06.03Apr: Logical Servers

3 April 2023   07:15 PM

Server: Provides Service --> Client

Physical Server: Hardware
Logical Server: Software
- ➢ Web Server(Flask)
  - ○ Client: Browser
- ➢ Database Server(MySQL)
  - ○ Client: Dbeaver/Command/Workbench
- ➢ Mail Server
- ➢ CI(Jenkins) Server
- ➢ Configuration Management(Ansible) Server
- ➢ Infra(TF) Server

Apache Tomcat
- ➢ Web/Application Server
- ➢ File Structure:
  - ○ /bin - Binary Files(executable files)
  - ○ /conf - Configuration files
  - ○ /logs - Errors, Outputs, Reports, etc.
  - ○ /webapps - Deploying your application
- ➢ Installations
  - ○ Service Installer
  - ○ ZIP --> Environment Variable
  - ○ Integrated with Project

1. Install Java8/11/17/* and Latest version of VSCode.
2. Create a Java Dynamic project(Maven, Spring boot).
3. Create an Index.html file.
4. Install the tomcat9/10/11/* server.
5. Deploy to the application on tomcat9/10/11/* Server.
6. Start the server.
7. Verify the application is up and running

1. Create Java **Dynamic** Project(**Maven**/Spring boot/**Tomcat**/JSP/etc).
   a. mvn archetype:generate -DgroupId=com.nubeera -DartifactId=**Tomcat-DeployWAR** -DarchetypeArtifactId=**maven-archetype-webapp** -DinteractiveMode=false
   b. cd Tomcat-DeployWAR
2. Configure Plugin in pom.xml write code in build --> plugins
   ```
   <plugin>
       <groupId>org.apache.maven.plugins</groupId>
       <artifactId>maven-dependency-plugin</artifactId>
       <version>2.3</version>
       <executions>
        <execution>
         <phase>package</phase>
         <goals><goal>copy</goal></goals>
   ```

```
                    <configuration>
                     <artifactItems>
                      <artifactItem>
                       <groupId>com.github.jsimone</groupId>
                       <artifactId>webapp-runner</artifactId>
                       <version>8.5.11.3</version>
                       <destFileName>webapp-runner.jar</destFileName>
                      </artifactItem>
                     </artifactItems>
                    </configuration>
                   </execution>
                  </executions>
                 </plugin>
```

3. Package Project
    a. $ mvn clean package
4. Run Project
    a. $ java -jar target/dependency/webapp-runner.jar target/*.war
5. Verify Project
    a. $ curl http://localhost:8080/

DevOps/CloudOps = Cloud + DevOps + SysOps
1. **DevOps** = Automate Development things(Developer, SE, Tester, QA, QE) = Any One Language
2. SysOps = Automate System Admin/Engg. Things(Linux Admin)   =   Linux
3. **Cloud** --> Ops = Automate Cloud Engineer/Admin things

DevOps Process

SE/Tester --> DevOps, DBA(SQL)

Client Req. --> Mgt --> **Alla(Eng)** --> Developer(Functionality) --> Tester(Test Cases) --> **Alla(Eng)** --> Mgt--> URL --> Client(1M)

Deployment(Ops 10 --> 1 DevOps) + Infrastructure(Cloud)

Administrator --> Engineer --> Lead --> Architecture

Dynamic Web Based Java Project
  ➢ Web & Application (Tomcat/MySQL) Servers
  ➢ Plugins:
      ○ WebRunner
      ○ Junit
      ○ Surefire
  ➢ Web Server
  ➢ Java Commands

- ➢ Maven Commands
  - ○ Package
  - ○ Install
  - ○ Compile

Lord F.
BE = 18 Years = 200+ Subjects

9+ Elon
China

HS= Language, Regional, Math, Skills