Project Report: AWS Backup Plan for EC2 and RDS
Title:

Automated Backup and Recovery Plan for EC2 and RDS Using AWS Backup

Introduction:

In modern cloud infrastructure, data protection and disaster recovery are critical components of a robust

deployment strategy. AWS Backup provides a centralized, fully managed service to automate and manage

backups across AWS services. This project demonstrates how to configure and manage automated backup

and recovery of EC2 and RDS resources using AWS Backup, ensuring business continuity and data resilience.

Objectives:

- Launch and configure an EC2 instance with a sample web server and test data.

- Launch and configure an RDS instance with a sample database and data.

- Set up AWS Backup, including a Backup Vault and Backup Plan.

- Assign EC2 and RDS to the Backup Plan using tags or direct resource selection.

- Test and validate the backup process with on-demand backups.

- Document the entire process with screenshots and a summary report.
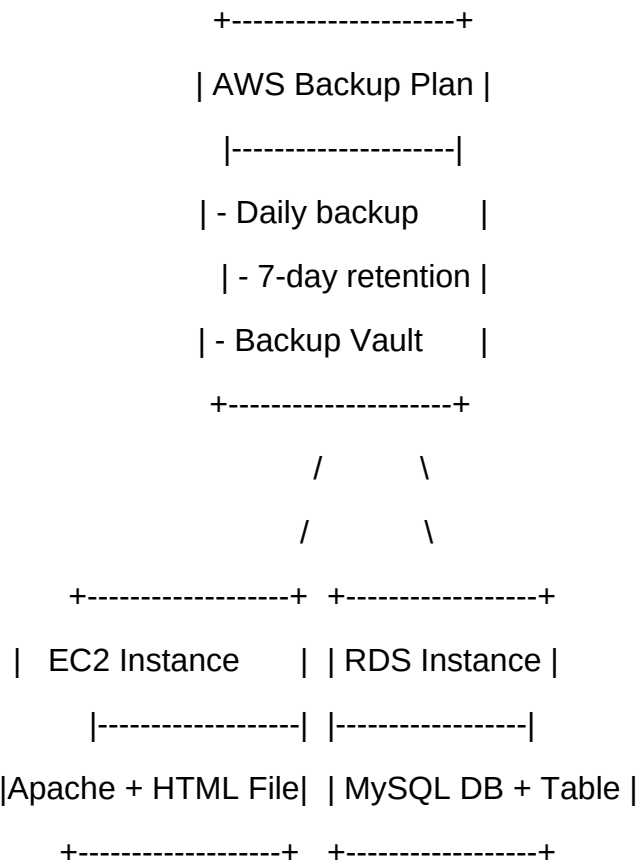
Technology Stack:

