

## Implement 3 tier architecture in AWS

### Instructions

Follow the steps in document and complete the assignment Note: complete the S3 endpoint assignment first and then start this assignment

### Overview

Web server (nginx) - Public Instance

App server (Mattermost) - Private Instance

DB server( mysql) - Private Instance

(NOTE: In your private instance there won't be any access to the internet)

1. Download rpm packages using wget in your public instance

<http://dev.mysql.com/get/mysql57-community-release-el7-9.noarch.rpm>

[https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-common-5.7.38-1.el7.x86\\_64.rpm](https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-common-5.7.38-1.el7.x86_64.rpm)

[https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-libs-5.7.38-1.el7.x86\\_64.rpm](https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-libs-5.7.38-1.el7.x86_64.rpm)

[https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-client-5.7.38-1.el7.x86\\_64.rpm](https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-client-5.7.38-1.el7.x86_64.rpm)

[https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-server-5.7.38-1.el7.x86\\_64.rpm](https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-server-5.7.38-1.el7.x86_64.rpm)

2. Use SCP protocol to copy the rpm packages into your private instance and then perform localinstall

A:

```
[ec2-user@ip-10-0-0-58 ~]$ sudo scp -i firstinstance.pem -r ~/mysql-community-* ec2-user@10.0.2.106:/home/ec2-user
mysql-community-client-5.7.38-1.el7.x86_64.rpm          100% 28MB 151.5MB/s  00:00
mysql-community-common-5.7.38-1.el7.x86_64.rpm        100% 311KB 102.2MB/s  00:00
mysql-community-libs-5.7.38-1.el7.x86_64.rpm          100% 2641KB 159.1MB/s  00:00
mysql-community-server-5.7.38-1.el7.x86_64.rpm        100% 178MB 125.1MB/s  00:01
[ec2-user@ip-10-0-0-58 ~]$ ls -l
total 213156
-r----- 1 ec2-user ec2-user 1674 Nov 22 16:56 firstinstance.pem
-rw-r--r-- 1 ec2-user ec2-user 28991900 Mar 22 2022 mysql-community-client-5.7.38-1.el7.x86_64.rpm
-rw-r--r-- 1 ec2-user ec2-user 318868 Mar 22 2022 mysql-community-common-5.7.38-1.el7.x86_64.rpm
-rw-r--r-- 1 ec2-user ec2-user 2704332 Mar 22 2022 mysql-community-libs-5.7.38-1.el7.x86_64.rpm
-rw-r--r-- 1 ec2-user ec2-user 186231736 Mar 22 2022 mysql-community-server-5.7.38-1.el7.x86_64.rpm
-rw-r--r-- 1 ec2-user ec2-user 9224 Sep 12 2016 mysql57-community-release-el7-9.noarch.rpm
[ec2-user@ip-10-0-0-58 ~]$ sudo scp -i firstinstance.pem -r ~/mysql57-community-* ec2-user@10.0.2.106:/home/ec2-user
mysql57-community-release-el7-9.noarch.rpm            100% 9224 10.8MB/s  00:00
[ec2-user@ip-10-0-0-58 ~]$
```

```
[ec2-user@ip-10-0-2-106 ~]$ ls
mysql-community-client-5.7.38-1.el7.x86_64.rpm  mysql-community-server-5.7.38-1.el7.x86_64.rpm
mysql-community-common-5.7.38-1.el7.x86_64.rpm  mysql57-community-release-el7-9.noarch.rpm
mysql-community-libs-5.7.38-1.el7.x86_64.rpm
[ec2-user@ip-10-0-2-106 ~]$
```

### Steps to Install my sql in a Private Instance

1. Login to one of your Private Instance

. Execute the command `sudo yum erase mariadb-libs` (need to remove since it has some conflicts with mysql)

2 4. Run `sudo yum localinstall "Provide the rpm file name of community release"`

