

Document Control

DOCUMENT NAME: Business Continuity Test, AWS DR Test

DOCUMENT ID REFERENCE: 1.2

Document Revision History		
Version	Release Date	Change Description
1.0	16/09/2025	Initial Release

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Business Continuity Plan- Testing Report

Issue Date: 16/09/2025

Service Line: AWS Cloud DR Test

**Service Leader: Aditya Goyal (DevOps & Cloud
Department)**

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1 Introduction

1.1 Purpose

Business continuity plan needs to be tested. The result of testing to be used as an input to update and maintain the BCP Plans based on suggested improvement, corrective action and recommendations

1.2 Scope

The scope of this BCP testing is for AWS- Mumbai going down. Testing the Business Continuity Plan to cover the aspect that the AWS- Mumbai is not accessible in case of a disaster and Singapore region backup shall be re-stored and used as primary.

1.3 Objective

To test the preparedness of the in case of unavailability AWS- Mumbai

2 BCP Testing

2.1 Conducting the test

- **Date: 15/09/2025**
- **Start Time: 3:08 PM IST**
- **End Time: 4:18 PM IST**
- **Duration: 70 Minutes**

2.1.1 Test Scenario

1. Scenario Description

Testing the Business Continuity Plan to cover the aspect that the AWS- Mumbai is unavailable due to a disaster and backup maintained at AWS Mumbai shall be used to conduct the operations and client's services & Organization business continues. Failover was executed to AWS-Singapore region by restoring EC2 server and RDS instance, and validating connectivity via phpMyAdmin.

2. Resources

Number of FTEs participating in Test: 02

Name	Designation
Aditya goyal	DevOps & Cloud Department
Shakir Khan	Software Engineering Manager

2.2 Reporting Test Results

2.2.1 BCP Scenario Test Card

Time of Testing: 15:08 IST

Test Location: AWS Singapore.

Recovery Time Objective: 180

Time taken for starting operations from home (should be within RTO):

70 Minutes

Steps Performed:

1. Checked latest RDS snapshot (Mumbai region).
2. Copied RDS snapshot to Singapore region.
3. Copied EC2 AMI from Mumbai to Singapore.
4. Launched EC2 server from copied AMI (Singapore).
5. Attempted connection – failed initially.
6. Investigated issue – identified SG/NACL configuration error.
7. Fixed issue and updated Route 53 with Elastic IP + Load Balancer.
8. Verified RDS + phpMyAdmin connectivity successfully.

2.3 After Test Meeting

2.3.1 Summary of Test Results

Mission Critical Application's backup is restored and tested and determined that restored data is integral to continue business.

- **EC2 Web Server** – Application server launched in Singapore from Mumbai AMI.
- **RDS MySQL Database** – Restored from latest snapshot in Singapore region.
- **phpMyAdmin** – Verified database connectivity and accessibility.

Activities Performed along with Time spent

Sl. No.	Action	Recovery Time Objective (mins)	ETA Time Frame (mins)	Actual Time Taken (mins)	Actual Time & Date
-	In case of the Server failures resulting in the application down time, following are the actions to be performed by the DevOps team				
1	Pull latest RDS snapshot (Mumbai) & verification	15	15	16	3:08 PM – 3:24 PM, 15/09/2025
2	Restore RDS from snapshot in Singapore region	20	20	3	3:21 PM – 3:24 PM, 15/09/2025
	Re-map Security Group with instance	30	30	10	3:55 PM – 4:05 PM, 15/09/2025
3	Re-associate EIP with new instance	20	20	2	4:10 PM – 4:12 PM, 15/09/2025
5	ELB health check	15	15	Included above	4:12 PM, 15/09/2025
6	Basic smoke testing (environmental, functional testing)	30	30	6	4:12 PM – 4:18 PM, 15/09/2025
7	Re-map IAM role with instance	20	20	Included above	4:12 PM – 4:18 PM, 15/09/2025
8	Re-map CloudWatch custom metrics	20	20	Included above	4:12 PM – 4:18 PM, 15/09/2025
8	Test connection via phpMyAdmin (RDS verification)	20	20	6	4:12 PM – 4:18 PM, 15/09/2025

Since the backup happens once a day so Recovery Point Objective is 24 Hours

2.3.2 Issues or Concerns

- Initial connection failure (3:55 PM – 4:05 PM)
- Root cause: NACL + Security Group misconfiguration

2.3.3 Suggestions & Feedback (Lessons Learnt)

Following Improvement points were suggested by AVP Operations:

- Capture IP Address details of instances during DR test for audit reference.
- Pre-validate Security Groups & NACLs in DR region before cutover.
- Automate EC2 + RDS restore and Route 53 update steps in next cycle.
- Include additional failover scenarios (multi-AZ DR, IAM role mapping).

