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PGPCC | Project

Implementing a Team Communication Solution using Mattermost and AWS

Scenario

Team communication and instant messaging solutions are an integral part of any business environment today. As of 2020, the total number of users of Slack and Microsoft Teams exceeded 20 million.

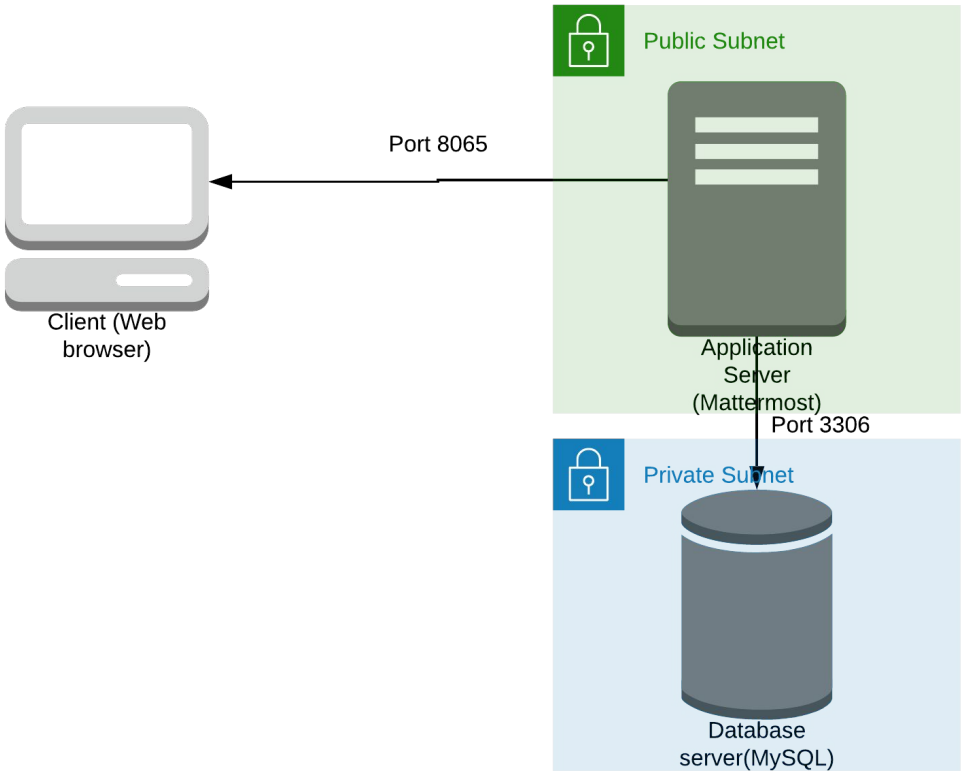
Some organizations might have compliance policies in place which do not allow them to use services managed by third parties.. They will prefer solutions that can be managed and hosted on servers controlled by them. The same will extend to communication solutions as well.

The Solution

Mattermost is an open-source, self-hostable online chat service with file sharing, search, and has other integration options. It is designed as an internal chat platform for organisations and companies, and mostly markets itself as an open-source alternative to Slack. It uses a 3 tier architecture that can be hosted using an IaaS provider or on-premises servers.

The purpose of this exercise is to deploy the trial version of the application on the public cloud.

Base Architecture



What are you expected to do?

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1. **Phase 1 – Architecture**
   Create an architecture diagram for the final implementation (Point 2 in this slide). (hint. will be an update to base architecture). *This is for your implementation reference and you are required to submit this as part of your Solution Document (Project Report).*

2. **Phase 2 – Implementation**

   A. Implement 2 different subnets (one public and the other private) in a custom VPC
   B. Install and configure MySQL on an Ubuntu 18.04 instance on the private subnet using the instructions provided. (Hint: Use a bastion host and a NAT instance)
   C. Install and configure Mattermost on an Ubuntu 18.04 instance on the public subnet using the provided instructions.
   D. Configure the security groups to allow the ports as shown in the architecture.
   E. Test the installation by accessing the IP of the public instance in a browser via the port 8065.

Grading Policy & Tasks

Phase 1 (Architecture) = 10 points
Phase 2 (Implementation) = 20 points
Complete Solution Document = 10 points

Total Project Score = 40 points

Install MySQL

1. **Download the script**
   wget https://storage.googleapis.com/skl-training/aws-codelabs/mattermost/install_mysql.sh

2. **Run the script**
   chmod 700 install_mysql.sh
   sudo ./install_mysql.sh

Installing Mattermost

1. **Download the script using the following command**
   wget https://storage.googleapis.com/skl-training/aws-codelabs/mattermost/mattermost_install.sh

2. **Run the script :**
   chmod 700 mattermost_install.sh
   sudo ./mattermost_install.sh <private IP of MySQL server>
   Example *: sudo ./mattermost_install.sh 173.65.34.7*

   sudo chown -R mattermost:mattermost /opt/mattermost
   sudo chmod -R g+w /opt/mattermost

3. **Run the Mattermost server:**
   cd /opt/mattermost
   sudo -u mattermost ./bin/mattermost

Helpful Links

- How to install Mattermost on Ubuntu
- How to Install MySQL DB on EC2 instance
- Cloud Computing on AWS course - Instructional Modules

Resource Clean Up

1. Cloud is always pay per use model and all resources/services that we consume are chargeable. Cleaning up when you've completed your lab or project is always necessary. This is true whether you're doing a lab or implementing a project at your workplace.

2. After completing with the lab, make sure to delete each resource created in the reverse chronological order.

Submission Guidelines

- The solution document should strictly follow the sequence of steps listed in “The Solution” slide.
- Each screenshot needs to be qualified with a brief description of what is it about.
- Participants should explicitly write comments and remarks if they wish to notify the evaluator of specific points.
- It is mandatory to share “Lessons & Observations” at the end of the solution document.
- DO NOT WAIT UNTIL THE LAST MINUTE. The program office will not extend the project submission deadline under any circumstances.
- The AWS Account ID of the participant should be visible in all screenshots

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Academic Honesty & Anti-Plagiarism Policy

Cheating, plagiarism, and all forms of academic dishonesty are expressly forbidden in this program, and by our Policy on Academic Integrity, any form of cheating will immediately earn you a failing grade for the entire course.

Note: Unlike labs where we encourage peer to peer learning and support, participants are strongly advised to not help each other for Projects. This is an individual exercise. Any form of help/support whether offered explicitly, proactively or as a response will be treated as plagiarism.

How to submit your solution?

1. Navigate to the relevant “PROJECTS” course in Olympus.
2. Name your solution document appropriately in the format of: BATCH_FIRSTNAME_LASTNAME_PROJECT1;
   - e.g. PGPCCMAY18_VIJAY_DWIVEDI_PROJECT1.pdf
   - e.g. pgpccmay18_vijay_dwivedi_project1.pdf
3. Upload your solution document and hit submit.
4. Upload any associated files, if you wish to substantiate your solution.

***Note**: If you wish to make modifications to your submitted solution, you can resubmit your solution document “within the submission window” and mark your comments accordingly.*