

# Implement Three Tier Architecture AWS

-> Download RPM packages

## Database Server (MySQL)

```
ec2-user@ip-10-0-4-205:~ X ec2-user@ip-10-0-2-238:~/m X + v
[ec2-user@ip-10-0-2-238 mysql]$ sudo wget http://dev.mysql.com/get/mysql57-community-release-el7-9.noarch.rpm
--2023-11-03 09:45:02-- http://dev.mysql.com/get/mysql57-community-release-el7-9.noarch.rpm
Resolving dev.mysql.com (dev.mysql.com)... 23.47.234.151, 2600:140f:1e00:486::2e31, 2600:140f:1e00:4b2::2e31
Connecting to dev.mysql.com (dev.mysql.com)|23.47.234.151|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://dev.mysql.com/get/mysql57-community-release-el7-9.noarch.rpm [following]
--2023-11-03 09:45:02-- https://dev.mysql.com/get/mysql57-community-release-el7-9.noarch.rpm
Connecting to dev.mysql.com (dev.mysql.com)|23.47.234.151|:443... connected.
HTTP request sent, awaiting response... 302 Moved Temporarily
Location: https://repo.mysql.com//mysql57-community-release-el7-9.noarch.rpm [following]
--2023-11-03 09:45:03-- https://repo.mysql.com//mysql57-community-release-el7-9.noarch.rpm
Resolving repo.mysql.com (repo.mysql.com)... 104.120.77.78, 2600:1417:75:3ab::1d68, 2600:1417:75:3a7::1d68
Connecting to repo.mysql.com (repo.mysql.com)|104.120.77.78|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 9224 (9.0K) [application/x-redhat-package-manager]
Saving to: 'mysql57-community-release-el7-9.noarch.rpm'

100%[=====] 9,224 --.-K/s in 0s

2023-11-03 09:45:03 (248 MB/s) - 'mysql57-community-release-el7-9.noarch.rpm' saved [9224/9224]

[ec2-user@ip-10-0-2-238 mysql]$ sudo wget https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-common-5.7.38-1.el7.x86_64.rpm
--2023-11-03 09:46:15-- https://dev.mysql.com/get/Downloads/MySQL-5.7/mysql-community-common-5.7.38-1.el7.x86_64.rpm
Resolving dev.mysql.com (dev.mysql.com)... 23.47.234.151, 2600:140f:1e00:498::2e31, 2600:140f:1e00:486::2e31
Connecting to dev.mysql.com (dev.mysql.com)|23.47.234.151|:443... connected.
HTTP request sent, awaiting response... 302 Moved Temporarily
Location: https://cdn.mysql.com//archives/mysql-5.7/mysql-community-common-5.7.38-1.el7.x86_64.rpm [following]
--2023-11-03 09:46:15-- https://cdn.mysql.com//archives/mysql-5.7/mysql-community-common-5.7.38-1.el7.x86_64.rpm
Resolving cdn.mysql.com (cdn.mysql.com)... 23.38.57.184, 2600:140f:1e00:493::1d68, 2600:140f:1e00:4aa::1d68
Connecting to cdn.mysql.com (cdn.mysql.com)|23.38.57.184|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 318868 (311K) [application/x-redhat-package-manager]
Saving to: 'mysql-community-common-5.7.38-1.el7.x86_64.rpm'

100%[=====] 318,868 --.-K/s in 0.09s

2023-11-03 09:46:15 (3.42 MB/s) - 'mysql-community-common-5.7.38-1.el7.x86_64.rpm' saved [318868/318868]

[ec2-user@ip-10-0-2-238 mysql]$ |
```

-> Use scp to copy from public to private instances

```
[ec2-user@ip-10-0-2-238 ~]$ scp -r -i "loginkey.pem" mysql/ ec2-user@10.0.4.205:/home/ec2-user
The authenticity of host '10.0.4.205 (10.0.4.205)' can't be established.
ECDSA key fingerprint is SHA256:sFC517jdVALXj8mnHjuys08KJg6XEL7sIoyF21G40ao.
ECDSA key fingerprint is MD5:65:9c:88:c2:c7:86:0d:b4:23:da:50:b4:fe:8c:25:62.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.4.205' (ECDSA) to the list of known hosts.
mysql57-community-release-el7-9.noarch.rpm          100% 9224      4.9MB/s   00:00
mysql-community-common-5.7.38-1.el7.x86_64.rpm      100% 311KB     71.1MB/s   00:00
mysql-community-libs-5.7.38-1.el7.x86_64.rpm        100% 2641KB    109.7MB/s   00:00
mysql-community-client-5.7.38-1.el7.x86_64.rpm      100% 28MB     130.5MB/s   00:00
mysql-community-server-5.7.38-1.el7.x86_64.rpm      100% 178MB    123.4MB/s   00:01
[ec2-user@ip-10-0-2-238 ~]$ |
```