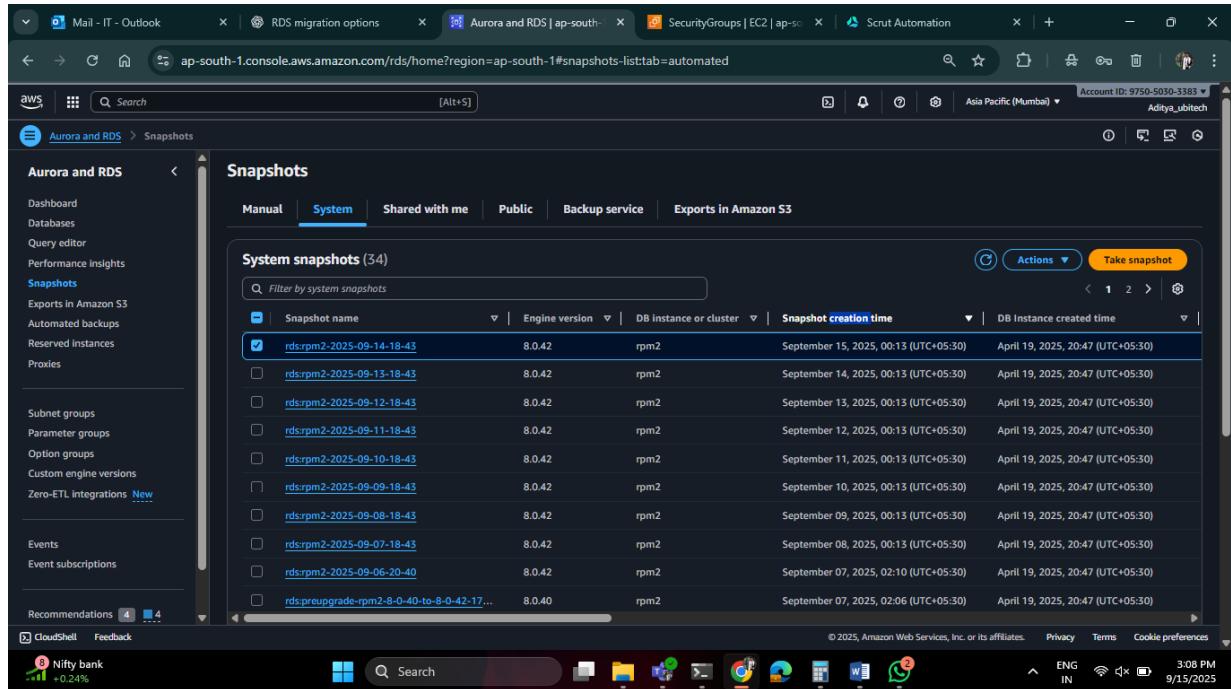
2.3.4 Test Result Approved by

CISO

Annexure 1 – Screenshots of activities performed

Screenshot 1

Description of Activity: Showing the latest RDS snapshot in Mumbai region before failover.

