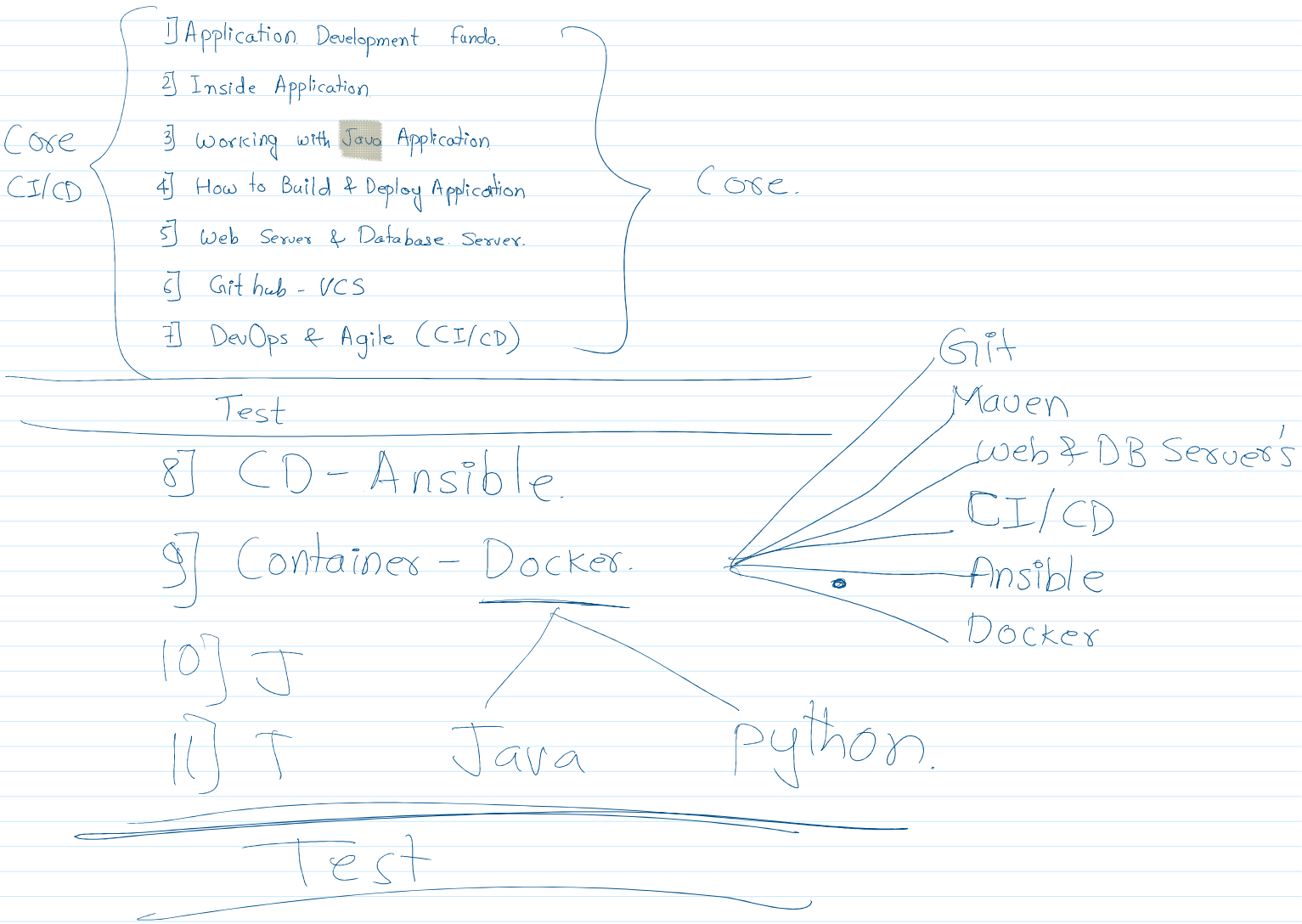
14.24Jul.Implement Docker based Greeting App

Monday, July 24, 2023 2:17 PM



Without Docker(Virtualization)

- Greeting Application
  - Programming Language: Python
  - Web Framework: Flask
  - Dependencies: build-essential, python-dev, requirements.txt
  - Execute Tool: pip