-> Remove mariadb-libs

```
Installed size: 17 M
Is this ok [y/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Erasing      : 2:postfix-2.10.1-6.amzn2.0.3.x86_64                      1/2
  Erasing      : 1:mariadb-libs-5.5.68-1.amzn2.0.1.x86_64                2/2
  Verifying    : 1:mariadb-libs-5.5.68-1.amzn2.0.1.x86_64                1/2
  Verifying    : 2:postfix-2.10.1-6.amzn2.0.3.x86_64                      2/2

Removed:
  mariadb-libs.x86_64 1:5.5.68-1.amzn2.0.1

Dependency Removed:
  postfix.x86_64 2:2.10.1-6.amzn2.0.3

Complete!
```

## -> Install packages

```
ec2-user@ip-10-0-4-205:~/m/ X ec2-user@ip-10-0-2-238:~ X Windows PowerShell X + v
[ec2-user@ip-10-0-4-205 mysql]$ ls
mysql57-community-release-el7-9.noarch.rpm      mysql-community-common-5.7.38-1.el7.x86_64.rpm  mysql-community-server-5.7.38-1.el7.x86_64.rpm
mysql-community-client-5.7.38-1.el7.x86_64.rpm  mysql-community-libs-5.7.38-1.el7.x86_64.rpm
[ec2-user@ip-10-0-4-205 mysql]$ sudo yum localinstall mysql57-community-release-el7-9.noarch.rpm
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Examining mysql57-community-release-el7-9.noarch.rpm: mysql57-community-release-el7-9.noarch
Marking mysql57-community-release-el7-9.noarch.rpm to be installed
Resolving Dependencies
--> Running transaction check
---> Package mysql57-community-release.noarch 0:el7-9 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                                Arch              Version           Repository                               Size
=====
Installing:
mysql57-community-release              noarch            el7-9             /mysql57-community-release-el7-9.noarch 8.6 k

Transaction Summary
=====
Install 1 Package

Total size: 8.6 k
Installed size: 8.6 k
Is this ok [y/d/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : mysql57-community-release-el7-9.noarch 1/1
  Verifying  : mysql57-community-release-el7-9.noarch 1/1

Installed:
mysql57-community-release.noarch 0:el7-9

Complete!
[ec2-user@ip-10-0-4-205 mysql]$ |
```

```
ec2-user@ip-10-0-4-205:~/m... ec2-user@ip-10-0-2-238:~ Windows PowerShell + v
[ec2-user@ip-10-0-4-205 mysql]$ sudo yum localinstall mysql-community-libs-5.7.38-1.el7.x86_64.rpm
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Examining mysql-community-libs-5.7.38-1.el7.x86_64.rpm: mysql-community-libs-5.7.38-1.el7.x86_64
Marking mysql-community-libs-5.7.38-1.el7.x86_64.rpm to be installed
Resolving Dependencies
--> Running transaction check
---> Package mysql-community-libs.x86_64 0:5.7.38-1.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                                Arch                                Version                                Repository
=====
Installing:
mysql-community-libs                    x86_64                              5.7.38-1.el7                            /mysql-community-libs-5.7.38-1.el7.x86_64
=====

Transaction Summary
=====
Install 1 Package

Total size: 9.9 M
Installed size: 9.9 M
Is this ok [y/d/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : mysql-community-libs-5.7.38-1.el7.x86_64
  Verifying  : mysql-community-libs-5.7.38-1.el7.x86_64

Installed:
mysql-community-libs.x86_64 0:5.7.38-1.el7

Complete!
[ec2-user@ip-10-0-4-205 mysql]$ |
```

```
ec2-user@ip-10-0-4-205:~/m... X ec2-user@ip-10-0-2-238:~ X Windows PowerShell X + v
=====
=====Install 1 Package

Total size: 771 M
Installed size: 771 M
Is this ok [y/d/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : mysql-community-server-5.7.38-1.el7.x86_64 [#####
  Installing : mysql-community-server-5.7.38-1.el7.x86_64 [#####
  Installing : mysql-community-server-5.7.38-1.el7.x86_64 1/
  Verifying   : mysql-community-server-5.7.38-1.el7.x86_64 1/

Installed:
  mysql-community-server.x86_64 0:5.7.38-1.el7

Complete!
[ec2-user@ip-10-0-4-205 mysql]$ ls
mysql57-community-release-el7-9.noarch.rpm  mysql-community-common-5.7.38-1.el7.x86_64.rpm  mysql-community-server-5.7.38-1.el7.x86_64.rpm
mysql-community-client-5.7.38-1.el7.x86_64.rpm  mysql-community-libs-5.7.38-1.el7.x86_64.rpm
[ec2-user@ip-10-0-4-205 mysql]$ ls
mysql57-community-release-el7-9.noarch.rpm  mysql-community-common-5.7.38-1.el7.x86_64.rpm  mysql-community-server-5.7.38-1.el7.x86_64.rpm
mysql-community-client-5.7.38-1.el7.x86_64.rpm  mysql-community-libs-5.7.38-1.el7.x86_64.rpm
[ec2-user@ip-10-0-4-205 mysql]$ sudo systemctl status mysql
Unit mysql.service could not be found.
[ec2-user@ip-10-0-4-205 mysql]$ sudo systemctl status mysqld
● mysqld.service - MySQL Server
   Loaded: loaded (/usr/lib/systemd/system/mysqld.service; enabled; vendor preset: disabled)
   Active: inactive (dead)
     Docs: man:mysqld(8)
           http://dev.mysql.com/doc/refman/en/using-systemd.html
[ec2-user@ip-10-0-4-205 mysql]$
```