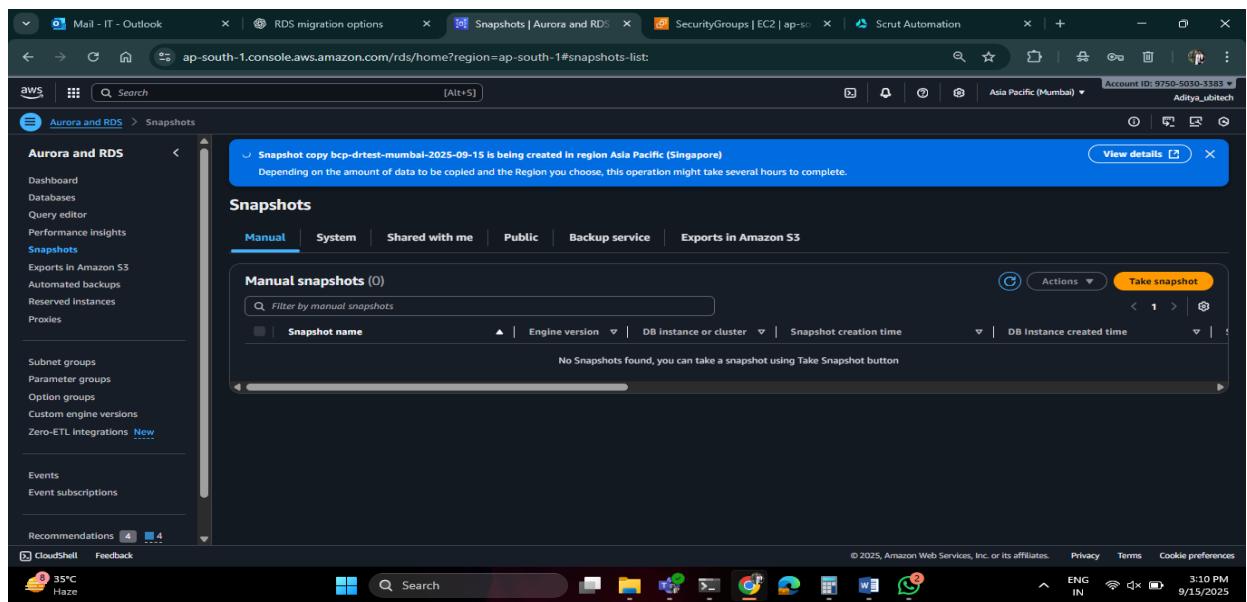


This screenshot shows the AWS RDS Snapshots page for the Mumbai region. The left sidebar includes options for Aurora and RDS, such as Databases, Query editor, and Performance insights. The main content area is titled 'Schemas' and shows a table of 'System snapshots' (34). The table columns are Snapshot name, Engine version, DB instance or cluster, Snapshot creation time, and DB instance created time. The first snapshot listed is 'rds:rpm2-2025-09-14-18-43'.

Snapshot name	Engine version	DB instance or cluster	Snapshot creation time	DB instance created time
rds:rpm2-2025-09-14-18-43	8.0.42	rpm2	September 15, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-15-18-43	8.0.42	rpm2	September 14, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-12-18-43	8.0.42	rpm2	September 13, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-11-18-43	8.0.42	rpm2	September 12, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-10-18-43	8.0.42	rpm2	September 11, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-09-18-43	8.0.42	rpm2	September 10, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-08-18-43	8.0.42	rpm2	September 09, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-07-18-43	8.0.42	rpm2	September 08, 2025, 00:13 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:rpm2-2025-09-06-20-40	8.0.42	rpm2	September 07, 2025, 02:10 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)
rds:preupgrade-rpm2-8-0-40-to-8-0-42-17...	8.0.40	rpm2	September 07, 2025, 02:06 (UTC+05:30)	April 19, 2025, 20:47 (UTC+05:30)

Screenshot 2

Description of Activity: Confirmation of snapshot replication in Singapore region.



This screenshot shows the AWS RDS Snapshots page for the Singapore region. The left sidebar includes options for Aurora and RDS, such as Databases, Query editor, and Performance insights. A blue notification bar at the top states: 'Snapshot copy bcp-drtest-mumbai-2025-09-15 is being created in region Asia Pacific (Singapore). Depending on the amount of data to be copied and the Region you choose, this operation might take several hours to complete.' The main content area is titled 'Schemas' and shows a table of 'Manual snapshots (0)'. The table has a header row with columns: Snapshot name, Engine version, DB instance or cluster, Snapshot creation time, and DB instance created time. A message below the table says 'No Snapshots found, you can take a snapshot using Take Snapshot button'.