Component | Technology Use

Compute | AWS EC2 (Amazon Linux 2) Database | AWS RDS (MySQL 8.x) Web Server | Apache HTTP Server
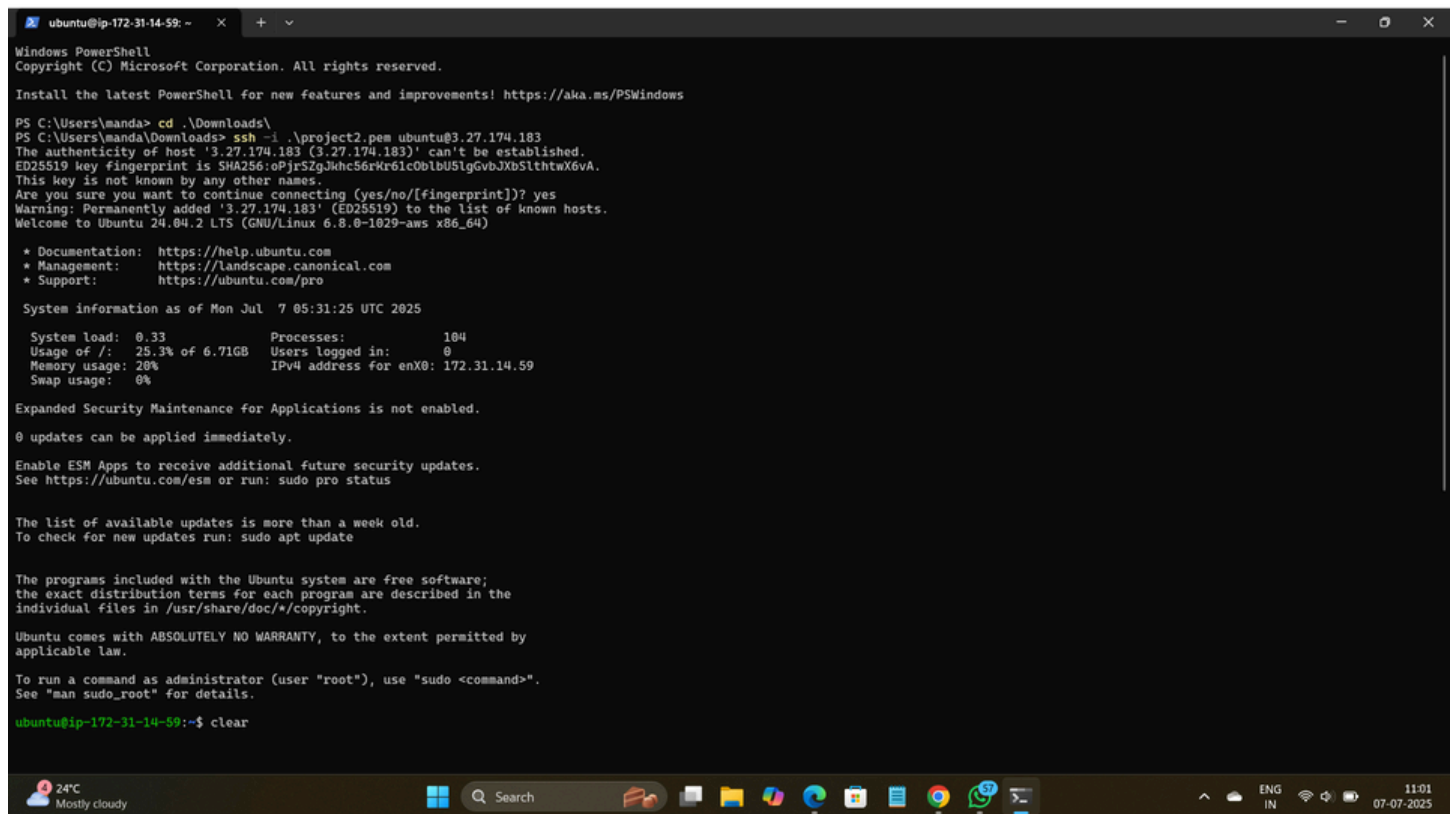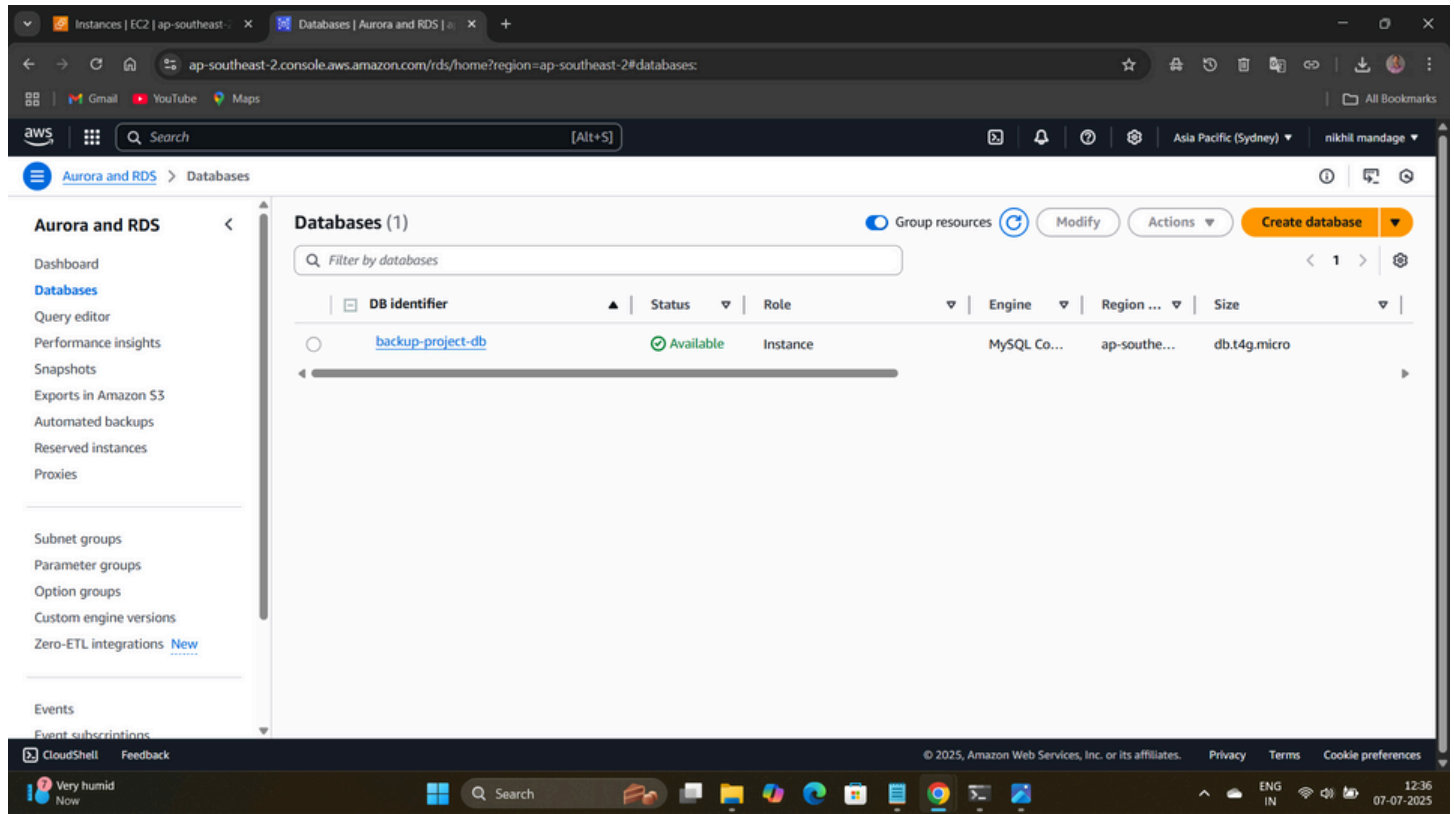
Backup Service | AWS Backup