## -> Change root user password and create a user for mattermost

```
ec2-user@ip-10-0-4-205:~  
2023-11-03T10:20:26.717680Z 1 [Note] A temporary password is generated for root@localhost: %.u9%KZxBttz  
[ec2-user@ip-10-0-4-205 ~]$ sudo mysql -u root -p  
Enter password:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 2  
Server version: 5.7.38  
  
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affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql> ALTER USER 'root'@'localhost' IDENTIFIED BY 'Bharath@#13';  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> CREATE USER 'mmuser'@'%' IDENTIFIED BY 'Bharath@13';  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> ls  
-> ;  
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'l  
s' at line 1  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
4 rows in set (0.01 sec)  
  
mysql> create database mattermost;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> |
```

## -> Create Database mattermost and keep mysql server running

```
ec2-user@ip-10-0-4-205:~  
+-----+  
| information_schema |  
| mysql              |  
| performance_schema |  
| sys                |  
+-----+  
4 rows in set (0.01 sec)  
  
mysql> create database mattermost;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> grant all privileges on 'mattermost'.* to 'mmuser'@'%';  
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''  
mattermost'.* to 'mmuser'@'%' at line 1  
mysql> grant all privileges on 'mattermost'.*to 'mmuser'@'%';  
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''  
mattermost'.*to 'mmuser'@'%' at line 1  
mysql> grant all privileges on mattermost.*to 'mmuser'@'%';  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> exit  
Bye  
[ec2-user@ip-10-0-4-205 ~]$ sudo systemctl enable mysqld  
[ec2-user@ip-10-0-4-205 ~]$ sudo systemctl restart mysqld  
[ec2-user@ip-10-0-4-205 ~]$ sudo systemctl status mysqld  
● mysqld.service - MySQL Server  
   Loaded: loaded (/usr/lib/systemd/system/mysqld.service; enabled; vendor preset: disabled)  
   Active: active (running) since Fri 2023-11-03 11:27:08 UTC; 6s ago  
     Docs: man:mysqld(8)  
           http://dev.mysql.com/doc/refman/en/using-systemd.html  
  Process: 3293 ExecStart=/usr/sbin/mysqld --daemonize --pid-file=/var/run/mysqld/mysqld.pid $MYSQLD_OPTS (code=exited, status=0/SUCCESS)  
  Process: 3275 ExecStartPre=/usr/bin/mysqld_pre_systemd (code=exited, status=0/SUCCESS)  
 Main PID: 3297 (mysqld)  
    CGroup: /system.slice/mysqld.service  
            └─3297 /usr/sbin/mysqld --daemonize --pid-file=/var/run/mysqld/mysqld.pid  
  
Nov 03 11:27:08 ip-10-0-4-205.ap-south-1.compute.internal systemd[1]: Stopped MySQL Server.  
Nov 03 11:27:08 ip-10-0-4-205.ap-south-1.compute.internal systemd[1]: Starting MySQL Server...  
Nov 03 11:27:08 ip-10-0-4-205.ap-south-1.compute.internal systemd[1]: Started MySQL Server.  
[ec2-user@ip-10-0-4-205 ~]$
```

-> Add security group inbound rules to allow traffic coming from mattermost (10.0.3.99) on port 3306

aws

Services

Search

[Alt+S]

