3 tier Architecture Manual Deployment

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Frontend Tier - Web server and Load Balancer is comes in Frontend tier

Backend Tier - Application server

Database Tier - Database server

**One Tier Application:-** If Database,Backend,Frontend places in a single server then it is called One Tier Application

Disadvantages:-cannot handle huge traffic

Application will crash

**Two Tier Application:-** Frontend and Backend places in one server and database is handled in other server.

**Three Tier Application:-** Frontend,Backend,Database are places in three seperate servers.

**Web Tier or Frontend Tier:-**

HTML,CSS,Javascript,Angular etc.,

**Load Balancing:-** It is responsibe for forwarding the request to which server is available if we search something in browser.

**Web server:-** we use nginx webserver and we will place the frontend applications here

**Application Tier or Backend Tier:-**

Java, nodejs,phthon etc., these techonologies used to make crud operations by connecting with database

**Database Tier:-**

Mysql,Mongodb,Postgress,Redis,ActiveMQ etc., used to store data

**AMI** :- Amazon Machine Image

**Image**:- Image is Os + some required packages or softwares

**For connecting anything we need**

**IP**

**PORT**

**PROTOCOL**

**USERNAME**

**PASSWORD**

**If we are connecting to facebook.com**

**https – protocol**

**Ip – facebook.com**

**Port number – 443 – it is the default port number for https**

**Username**

**password**

3 Tier Architecture Project-1 Manual Deployment

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For Practise purpose we are using devops-practice AMI

username:ec2-user

password:DevOps321

**Steps**:-

1. a)First we need to create 3 EC2 servers in aws by using above AMI and

b)without using key-pair. as we are using username and password

c)as of now select existing security group or Firewall which allow inbound rules ssh

for ssh port number is 22

d)Rename those 3 servers as database,backend, frontend.

2. a) use MobaXterm instead of Gitbash because of we need to deal three servers at a time and mobaxterm supports tabbed ssh.

b) open mobaxterm and click session and ssh and copy paste the IPV4 address in remote host and click ok and use username and password for login and rename the tab as we want .

3.If we are using Gitbash we can use

ssh ec2-user@IPV4 address

and password

**Actual Steps for deploying 3 Tier application:**

**First we need to create database server next application server and next webserver**

**Database Tier: Here I am using mysql as database**

1. **Need to create Ec2 server for database and name it as database as of now . As we are calling it is database server we need to install database within the server then only we can call it as database server.**
2. **We need to take root access as we are installing sudo su -**

**Command:-** **dnf install mysql-server -y**

**🡪 Used to install mysql server with the ec2 server**

**Command:- dnf list installed | grep mysql**

**🡪 Used to check mysql installed or not**

**Command:- systemctl status mysqld**

**🡪 mysqld.service - MySQL 8.0 database server**

**Loaded: loaded (/usr/lib/systemd/system/mysqld.service; disabled; preset: disabled)**

**Active: inactive (dead)**

**Command:- systemctl start mysqld**

**🡪 Now check the status – it is active and running**

**Command:- systemctl enable mysqld**

**🡪 Even our system is restarted or stop and start , it will start automatically**

**Command:- ps -ef | grep mysql**

**🡪To check the processes**

**Command:- netstat -lntp**

**🡪 It will show the port (mysqld default port number:3306)**

**Upto now we have installed successfully mysql server within the ec2 server. Now we need to login for using mysql**

**The default mysql admin username is root and we need to set the password by using the below command**

**Command:- mysql\_secure\_installation --set-root-pass ExpenseApp@1**

**🡪 Here we are setting password as ExpenseApp@1**

**Now we need to connect to mysql server databases, tables for that we need to use**

**Command: mysql**

**🡪 So we can enter into mysql cmd , now we can use mysql commands only**

**Command:- show databases;**

**Command:- show tables;**

**Command:- select \* from <table\_name>;**

**Application Tier:**