OS & CLI Tools | Amazon Linux 2, AWS Console, MySQL Networking | VPC, Security Groups
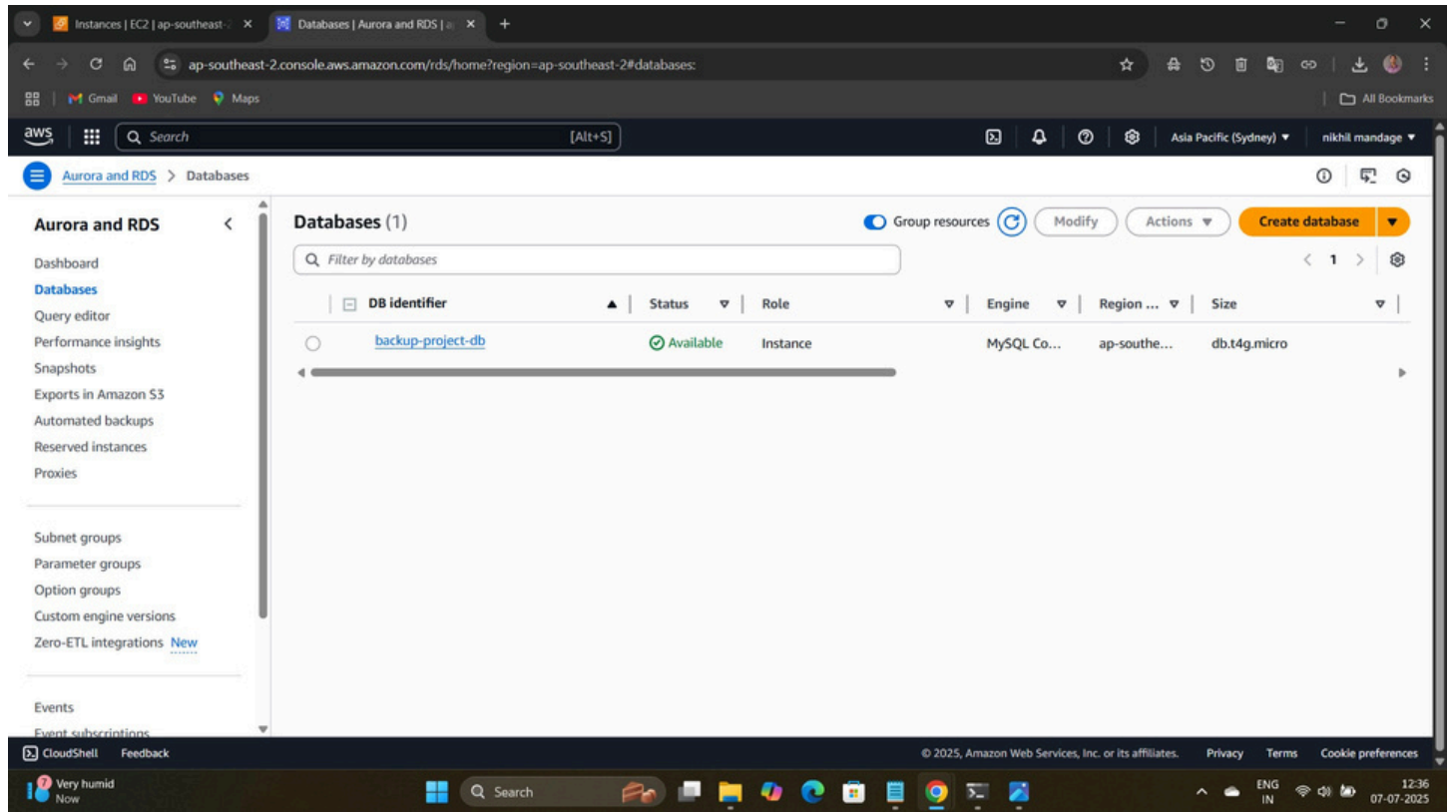
System Structure Diagram:

```
                    +--------------------+
                    | AWS Backup Plan |
                    |--------------------|
                    | - Daily backup     |
                     | - 7-day retention |
                    | - Backup Vault     |
                    +--------------------+
                         /        \
                        /          \
          +------------------+  +-----------------+
          |   EC2 Instance      |  | RDS Instance |
          |------------------|  |-----------------|
          |Apache + HTML File|  | MySQL DB + Table |
          +------------------+   +-----------------+
```