Mumbai

BharathK @ 7982-1809-3977

EC2

>

Security Groups

>

sg-01c23f9e4ff49edd0 - MySQL\_sg

>

Edit inbound rules

Edit inbound rules

Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Info

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
	Info	Info	Info	Info	Info	
sgr-02d8397be7b936b05	SSH	TCP	22	My IP		Delete
					120.88.40.46/32	
sgr-0a32cc71e40d8d61d	MYSQL/Aurora	TCP	3306	Custom	10.0.3.99/32	Delete
					10.0.3.99/32	

Add rule

Cancel

Preview changes

Save rules

CloudShell

Feedback

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Cookie preferences



# App Server (Mattermost)

-> Extract mattermost tar file

```
ec2-user@ip-10-0-4-205:~ X ec2-user@ip-10-0-3-99:~ X ec2-user@ip-10-0-2-238:~ X + v
mattermost-9.1.1-linux-amd64.tar.gz
[ec2-user@ip-10-0-3-99 ~]$ ls
mattermost-9.1.1-linux-amd64.tar.gz
[ec2-user@ip-10-0-3-99 ~]$ ls
mattermost-9.1.1-linux-amd64.tar.gz
[ec2-user@ip-10-0-3-99 ~]$ clear
[ec2-user@ip-10-0-3-99 ~]$ ls
mattermost-9.1.1-linux-amd64.tar.gz
[ec2-user@ip-10-0-3-99 ~]$ sudo tar -xvf mattermost-9.1.1-linux-amd64.tar.gz
mattermost/
mattermost/bin/
mattermost/bin/mattermost
mattermost/bin/mmctl
mattermost/logs/
mattermost/prepackaged_plugins/
mattermost/prepackaged_plugins/mattermost-plugin-antivirus-v1.0.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-antivirus-v1.0.0-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-autolink-v1.4.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-autolink-v1.4.0-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-aws-SNS-v1.2.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-aws-SNS-v1.2.0-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-calls-v0.20.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-calls-v0.20.0-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-channel-export-v1.0.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-channel-export-v1.0.0-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-confluence-v1.3.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-confluence-v1.3.0-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-custom-attributes-v1.3.1-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-custom-attributes-v1.3.1-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-github-v2.1.6-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-github-v2.1.6-linux-amd64.tar.gz.sig
mattermost/prepackaged_plugins/mattermost-plugin-gitlab-v1.7.0-linux-amd64.tar.gz
mattermost/prepackaged_plugins/mattermost-plugin-gitlab-v1.7.0-linux-amd64.tar.gz.sig
```

-> Change ownership and Group for whole mattermost/ directory

```
ec2-user@ip-10-0-4-205:~ × ec2-user@ip-10-0-3-99:/opt × ec2-user@ip-10-0-2-238:~ + v
[ec2-user@ip-10-0-3-99 opt]$ ls
aws  mattermost  rh
[ec2-user@ip-10-0-3-99 opt]$ sudo chown -R mattermost:mattermost mattermost
[ec2-user@ip-10-0-3-99 opt]$ |
```

-> Configure mattermost to connect to MySQL server present in private subnet using its private IP

```
{,
  "ClientRequirements": {
    "AndroidLatestVersion": "",
    "AndroidMinVersion": "",
    "IosLatestVersion": "",
    "IosMinVersion": ""
  },
  "SqlSettings": {
    "DriverName": "mysql",
    "DataSource": "mysql://mmuser:Bharath@13@10.0.4.205/mattermost_test?sslmode=disable\u0026connect_timeout=10\u0026binary_parameters=yes",
    "DataSourceReplicas": [],
    "DataSourceSearchReplicas": [],
    "MaxIdleConns": 20,
    "ConnMaxLifetimeMilliseconds": 3600000,
    "ConnMaxIdleTimeMilliseconds": 300000,
    "MaxOpenConns": 300,
    "Trace": false,
```

