisfied: Jinja2==3.1.2 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 6)) (3.1.2)
Requirement already satisfied: MarkupSafe==2.1.1 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 7)) (2.1.1)
Requirement already satisfied: packaging==21.3 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 8)) (21.3)
Requirement already satisfied: progressbar33==2.4 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 9)) (2.4)
Requirement already satisfied: pyinstaller==5.0.1 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 10)) (5.0.1)
Requirement already satisfied: pyinstaller-hooks-contrib==2022.4 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 11)) (2022.4)
Requirement already satisfied: pyparsing==3.0.9 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 12)) (3.0.9)
Requirement already satisfied: requests==2.28.1 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 13)) (2.28.1)
Requirement already satisfied: urllib3==1.26.13 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 14)) (1.26.13)
Requirement already satisfied: XlsxWriter==3.0.3 in ./.venv/lib/python3.10/site-packages (from -r requirements-build.txt (line 15)) (3.0.3)
Requirement already satisfied: setuptools in ./.venv/lib/python3.10/site-packages (from pyinstaller==5.0.1->-r requirements-build.txt (line 10)) (65.5.0)

[notice] A new release of pip available: 22.3.1 -> 23.0
[notice] To update, run: pip install --upgrade pip
[INFO] Scanning for projects...
[INFO]
```

Step 5: Run the application to check if your application will work on ARM and save output in an HTML file

./dist/porting-advisor-linux-x86_64 ../<directory-of-your-java-app>/ --output <name-of-file.html>

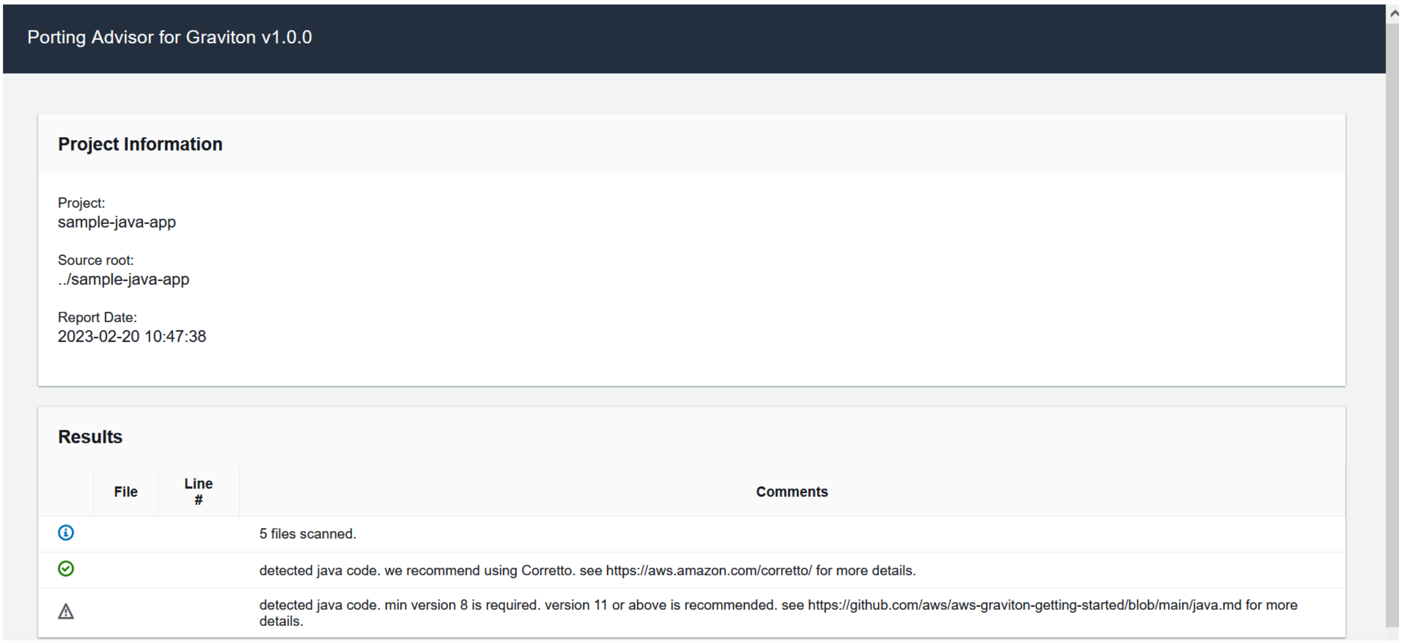


```
ubuntu@instance-x86-arm-test:~/porting-advisor-for-graviton$ ./dist/porting-advisor-linux-x86_64 ../sample-java-app/  --output arm-test-output.html
| Elapsed Time: 0:00:00

Porting Advisor for Graviton v1.0.0
Report date: 2023-02-20 10:49:37

Report saved at: arm-test-output.html
ubuntu@instance-x86-arm-test:~/porting-advisor-for-graviton$
```

Step 6: Open the .html file on a browser in order to view the contents



Porting Advisor for Graviton v1.0.0

Project Information

Project:
sample-java-app

Source root:
../sample-java-app

Report Date:
2023-02-20 10:47:38

Results

	File	Line #	Comments
ⓘ			5 files scanned.
✓			detected java code. we recommend using Corretto. see https://aws.amazon.com/corretto/ for more details.
⚠			detected java code. min version 8 is required. version 11 or above is recommended. see https://github.com/aws/aws-graviton-getting-started/blob/main/java.md for more details.

Step 8: Apply the recommendations given (if any).

Step 7: Run the application on OCI A1 shapes