Lab 3.1.12

Lab – Explore Python Development Tools

Tujuan :

Part 1 : Launch the DEVASC

Part 2 : Review instalasi python

Part 3 : PIP dan Python Virtual Environment

Part 4 : Sharing Virtual Environment

Resource yang dibutuhkan :

- 1 PC/Laptop dengan RAM minimal 4 GB

- Virtual Box atau VMWare

- DEVASC Virtual Machine

Langkah-langkah :

Part 1 : Jalankan DEVASC VM

Part 2 : Review instalasi python

a. Cek versi python yang sudah terinstall.

devasc@labvm:~$ **python3 -V**

Python 3.8.2

devasc@labvm:~$

b. Lihat directory untuk local environment, dengan menggunakan perintah **which python3**

devasc@labvm:~$ **which python3**

/usr/bin/python3

devasc@labvm:~$

Part 3 : PIP dan python virtual environment

PIP adalah package intaller dalam python. Pertama kali menggunakan PIP dengan melakukan perintah **pip3 install**.

Step 1 : buat virtual environment

a. Masuk ke dalam directory **labs/devnet-src/python**

devasc@labvm:~$ **cd labs/devnet-src/python/**

devasc@labvm:~/labs/devnet-src/python$

b. Gunakan tool venv untuk membuat virtual environment dan kemudian aktifkan. **Devfun** adalah nama virtual environment, dan perintah **–m** untuk menjalankan virtual environment tsb.

devasc@labvm:~/labs/devnet-src/python$ **python3 -m venv devfun**

devasc@labvm:~/labs/devnet-src/python$

Step 2 : Aktifkan dan test virtual environment

a. Jalankan perintah :

devasc@labvm:~/labs/devnet-src/python$ source devfun/bin/activate

<mark>(devfun) devasc@labvm:~/labs/devnet-src/python$</mark>

b. Jalankan pip3 freeze, untuk memverifikasi bahwa tidak ada paket Python tambahan yang saat ini diinstal di lingkungan devfun.

(devfun) devasc@labvm:~/labs/devnet-src/python$ **pip3 freeze**

(devfun) devasc@labvm:~/labs/devnet-src/python$

c. Install request paket/package python dalam devfun environment.

(devfun) devasc@labvm:~/labs/devnet-src/python$ **pip3 install requests**

Collecting requests

Downloading requests-2.23.0-py2.py3-none-any.whl (58 kB)

|███████████████████████████████████| 58 kB 290 kB/s Collecting

urllib3!=1.25.0,!=1.25.1,=1.21.1 Downloading urllib3-1.25.9-py2.py3-none-any.whl (126 kB)

|███████████████████████████████████| 126 kB 1.7 MB/s Collecting idna=2.5

Downloading idna-2.9-py2.py3-none-any.whl (58 kB)

|███████████████████████████████████| 58 kB 18.3 MB/s Collecting

certifi>=2017.4.17 Downloading certifi-2020.4.5.1-py2.py3-none-any.whl (157 kB)

|███████████████████████████████████| 157 kB 19.8 MB/s Collecting

chardet=3.0.2 Downloading chardet-3.0.4-py2.py3-none-any.whl (133 kB)Lab - Explore Python

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Page 3 of 5 www.netacad.com |████████████████████████████████| 133 kB

59.2 MB/s Installing collected packages: urllib3, idna, certifi, chardet, requests Successfully

installed certifi-2020.4.5.1 chardet-3.0.4 idna-2.9 requests-2.23.0 urllib3-1.25.9