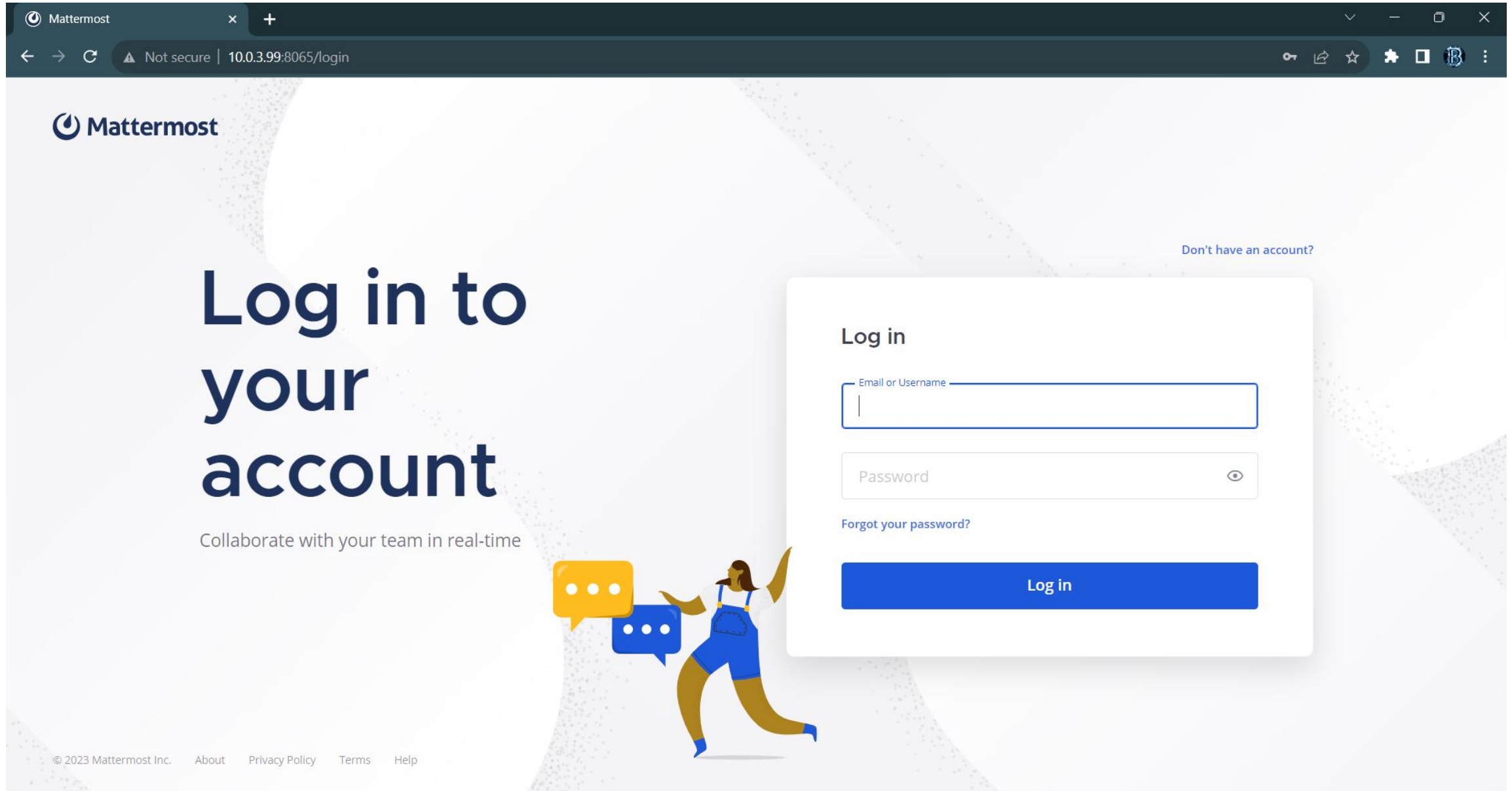
-> Setup mattermost to use systemd init daemon

-> Start and enable mattermost.service

```
ec2-user@ip-10-0-3-99:~  
GNU nano 2.9.8 /etc/systemd/system/mattermost.service  
[Unit]  
Description=Mattermost  
After=syslog.target network.target mysql.service  
  
[Service]  
Type=notify  
WorkingDirectory=/opt/mattermost  
User=mattermost  
ExecStart=/opt/mattermost/bin/mattermost  
PIDFile=/var/spool/mattermost/pid/master.pid  
TimeoutStartSec=3600  
KillMode=mixed  
LimitNOFILE=49152  
  
[Install]  
WantedBy=multi-user.target
```

```
ec2-user@ip-10-0-3-99:~  
[ec2-user@ip-10-0-3-99 ~]$ sudo systemctl status mattermost  
● mattermost.service - Mattermost  
   Loaded: loaded (/etc/systemd/system/mattermost.service; e  
   Active: active (running) since Mon 2023-11-06 00:59:41 IS  
 Main PID: 3267 (mattermost)  
    CGroup: /system.slice/mattermost.service  
            └─3267 /opt/mattermost/bin/mattermost
```

-> Access mattermost using private IP on port 8065



The screenshot shows a web browser window with the Mattermost login page. The browser's address bar shows the URL `10.0.3.99:8065/login` and a "Not secure" warning. The page features the Mattermost logo in the top left. The main heading "Log in to your account" is prominently displayed in a large, dark blue font. Below it, the tagline "Collaborate with your team in real-time" is shown. On the right side, there is a "Log in" form with input fields for "Email or Username" and "Password", a "Forgot your password?" link, and a blue "Log in" button. A link for "Don't have an account?" is located above the form. An illustration of a person in blue overalls running towards the left, with two speech bubbles (one orange, one blue) trailing behind them, is positioned at the bottom right. The footer contains copyright information and links for "About", "Privacy Policy", "Terms", and "Help".