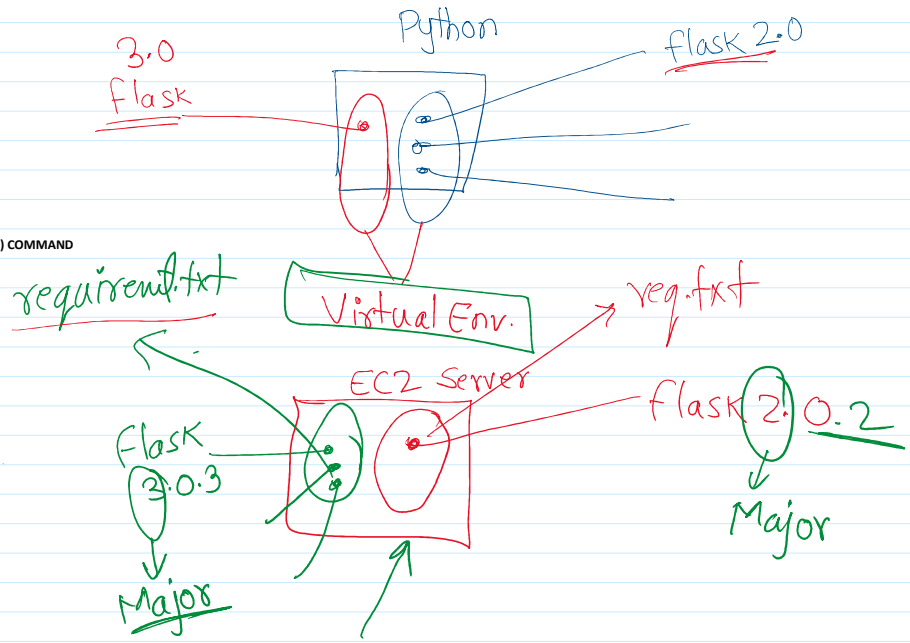
With Docker

- Install Docker (root)
- Revise Docker Architecture
  - Images
  - Container
  - Docker Command
- Deploy Greeting Application
  - Using Command
  - Using Dockerfile
  - Using YAML

Deployment of Python- Greeting Application using Logical Server(Virtualization)

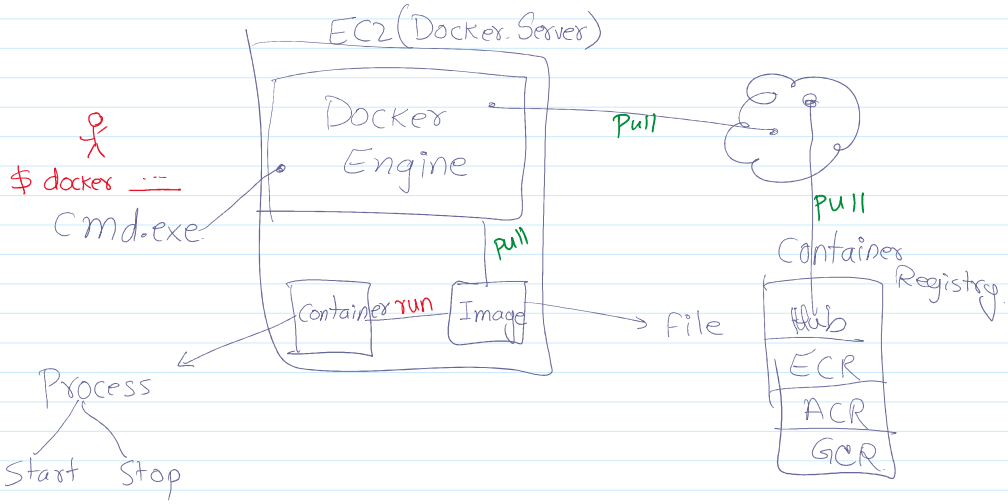
1. **Install Python Tools**(python.org)
   a. Windows:
      i. Wizard
   b. Unix(Debian)
      i. $ sudo su
      ii. # apt update
      iii. # python --version # python3 --version
      iv. # apt install python-pip -y
      v. # apt install python-dev -y
      vi. # apt install build-essential -y
2. Clone Repository
3. Install all Dependencies:
   a. # pip --version
   b. # pip3 --version
   c. # pip install virtualenv
   d. # pip show virtualenv
4. Create Virtual Environment
   a. # virtualenv .envGApp

5. Activate Virtual Environment
    a. Windows: # .envGA\Scripts\activate
    b. Linux: # source .envGA/bin/activate
6. Install All Packages
    a. # pip install -r requirements.txt
7. Check All Installed Packages
    a. # pip list
    b. # pip show flask
8. Run Application
    a. # python app.py

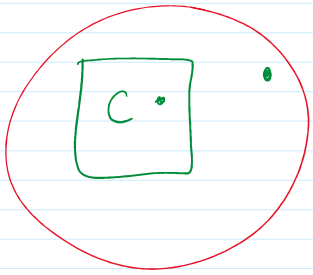


Deployment of Python- Greeting Application **using Containers(Docker) COMMAND**

1. Order EC2 Instance(Server) & Install Docker
    a. User Data: #include get.docker.com
2. Connect & Test
    a. # ssh
    b. $ sudo su
    c. # apt update
    d. # docker --version
    e. # docker info
3. Install Python Tools(python.org)
    a. Unix(Debian)
        i. $ sudo su
        ii. # apt update
        iii. # python --version # python3 --version
        iv. # apt install python-pip -y
        v. # apt install python-dev -y
        vi. # apt install build-essential -y
4. Clone Repository
5. Install all Dependencies:
    a. # pip --version
    b. # pip3 --version
    c. # pip install virtualenv
    d. # pip show virtualenv
6. Create Virtual Environment
    a. # virtualenv .envGApp
7. Activate Virtual Environment
    a. Windows: # .envGA\Scripts\activate
    b. Linux: # source .envGA/bin/activate
8. Clone Greeting App
9. Install All Packages
    a. # pip install -r requirements.txt
10. Check All Installed Packages
    a. # pip list
    b. # pip show flask
11. Run Application
    a. # python app.py




```
# docker pull <imageName>

# docker image ls
# docker images

# docker rmi <image-id>

# docker run image-name
# docker run image-name COMMAND
# docker run -it image-name sh

# docker ps      #Display all running Containers
# docker ps -a   #Display all Stopped Containers

# apt install python3-pip -y
# apt install python-dev
```



pull Ubuntu:latest

apt update -y

apt install python3 -y

apt install python3-pip -y

From EC2 COPY YOUR APP --> CONTAINER/app

- # mkdir /app
- # cd /app
- # COPY

pip install -r requirements.txt