

03.29Mar.Console Application Python

29 March 2023 07:07 PM

- 1) Application
- 2) Types of Applications
 - a. Console
 - b. Windows
 - c. Web
- 3) Develop --> Deploy
 - a. Programming Language
 - i. JAVA
 - ii. PYTHON
 - b. Console Based Application
 - i. Using Java
 - ii. Using Python
 - c. Web Based Application
 - i. Using Java
 - ii. Using Python

Java -->

Programming Language
Mobile Development Language

Python -->

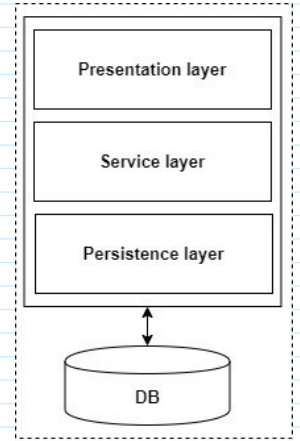
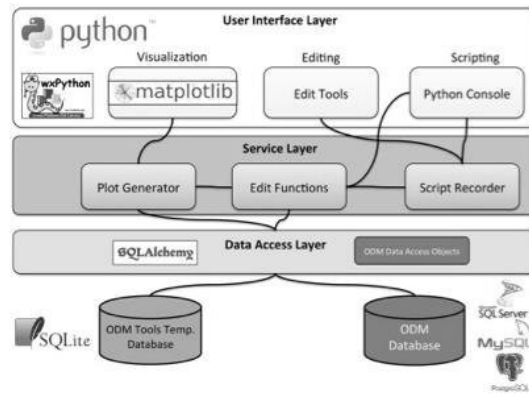
Programming Language
Software Development
Scripting Language
DevOps, SysOps, CloudOps
Interactive Language
Like SQL(Structured Query Language)
Job Execution Language
Databricks
Mobile Development
MIT App Inventor
Web Based Language
Brython
Scientific Programming Language
Data Science, AI, ML, DL, NN, NLP, NLU

Who Uses Python:

- World Best Text Processing ==> Google
- World Best Video Processing ==> Youtube
- World Best Security System ==> NASA, NDA, FDA, etc.
- World Best Hackers ==> Cyber S. , EH, etc.(KALI)
- World Best Cloud ==> AWS, DropBox
- World Best Complex Distributed Computing ==> Bit torrent

Python Code --> Syntax Checker & Translator --> PVM(Can accept User Inputs) --> Output

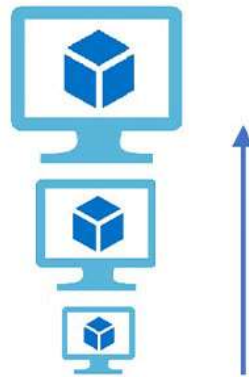
- UI Layer -
- Django
 - Flask
 - Visualization(Matplotlib)
- Service Layer
- Microservice (Django, Flask)