Mattermost

Log in to  
your  
account

Collaborate with your team in real-time

Don't have an account?

Log in

Email or Username

Password

Forgot your password?

Log in

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-> Add inbound rule for nginx to access mattermost backend server by giving nginx private IP (10.0.2.238)

aws

Services

Search

[Alt+S]

Mumbai

BharathK @ 7982-1809-3977

EC2 > Security Groups > sg-05c0299ef56717611 - Mattermost.sg > Edit inbound rules

## Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

### Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
sgr-0f1025699797e4b26	SSH	TCP	22	Custom		Delete
					10.0.0.0/16	
sgr-038fbab62ad2bb542	Custom TCP	TCP	8065	Custom	10.0.2.238/32	Delete
					10.0.2.238/32	

Add rule

Cancel

Preview changes

Save rules

CloudShell

Feedback

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# Web Server (Nginx)

-> Install nginx

```
ec2-user@ip-10-0-3-99:~  X  ec2-user@ip-10-0-2-238:~  X  +  v
Transaction Summary
=====
Install 1 Package (+5 Dependent packages)

Total download size: 2.4 M
Installed size: 6.7 M
Is this ok [y/d/N]: y
Downloading packages:
(1/6): gperftools-libs-2.6.1-1.amzn2.x86_64.rpm | 274 kB 00:00:00
(2/6): nginx-1.22.1-1.amzn2.0.3.x86_64.rpm | 55 kB 00:00:00
(3/6): nginx-core-1.22.1-1.amzn2.0.3.x86_64.rpm | 559 kB 00:00:00
(4/6): nginxfilesystem-1.22.1-1.amzn2.0.3.noarch.rpm | 25 kB 00:00:00
(5/6): openssl11-pkcs11-0.4.10-6.amzn2.0.1.x86_64.rpm | 61 kB 00:00:00
(6/6): openssl11-libs-1.1.1g-12.amzn2.0.18.x86_64.rpm | 1.4 MB 00:00:00
-----
Total 7.2 MB/s | 2.4 MB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : 1:nginxfilesystem-1.22.1-1.amzn2.0.3.noarch 1/6
  Installing : 1:openssl11-libs-1.1.1g-12.amzn2.0.18.x86_64 2/6
  Installing : openssl11-pkcs11-0.4.10-6.amzn2.0.1.x86_64 3/6
  Installing : gperftools-libs-2.6.1-1.amzn2.x86_64 4/6
  Installing : 1:nginx-core-1.22.1-1.amzn2.0.3.x86_64 5/6
  Installing : 1:nginx-1.22.1-1.amzn2.0.3.x86_64 6/6
  Verifying : 1:nginx-1.22.1-1.amzn2.0.3.x86_64 1/6
  Verifying : gperftools-libs-2.6.1-1.amzn2.x86_64 2/6
  Verifying : openssl11-pkcs11-0.4.10-6.amzn2.0.1.x86_64 3/6
  Verifying : 1:nginxfilesystem-1.22.1-1.amzn2.0.3.noarch 4/6
  Verifying : 1:nginx-core-1.22.1-1.amzn2.0.3.x86_64 5/6
  Verifying : 1:openssl11-libs-1.1.1g-12.amzn2.0.18.x86_64 6/6

Installed:
  nginx.x86_64 1:1.22.1-1.amzn2.0.3

Dependency Installed:
  gperftools-libs.x86_64 0:2.6.1-1.amzn2      nginx-core.x86_64 1:1.22.1-1.amzn2.0.3      nginxfilesystem.noarch 1:1.22.1-1.amzn2.0.3
  openssl11-libs.x86_64 1:1.1.1g-12.amzn2.0.18  openssl11-pkcs11.x86_64 0:0.4.10-6.amzn2.0.1
```

-> Setup configuration file in nginx for mattermost and give mattermost server IP

```
ec2-user@ip-10-0-2-238:~  
GNU nano 2.9.8 /etc/nginx/conf.d/mattermost.conf Modified  
  
upstream backend {  
    server 10.0.3.99:8065;  
    keepalive 32;  
}  
  
proxy_cache_path /var/cache/nginx levels=1:2 keys_zone=mattermost_cache:10m max_size=3g inactive=120m  
use_temp_path=off;  
  
server {  
    listen 80;  
    server_name nginx;  
    location ~ /api/v[0-9]+/(users/)?websocket$ {  
        proxy_set_header Upgrade $http_upgrade;  
        proxy_set_header Connection "upgrade";  
        client_max_body_size 50M;  
        proxy_set_header Host $http_host;  
        proxy_set_header X-Real-IP $remote_addr;  
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;  
        proxy_set_header X-Forwarded-Proto $scheme;  
        proxy_set_header X-Frame-Options SAMEORIGIN;  
        proxy_buffers 256 16k;  
        proxy_buffer_size 16k;  
        client_body_timeout 60;  
        send_timeout 300;  
        lingering_timeout 5;  
        proxy_connect_timeout 90;  
        proxy_send_timeout 300;  
        proxy_read_timeout 90s;  
        proxy_pass http://backend;  
    }  
  
    location / {  
        client_max_body_size 50M;  
        proxy_set_header Connection "";  
        proxy_set_header Host $http_host;  
    }  
}
```

