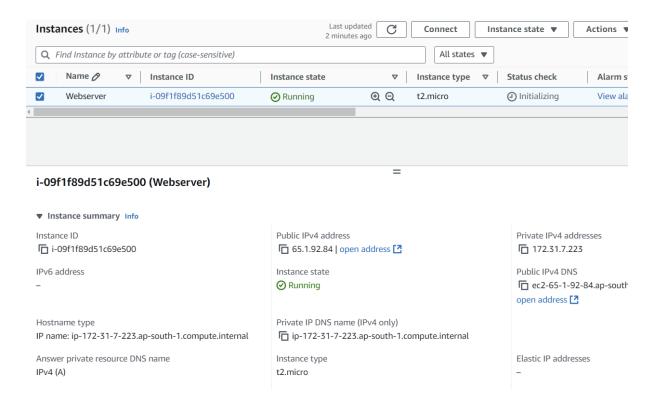# Capstone Project – 1

1. One instance created for webserver to create custom Image

2. Installing httpd

```
[root@ip-172-31-7-223 ~]# yum update
Last metadata expiration check: 0:03:47 ago on Fri Oct 25 05:27:28 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-7-223 ~]# yum install httpd
Last metadata expiration check: 0:03:55 ago on Fri Oct 25 05:27:28 2024.
Dependencies resolved.
================================================================================
 Package                    Architecture         Version
================================================================================
Installing:
 httpd                      x86_64               2.4.62-1.amzn2023
Installing dependencies:
 apr                        x86_64               1.7.2-2.amzn2023.0.2
 apr-util                   x86_64               1.6.3-1.amzn2023.0.1
 generic-logos-httpd        noarch               18.0.0-12.amzn2023.0.3
 httpd-core                 x86_64               2.4.62-1.amzn2023
 httpd-filesystem           noarch               2.4.62-1.amzn2023
 httpd-tools                x86_64               2.4.62-1.amzn2023
 libbrotli                  x86_64               1.0.9-4.amzn2023.0.2
 mailcap                    noarch               2.1.49-3.amzn2023.0.3
Installing weak dependencies:
 apr-util-openssl           x86_64               1.6.3-1.amzn2023.0.1
 mod_http2                  x86_64               2.0.27-1.amzn2023.0.3
 mod_lua                    x86_64               2.4.62-1.amzn2023
```

3. Service started and enabled

```
[root@ip-172-31-7-223 ~]# systemctl start httpd
[root@ip-172-31-7-223 ~]#
[root@ip-172-31-7-223 ~]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service
[root@ip-172-31-7-223 ~]#
```

4. Installing DB

```
[root@ip-172-31-7-223 ~]# yum install mariadb105-3:10.5.25-1.amzn2023.0.1.x86_64
Last metadata expiration check: 0:07:15 ago on Fri Oct 25 05:27:28 2024.
Dependencies resolved.
=================================================================================
 Package                         Architecture              Version
=================================================================================
Installing:
 mariadb105                      x86_64                    3:10.5.
Installing dependencies:
 mariadb-connector-c             x86_64                    3.1.13-
 mariadb-connector-c-config      noarch                    3.1.13-
 mariadb105-common               x86_64                    3:10.5.
 perl-Sys-Hostname               x86_64                    1.23-47

Transaction Summary
=================================================================================
Install  5 Packages

Total download size: 1.8 M
Installed size: 19 M
Is this ok [y/N]: y
Downloading Packages:
(1/5): mariadb-connector-c-config-3.1.13-1.amzn2023.0.3.noarch.rpm
(2/5): mariadb-connector-c-3.1.13-1.amzn2023.0.3.x86_64.rpm
(3/5): mariadb105-10.5.25-1.amzn2023.0.1.x86_64.rpm
(4/5): mariadb105-common-10.5.25-1.amzn2023.0.1.x86_64.rpm
(5/5): perl-Sys-Hostname-1.23-477.amzn2023.0.6.x86_64.rpm
---------------------------------------------------------------------------------
```
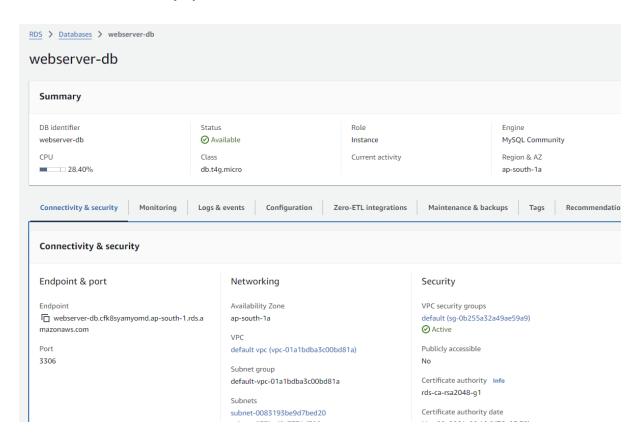
5. PHP file created

```
[root@ip-172-31-7-223 html]# ls -lrth
total 4.0K
-rw-r--r--. 1 root root 2.1K Oct 25 05:38 index.php
[root@ip-172-31-7-223 html]#
```