6. Run `sudo yum localinstall "Provide the rpm file name community ammon"`

8. Run `sudo yum localinstall "Provide the rpm file name community libs"`

10. Run `sudo yum localinstall "Provide the rpm file name community client"`

12. Run `sudo yum localinstall "Provide the rpm file name community server"`
  13. Follow from the step 4 from the mattermost software Installation doc and complete the my sql installation alone
  14. Add an Inbound rule in the security group of your private Instance where sql is installed
- A: private instance 1  
mysql/aurora

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	Actions
sgr-0af74b2a14e3cd4b3	HTTP	TCP	80	Cu...	Q 0.0.0.0/0	Delete
-	MYSQL/Aurora	TCP	3306	Cu...	Q 10.0.0.0/16	Delete

Add rule

### Steps to Run Mattermost in your Private Instance

1. Login to another private Instance
2. Configure and Run the mattermost server using the mattermost software Installation doc
3. Add an Inbound rule in the security group of your private instance and rules

A: private instance 2  
custom tcp

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	Actions
sgr-09b39335bd10cc8ee	HTTP	TCP	80	Cu...	Q 0.0.0.0/0	Delete
sgr-04b7f3bda813b93a1	SSH	TCP	22	Cu...	Q 10.0.0.0/8	Delete
sgr-0c6bd4a1d3889a011	All ICMP - IPv4	ICMP	All	Cu...	Q 10.0.0.0/16	Delete
sgr-04a8f906a6a9b887e	Custom TCP	TCP	8065	Cu...	Q 10.0.0.0/16	Delete

### Steps to install nginx and configure mattermost in your Public Instance

1. Login to your public Instance
2. Follow the steps from the mattermost software Installation doc for Installing nginx and configuring nginx as a proxy for mattermost
3. Add an inbound rule in the security group of public instance

A: public instnace

A: http

Security group rule ID	Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Source <a href="#">Info</a>	Description - optional <a href="#">Info</a>	
sgr-09b39335bd10cc8ee	HTTP	TCP	80	Cu... <input type="text"/>	<input type="text"/>	<input type="text" value="0.0.0.0/0"/> X
sgr-04b7f3bda813b93a1	SSH	TCP	22	Cu... <input type="text"/>	<input type="text"/>	<input type="text" value="10.0.0.0/8"/> X
sgr-0c6bd4a1d3889a011	All ICMP - IPv4	ICMP	All	Cu... <input type="text"/>	<input type="text"/>	<input type="text" value="10.0.0.0/16"/> X
sgr-04a8f906a6a9b887e	Custom TCP	TCP	8065	Cu... <input type="text"/>	<input type="text"/>	<input type="text" value="10.0.0.0/16"/> X

## FINAL OUTPUT

Stop EC2 Insto x Instances | EC... x EC2 | ap-sou... x Instance deta... x EC2 | ap-sou... x Cohort CoE15 x gradious - gre x

Not secure | 3.108.196.7/gradious/channels/gradious

Gradius Technolo... Gmail YouTube Maps Install Nginx on Ce... All Bookmarks

Preview Mode: Email notifications have not been configured.

Channels

gradious

Find channel

CHANNELS

- gradious
- Off-Topic
- Town Square

DIRECT MESSAGES

Invite Members

gradious

1 Add a channel header

### Beginning of gradious

This is the start of the gradious channel, created by pranay on November 29, 2023. Any member can join and read this channel.

Create a board Set a Header

Let's add some people to the workspace!

Invite others to the workspace

Today

System 4:21 PM  
You joined the channel.

Write to gradious

Help

28° Windows Search File Explorer Microsoft Edge Task View Google Chrome VLC Media Player Docker Desktop Firefox Brave Browser Telegram WhatsApp Signal Messenger Zoom Google Meet Microsoft Teams OneDrive OneNote Outlook Mail Calendar Photos Maps Settings Network Settings Sound Settings Battery Settings ENG IN 16:21 29-11-2023