**^G** Get Help    **^O** Write Out    **^W** Where Is    **^K** Cut Text    **^J** Justify    **^C** Cur Pos    **M-U** Undo    **M-A** Mark Text    **M-]** To Bracket  
**^X** Exit    **^R** Read File    **^\_** Replace    **^U** Uncut Text    **^T** To Spell    **\_** Go To Line    **M-E** Redo    **M-6** Copy Text    **M-W** WhereIs Next

-> Start, enable and check status of nginx

```
ec2-user@ip-10-0-2-238:~ × + ∨  
[ec2-user@ip-10-0-2-238 ~]$ sudo systemctl start nginx  
[ec2-user@ip-10-0-2-238 ~]$ sudo systemctl enable nginx  
Created symlink from /etc/systemd/system/multi-user.target.wants/nginx.service to /usr/lib/systemd/system/nginx.service  
[ec2-user@ip-10-0-2-238 ~]$ sudo systemctl status nginx  
● nginx.service - The nginx HTTP and reverse proxy server  
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; vendor preset: disabled)  
   Active: active (running) since Mon 2023-11-06 00:54:28 IST; 33min ago  
 Main PID: 3140 (nginx)  
   CGroup: /system.slice/nginx.service  
           └─3140 nginx: master process /usr/sbin/nginx  
             └─3141 nginx: worker process  
             └─3142 nginx: cache manager process  
  
Nov 06 00:54:28 ip-10-0-2-238.ap-south-1.compute.internal systemd[1]: Starting The nginx HTTP and reverse  
Nov 06 00:54:28 ip-10-0-2-238.ap-south-1.compute.internal nginx[3127]: nginx: the configuration file /etc  
Nov 06 00:54:28 ip-10-0-2-238.ap-south-1.compute.internal nginx[3127]: nginx: configuration file /etc/ngi  
Nov 06 00:54:28 ip-10-0-2-238.ap-south-1.compute.internal systemd[1]: Started The nginx HTTP and reverse  
[ec2-user@ip-10-0-2-238 ~]$ |
```



-> Add Inbound rule to expose nginx (mattermost in backend) server to public allowing any (0.0.0.0/0) IP can access Nginx using its public IP

aws

Services

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Mumbai

BharathK @ 7982-1809-3977

EC2 > Security Groups > sg-0c35a0b5828eae89 - Nginx.sg > Edit inbound rules

## Edit inbound rules

Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

### Inbound rules

Info

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
sgr-00c120c7762bd61ae	SSH	TCP	22	My IP		Delete
				120.88.40.46/32		
sgr-0de0bfeb08bf5c142	HTTP	TCP	80	Custom		Delete
				0.0.0.0/0		

Add rule

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel

Preview changes

Save rules

CloudShell

Feedback

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## -> Check Nginx public IP in AWS

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EC2 Dashboard

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Elastic IPs

Placement Groups

Key Pairs

EC2 > Instances > i-063da692dc2e245c5

Instance summary for i-063da692dc2e245c5 (Nginx (public))

Info

Updated less than a minute ago

Refresh

Connect

Instance state

Actions

Instance ID	Public IPv4 address	Private IPv4 addresses
i-063da692dc2e245c5 (Nginx (public))	52.66.112.162   <a href="#">open address</a>	10.0.2.238
IPv6 address	Instance state	Public IPv4 DNS
–	Running	–
Hostname type	Private IP DNS name (IPv4 only)	Elastic IP addresses
IP name: ip-10-0-2-238.ap-south-1.compute.internal	ip-10-0-2-238.ap-south-1.compute.internal	–
Answer private resource DNS name	Instance type	AWS Compute Optimizer finding
–	t2.micro	Opt-in to AWS Compute Optimizer for recommendations.   <a href="#">Learn more</a>
Auto-assigned IP address	VPC ID	Auto Scaling Group name
52.66.112.162 [Public IP]	vpc-0dae4e98c453c6f89 (VPC -1)	–
IAM Role	Subnet ID	
–	subnet-08933a5009c8f7f5b (Nginx subnet (public))	
IMDSv2		
Optional		