Screenshot 3

Description of Activity: EC2 AMI Copy to Singapore

AMI copy operation for ami-0a10f29c54bd9f2bf initiated. It can take a few minutes for the AMI to be copied. You can check the progress of the operation in the AMI list in ap-southeast-1. The AMI ID of the new AMI is ami-08045ef91161559f.

Name	AMI name	AMI ID	Source	Owner	Visibility
hrm-dev-ami-mumbai-2025-09...	ami-0a10f29c54bd9f2bf	975050303383/hrm-dev-ami-mumbai-...	975050303383	975050303383	Private
DLM_policy-02e5fc896c55e214...	ami-0fd78729eeec7fb007	975050303383/DLM_policy-02e5fc896...	975050303383	975050303383	Private
biometric-prod-AMI	biometric-prod-AMI	ami-01a77f829c2df8a88	975050303383/biometric-prod-AMI	975050303383	Private

Screenshot 4

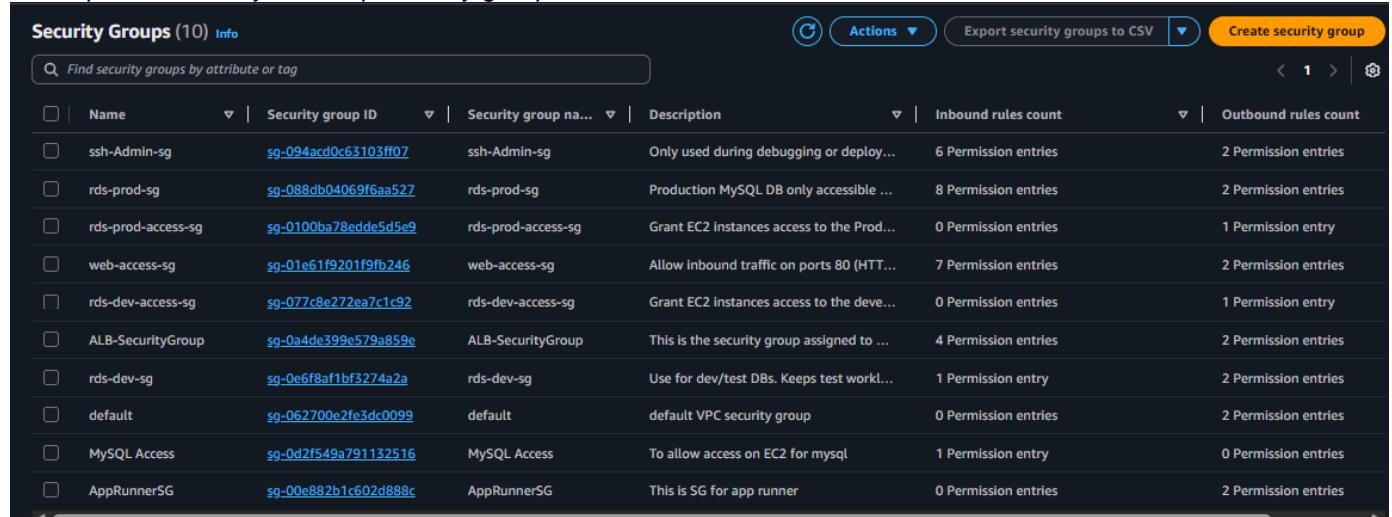
Description of Activity: EC2 Instance Launch in Singapore

Updated less than a minute ago

Instance ID	Public IPv4 address
i-0e8bca40702f5fd16	18.143.130.122 [open address]
IPv6 address	Instance state
-	Running
Hostname type	Private IP DNS name (IPv4 only)
IP name: ip-172-31-34-170.ap-southeast-1.compute.internal	ip-172-31-34-170.ap-southeast-1.compute.internal
Answer private resource DNS name	Instance type
IPv4 (A)	t2.micro
Auto-assigned IP address	VPC ID
18.143.130.122 [Public IP]	vpc-0d4047646e37ca70c
IAM Role	Subnet ID
-	subnet-0fd71bd19f069bb74
IMDSv2	Instance ARN
Optional	arn:aws:ec2:ap-southeast-1:975050303383:instance/i-0e8bca40702f5fd16
EC2 recommends setting IMDSv2 to required Learn more	Details Status and alarms Monitoring Security Networking Storage Tags