6. PHP installed:

```
[root@ip-172-31-7-223 ~]# yum install -y php8.3-cli-8.3.10-1.amzn2023.0.1.x86_64
Last metadata expiration check: 0:34:57 ago on Fri Oct 25 05:27:28 2024.
Dependencies resolved.
================================================================================
 Package                          Architecture              Version
================================================================================
Installing:
 php8.3-cli                       x86_64                    8.3.10-1.amzn2023.0.1
Installing dependencies:
 php8.3-common                    x86_64                    8.3.10-1.amzn2023.0.1

Transaction Summary
================================================================================
Install  2 Packages

Total download size: 4.4 M
Installed size: 25 M
Downloading Packages:
(1/2): php8.3-common-8.3.10-1.amzn2023.0.1.x86_64.rpm
(2/2): php8.3-cli-8.3.10-1.amzn2023.0.1.x86_64.rpm
--------------------------------------------------------------------------------
Total
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
```

7. DB created RDS with mySql

8. DB details filled in php file

```php
<?php
$firstname=$_POST['firstname'];
$email=$_POST['email'];
$servername = "webserver-db.cfk8syamyomd.ap-south-1.rds.amazonaws.com";
$username = "intel";
$password = "intel123";
$db = "intel";
// Create connection
$conn = new mysqli($servername, $username, $password, $db);

// Check connection
if ($conn->connect_error) {
"index.php" 57L, 2142B
```
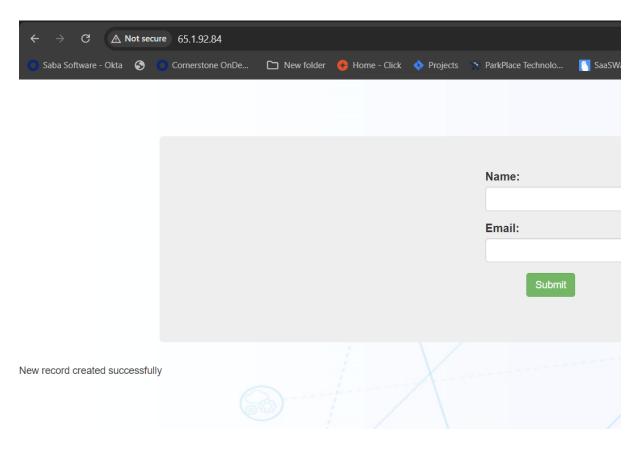
9. Connected to DB

```
[root@ip-172-31-7-223 ~]# mysql -h webserver-db.cfk8syamyomd.ap-south-1.rds.amazonaws.com -u intel -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 52
Server version: 8.0.39 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]>
MySQL [(none)]>
```

10. Table created with name data

```
MySQL [(none)]> create database intel
    ->
    -> ;
Query OK, 1 row affected (0.011 sec)

MySQL [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| intel              |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.002 sec)
```