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

Instance details

Info

Platform	AMI ID	Monitoring
Amazon Linux (Inferred)	ami-0a6ed6689998f32a5	disabled
Platform details	AMI name	Termination protection
Linux/UNIX	amzn2-ami-kernel-5.10-hvm-2.0.20231101.0-x86_64-gp2	Disabled

CloudShell

Feedback

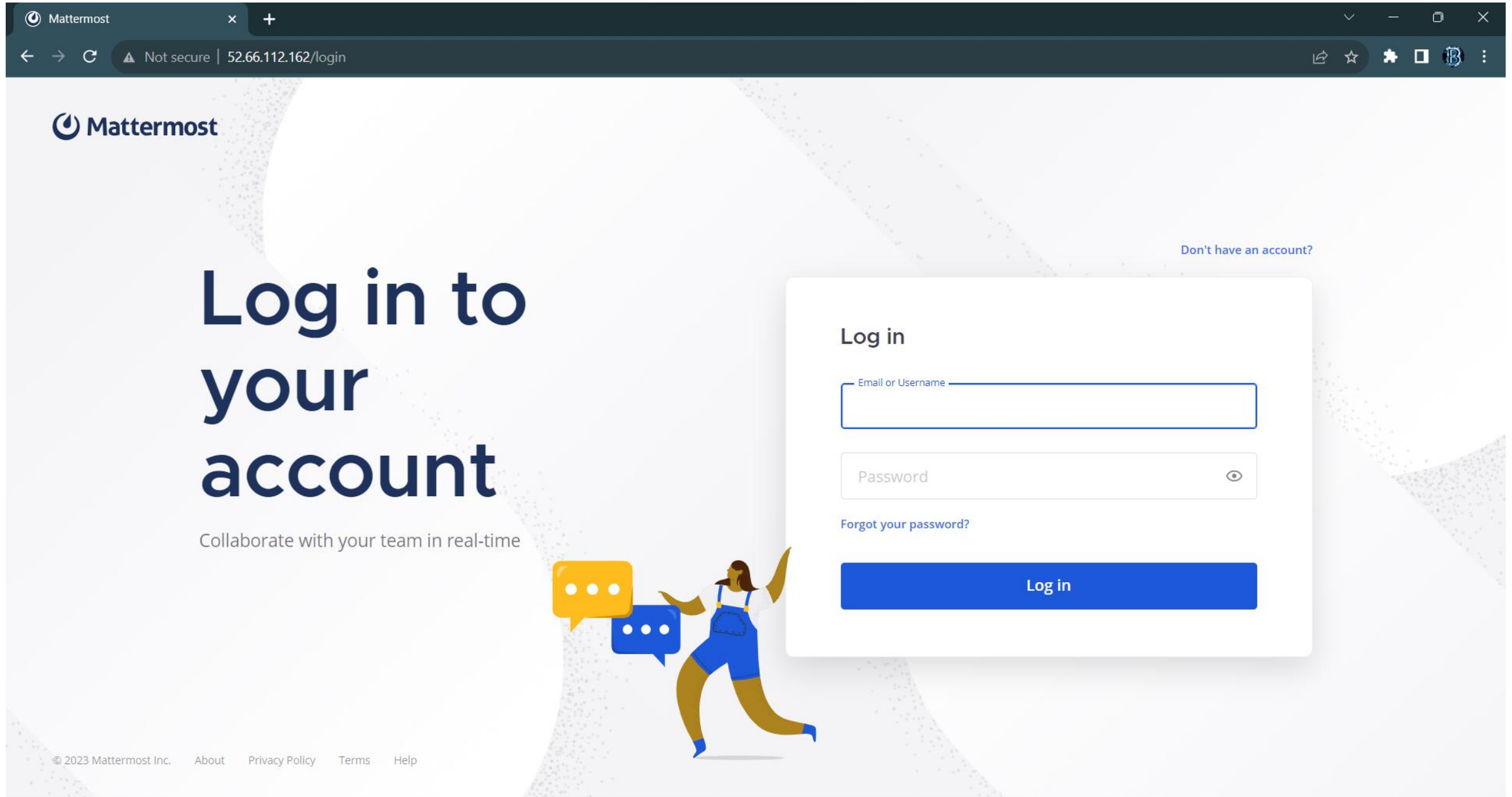
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## Verify: Access Mattermost using nginx instance public IP



Mattermost

Not secure | 52.66.112.162/login

Mattermost

Don't have an account?

# Log in to your account

Collaborate with your team in real-time

Log in

Email or Username

Password

Forgot your password?

Log in

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