Screenshot 5

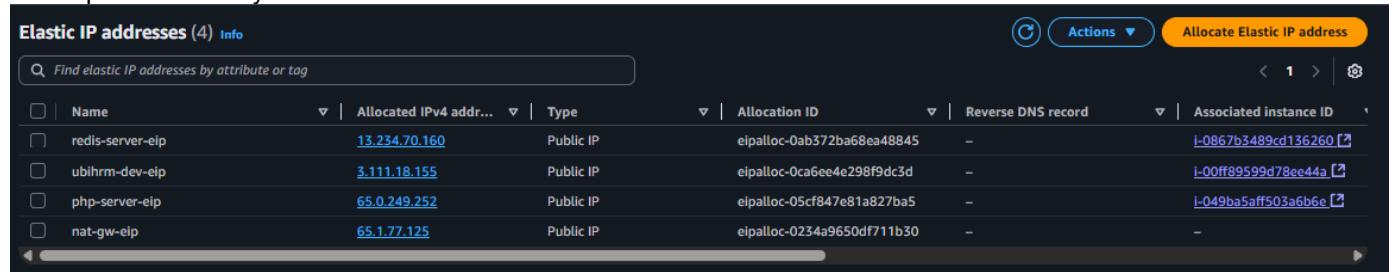
Description of Activity: Re-map security group with Instance



	Name	Security group ID	Security group name	Description	Inbound rules count	Outbound rules count
<input type="checkbox"/>	ssh-Admin-sg	sg-094acd0c63103ff07	ssh-Admin-sg	Only used during debugging or deploy...	6 Permission entries	2 Permission entries
<input type="checkbox"/>	rds-prod-sg	sg-088db04069f6aa527	rds-prod-sg	Production MySQL DB only accessible ...	8 Permission entries	2 Permission entries
<input type="checkbox"/>	rds-prod-access-sg	sg-0100ba78edde5d5e9	rds-prod-access-sg	Grant EC2 instances access to the Prod...	0 Permission entries	1 Permission entry
<input type="checkbox"/>	web-access-sg	sg-01e61f92019fb246	web-access-sg	Allow inbound traffic on ports 80 (HTTP...	7 Permission entries	2 Permission entries
<input type="checkbox"/>	rds-dev-access-sg	sg-077c8e272ea7c1c92	rds-dev-access-sg	Grant EC2 instances access to the deve...	0 Permission entries	1 Permission entry
<input type="checkbox"/>	ALB-SecurityGroup	sg-0a4de399e579a859e	ALB-SecurityGroup	This is the security group assigned to ...	4 Permission entries	2 Permission entries
<input type="checkbox"/>	rds-dev-sg	sg-0e6f8af1bf3274a2a	rds-dev-sg	Use for dev/test DBs. Keeps test work...	1 Permission entry	2 Permission entries
<input type="checkbox"/>	default	sg-062700e2fe3dc0099	default	default VPC security group	0 Permission entries	2 Permission entries
<input type="checkbox"/>	MySQL Access	sg-0d2f549a791132516	MySQL Access	To allow access on EC2 for mysql	1 Permission entry	0 Permission entries
<input type="checkbox"/>	AppRunnerSG	sg-00e882b1c602d888c	AppRunnerSG	This is SG for app runner	0 Permission entries	2 Permission entries