11. Demo data entered and reflecting to DB

New record created successfully

```
MySQL [intel]> select * from data;
+-----------+----------------+
| firstname | email          |
+-----------+----------------+
| jay       | xyz@gmail.com  |
+-----------+----------------+
1 row in set (0.001 sec)

MySQL [intel]>
```

12. Custom AMI created from demo webserver

Amazon Machine Images (AMIs) (1/1) Info

[Owned by me ▼] [Find AMI by attribute or tag]

☑	Name 🖉	▽	AMI name	▽	AMI ID	▽	Source	▽	Owner	▽	Visibility	▽	Status
☑			task_by_jay		ami-05b91fd70b0db8330		465047645687/task_by_jay		465047645687		Private		⊘ Availabl

AMI ID: ami-05b91fd70b0db8330

Details | Permissions | Storage | Tags

AMI ID	Image type	Platform details	Root device type
ami-05b91fd70b0db8330	machine	Linux/UNIX	EBS

AMI name	Owner account ID	Architecture	Usage operation
task_by_jay	465047645687	x86_64	RunInstances

Root device name	Status	Source	Virtualization type
/dev/xvda	⊘ Available	465047645687/task_by_jay	hvm

Boot mode	State reason	Creation date	Kernel ID
uefi-preferred	–	2024-10-25T08:59:06.000Z	–

Description	Product codes	RAM disk ID	Deprecation time
–	–	–	–

Last launched time	Block devices	Deregistration protection
–	/dev/xvda=snap-010af59d6b0812946:8:true:gp3	⊘ Disabled

13. Launch template created by custom AMI

Launch Templates (1/1) Info

[Search]

☑	Launch Template ID	▽	Launch Template Name	▽	Default Version	▽	Latest Version	▽	Create Time	▽	Created By
☑	lt-0677054bd3a97e23b		jay_task		1		1		2024-10-25T09:04:42.000Z		arn:aws:iam::465047645687:root

jay_task (lt-0677054bd3a97e23b)

Launch template details

Launch template ID	Launch template name	Default version	Owner
lt-0677054bd3a97e23b	jay_task	1	arn:aws:iam::46!

Details | Versions | Template tags

Launch template version details

Actions ▼

Version	Description	Date created	Created by
1 (Default)	jay_task_prod	2024-10-25T09:04:42.000Z	arn:aws:iam::46!

Instance details | Storage | Resource tags | Network interfaces | Advanced details

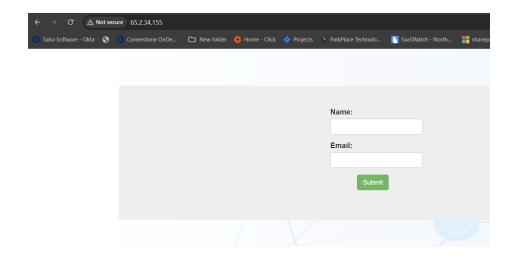| AMI ID	Instance type	Availability Zone	Key pair name
ami-05b91fd70b0db8330	-	-	-

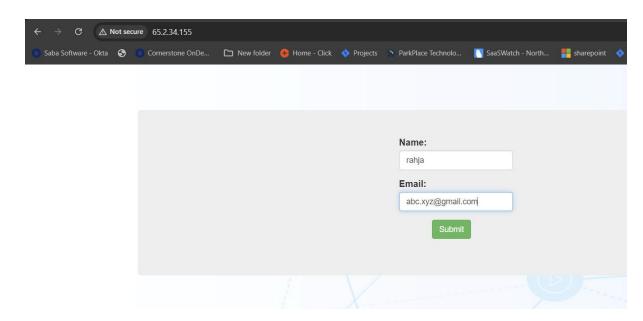## 14. Auto scaling group created with launch template

15. Now two instance is running as per given in auto scaling group

16. Now page is serving after created with auto scaling group

17. New data entered on web page

18. Data visible on DB with old as well as new output