(devfun) devasc@labvm:~/labs/devnet-src/python$

d. Jalankan lagi perintah **pip3 freeze**

(devfun) devasc@labvm:~/labs/devnet-src/python$ **pip3 freeze**

certifi==2020.4.5.1

chardet==3.0.4

idna==2.10

requests==2.24.0

urllib3==1.25.9

(devfun) devasc@labvm:~/labs/devnet-src/python$

e. Deactivate virtual environment devfun

(devfun) devasc@labvm:~/labs/devnet-src/python$ **deactivate**

devasc@labvm:~/labs/devnet-src/python$

step 3 : check package yang telah diinstall di system environment

a. Jalankan perintah dibawah ini, lalu jelaskan ada yang terjadi,

devasc@labvm:~/labs/devnet-src/python$ **python3 -m pip freeze**

ansible==2.9.4

apache-libcloud==2.8.0

appdirs==1.4.3

argcomplete==1.8.1

astroid==2.3.3

bcrypt==3.1.7

blinker==1.4

certifi==2019.11.28

xmltodict==0.12.0

zipp==1.0.0

devasc@labvm:~/labs/devnet-src/python$

b. Gunakan perintah grep untuk melakukan pencarian dengan kata kunci tertentu.

devasc@labvm:~/labs/devnet-src/python$ **python3 -m pip freeze | grep requests**

requests==2.22.0

requests-kerberos==0.12.0

requests-ntlm==1.1.0

requests-toolbelt==0.9.1

requests-unixsocket==0.2.0

devasc@labvm:~/labs/devnet-src/python$

Part 4 : Sharing virtual environment

a. Aktivkan kembali devfun,

devasc@labvm:~/labs/devnet-src/python$ **source devfun/bin/activate**

(devfun) devasc@labvm:

b. Jalankan perintah pip3 freeze dan tempatkan pada file requirements.txt

(devfun) devasc@labvm:~/labs/devnet-src/python$ **pip3 freeze > requirements.txt**

c. Deactivated virtual environment, dan explore dengan perintah ls

```
(devfun) devasc@labvm:~/labs/devnet-src/python$ deactivate
devasc@labvm:~/labs/devnet-src/python$ ls
devfun file-access-input.py if-acl.py requirements.txt
devices.txt file-access.py if-vlan.py while-loop.py
devnew hello-world.py person-info.py
```

d. Buat dan aktivkan virtual environment baru dengan nama **devnew**

```
devasc@labvm:~/labs/devnet-src/python$ python3 -m venv devnew
devasc@labvm:~/labs/devnet-src/python$ source devnew/bin/activate
(devnew) devasc@labvm:~/labs/devnet-src/python$
```

e. jalankan perintah **pip3 install -r requirements.txt** untuk menginstall package sama dengan devfun.

```
(devnew) devasc@labvm:~/labs/devnet-src/python$  pip3 install -r
requirements.txt
Collecting certifi==2020.4.5.1
 Using cached certifi-2020.4.5.1-py2.py3-none-any.whl (157 kB)
Collecting chardet==3.0.4
 Using cached chardet-3.0.4-py2.py3-none-any.whl (133 kB)
Collecting idna==2.9
 Using cached idna-2.9-py2.py3-none-any.whl (58 kB)
Requirement already satisfied: pkg-resources==0.0.0 in
./devnew/lib/python3.8/site packages (from -r requirements.txt (line
4)) (0.0.0)
Collecting requests==2.23.0
 Using cached requests-2.23.0-py2.py3-none-any.whl (58 kB)
Collecting urllib3==1.25.9
 Using cached urllib3-1.25.9-py2.py3-none-any.whl (126 kB)
Installing collected packages: certifi, chardet, idna, urllib3,
requests
Successfully installed certifi-2020.4.5.1 chardet-3.0.4 idna-2.9
requests-2.23.0
urllib3-1.25.9
```

```
(devnew) devasc@labvm:~/labs/devnet-src/python$
```

f. kemudian jalankan perintah pip3 freeze

```
(devnew) devasc@labvm:~/labs/devnet-src/python$ pip3 freeze
certifi==2020.4.5.1
chardet==3.0.4
idna==2.9
pkg-resources==0.0.0
requests==2.23.0
urllib3==1.25.9
(devnew) devasc@labvm:~/labs/devnet-src/python$
```

g. deactivated devnew virtual environment

```
(devnew) devasc@labvm:~/labs/devnet-src/python$ deactivate
devasc@labvm:~/labs/devnet-src/python$
```