Screenshot 6

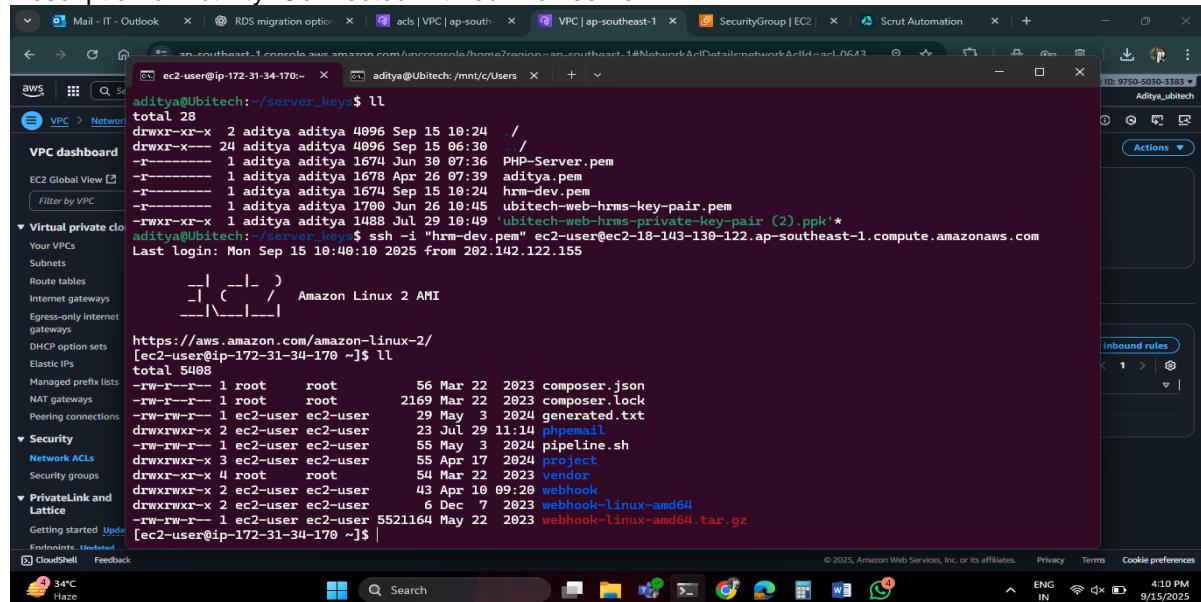
Description of Activity: Re-associate EIP with new instance



	Name	Allocated IPv4 address	Type	Allocation ID	Reverse DNS record	Associated instance ID
<input type="checkbox"/>	redis-server-eip	13.234.70.160	Public IP	eipalloc-0ab372ba68ea48845	-	i-0867b3489cd136260
<input type="checkbox"/>	ubihrm-dev-eip	3.111.18.155	Public IP	eipalloc-0ca6ee4e298f9dc3d	-	i-0ff89599d78ee44a
<input type="checkbox"/>	php-server-eip	65.0.249.252	Public IP	eipalloc-05cf847e81a827ba5	-	i-049ba5aff503a6b6e
<input type="checkbox"/>	nat-gw-eip	65.177.125	Public IP	eipalloc-0234a9650df711b30	-	-