Monolithic architecture

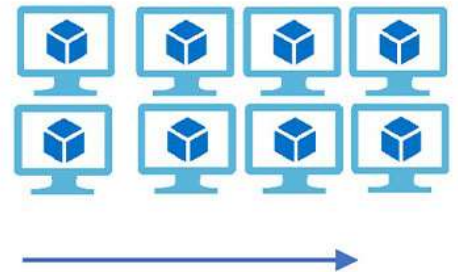
Vertical Scaling

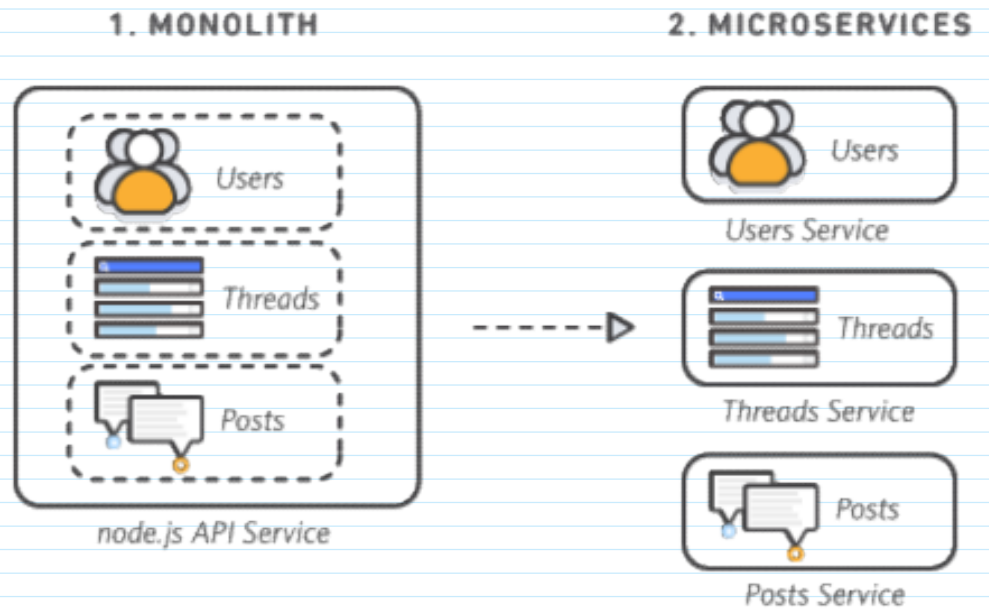
(Increase size of instance (RAM , CPU etc.))



Horizontal Scaling

(Add more instances)





Python Instructions

- Python(Interactive) --> Like SQL
- File Based (Program)

- 1) Install Python 3.XX
 - a. Custom Install --> Select Path(C:\Python311)
 - b. Select All User Install
 - c. Set Path
 - d. Disable Long File Checks
- 2) Interactive Python
 - a. python python3

```
>>> print("Welcome");
```

```
>>> 1+2
```

```
>>> for x in range(100):
    print("Welcome");
```

```
>>>
```

<https://www.python.org/downloads/>

<https://www.programiz.com/python-programming/examples/hello-world>

Web Based Application Using Java

Using Apache Maven

Maven:

- Making the **build process easy**
- Providing a uniform build system
- Providing quality project information
- Encouraging better development practices

Maven is used to:

- **Create** Enterprise Web Application
- Used to **Build** an Application(Web Based - Web Enterprise Level Application)
- Improve **Quality** of an Application
- Follows **Best** Practices & Recommendations
- **Transparent** in Migrations, Adding New feature

1) Download Maven

Windows:

<https://d1cdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.zip>

Unix/Linux/Mac/Solaris:

<https://d1cdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz>

2) Set Environment Variables

a. MAVEN_HOME

b. Windows:

i. MAVEN_HOME = c:\paths\apache-maven-xxx

ii. %MAVEN_HOME%\bin

c. Unix/Linux/Mac:

i. echo \$MAVEN_HOME

ii. export MAVEN_HOME= ...

3) Create Folder **WebMvnApp1**

a. Open with VSCode

b. Open terminal

c. \$ mvn --version

4) Create Web Enterprise Java Application using Maven

```
$ mvn archetype:generate -DarchetypeArtifactId=maven-archetype-quickstart
```

```
$ mvn archetype:generate -DgroupId=com.nubeera -DartifactId=JavaHelloworld -  
DarchetypeArtifactId=maven-archetype-quickstart -DinteractiveMode=false
```

```
$ mvn archetype:generate -DgroupId=com.nubeera -DartifactId=JavaHelloworld -  
DarchetypeArtifactId=maven-archetype-quickstart -DinteractiveMode=false
```

DevOps/Cloud Engineer

- 1) DevOps = Coding --> Developers
- 2) SysOps = Linux --> Administrators
- 3) CloudOps = Cloud --> Engineer

- 1) How to Create Maven Web Application
- 2) How to Build Maven Application
- 3) Maven Application Life Cycle phases

- 1) Environment Variables
 - a. System
 - b. User
 - c. Session
- 2) Configure Java, Maven

- 1) Monolithic vs Microservice
- 2) Scaling Up/Down
- 3) Scaling Vertical/Horizontal