Screenshot 7

Description of Activity: Connected with our Ec2 server



```

aditya@ubitech:~/server_keys$ ll
total 28
drwxr-xr-x  2 aditya aditya 4096 Sep 15 10:24  /
drwxr-xr-x  24 aditya aditya 4096 Sep 15 06:30  /
-rw-r--r--  1 aditya aditya 1674 Jun 30 07:36  PHP-Server.pem
-rw-r--r--  1 aditya aditya 1678 Apr 26 07:39  aditya.pem
-rw-r--r--  1 aditya aditya 1674 Sep 15 10:24  hrm-dev.pem
-rw-r--r--  1 aditya aditya 1709 Jun 26 08:45  ubitech-web-hrms-key-pair.pem
-rw-r--r--  1 aditya aditya 1488 Jul 29 10:49  'ubitech-web-hrms-private-key-pair (2).ppk'*

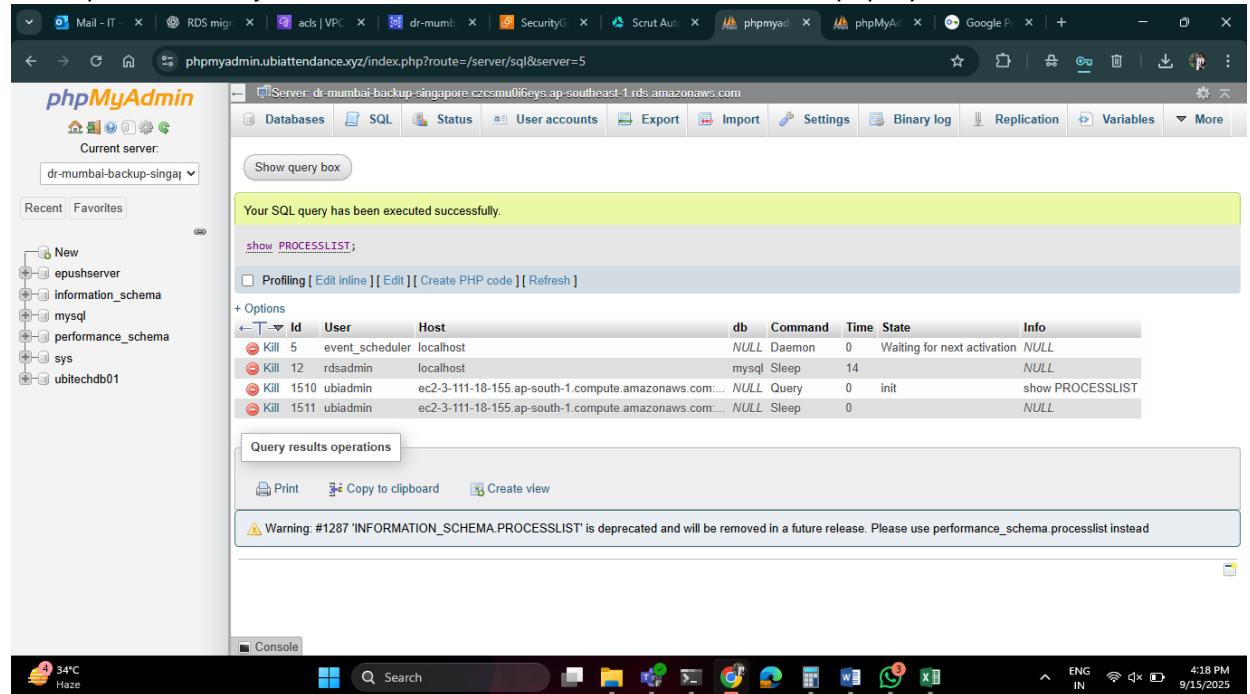
aditya@ubitech:~/server_keys$ ssh -i "hrm-dev.pem" ec2-user@ec2-18-143-130-122.ap-southeast-1.compute.amazonaws.com
Last login: Mon Sep 15 10:48:10 2025 from 202.142.122.155

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-34-178 ~]$ ll
total 5408
-rw-r--r--  1 root      root      56 Mar 22 2023 composer.json
-rw-r--r--  1 root      root  2169 Mar 22 2023 composer.lock
-rw-r--r--  1 ec2-user  ec2-user  29 May  3 2024 generated.txt
drwxrwxr-x  2 ec2-user  ec2-user  23 Jul 29 11:14  phpmail
drwxrwxr-x  3 ec2-user  ec2-user  55 May  3 2024 pipeline.sh
drwxrwxr-x  4 root      root      54 Mar 22 2023 vendor
drwxrwxr-x  2 ec2-user  ec2-user  43 Apr 10 09:20 webhook
drwxrwxr-x  2 ec2-user  ec2-user   6 Dec  7 2023 webhook-linux-amd64
-rw-rw-r--  1 ec2-user  ec2-user 5521164 May 22 2023 webhook-linux-amd64.tar.gz
[ec2-user@ip-172-31-34-178 ~]$ 

```

Screenshot 8

Description of Activity: Final verification of restored RDS database via phpMyAdmin access.



The screenshot shows the phpMyAdmin interface for a MySQL database. The left sidebar lists databases: New, epushserver, information_schema, mysql, performance_schema, sys, and ubitechdb01. The main content area displays the results of the SQL query 'show PROCESSLIST;'. The results table shows the following data:

Id	User	Host	db	Command	Time	State	Info
5	event_scheduler	localhost	NULL	Daemon	0	Waiting for next activation	NULL
12	rdsadmin	localhost	mysql	Sleep	14		NULL
1510	ubiaadmin	ec2-3-111-18-155.ap-south-1.compute.amazonaws.com:...	NULL	Query	0	init	show PROCESSLIST
1511	ubiaadmin	ec2-3-111-18-155.ap-south-1.compute.amazonaws.com:...	NULL	Sleep	0		NULL

Below the table, a warning message is displayed: 'Warning: #1287 'INFORMATION_SCHEMA.PROCESSLIST' is deprecated and will be removed in a future release. Please use performance_schema.processlist instead'.