Implementation Steps:

1. Launch EC2 Instance:

- Install Apache and create sample page

1. Launch RDS Instance:

- ○ Create MySQL DB, add table and data

1. Set Up AWS Backup:

  ○ Create Vault, Plan, Assign Resources

- Trigger and verify on-demand backups

Backup jobs | AWS Backup | ap-...

← → C ⌂ ap-southeast-2.console.aws.amazon.com/backup/home?region=ap-southeast-2#/jobs/backup

AWS Backup > Jobs

AWS Backup

My account
- Dashboard
  - Jobs dashboard New
- Vaults
  - Backup vault locks New
- Backup plans
- Protected resources
- Search New
- **Jobs**
- Restore testing New
- Legal holds New
- Settings

External resources
- Gateways New
- Hypervisors
- Virtual machines

My organization
- Cross-account monitoring

Jobs

In jobs, you can monitor the status and other details of backup, restore, and copy activity.

Backup jobs | Restore jobs | Copy jobs

Backup jobs (2) Info

Records of your scheduled or on-demand backups.

[Stop backup job] [Create report] [Last 24 hours ▼]

	Backup job ID	Status	Resource name ▽	Message category	Resource ID	Resource t
○	3D8EE5E7-0A79-3AA5-EF1E-C3FCFF3A1C22	⊘ Completed	backup-project-db	Success	backup-project-db	RDS
○	73351439-2504-7513-F9FC-897D8FD00386	⊘ Completed	BackupProject-EC2	Success	instance/i-0773e564189298e5a	EC2

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Protected resources | AWS Back...

← → C ⌂ ap-southeast-2.console.aws.amazon.com/backup/home?region=ap-southeast-2#/resources

ⓘ Rate your experience with this AWS Backup console. ☆ ☆ ☆ ☆ ☆

AWS Backup > Protected resources

AWS Backup

My account
- Dashboard
  - Jobs dashboard New
- Vaults
  - Backup vault locks New
- Backup plans
- **Protected resources**
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- Jobs
- Restore testing New
- Legal holds New
- Settings

External resources
- Gateways New
- Hypervisors
- Virtual machines

Protected resources (1) Info

Resources backed up by AWS Backup

[Create on-demand backup]

Resource name ▽	Resource ID ▽	Resource type ▽	Last backup ▼
Ubuntu-Backup-Demo	instance/i-05cf6f3b9b6437188	EC2	July 4, 2025, 13:30:30 (UTC+05:30)

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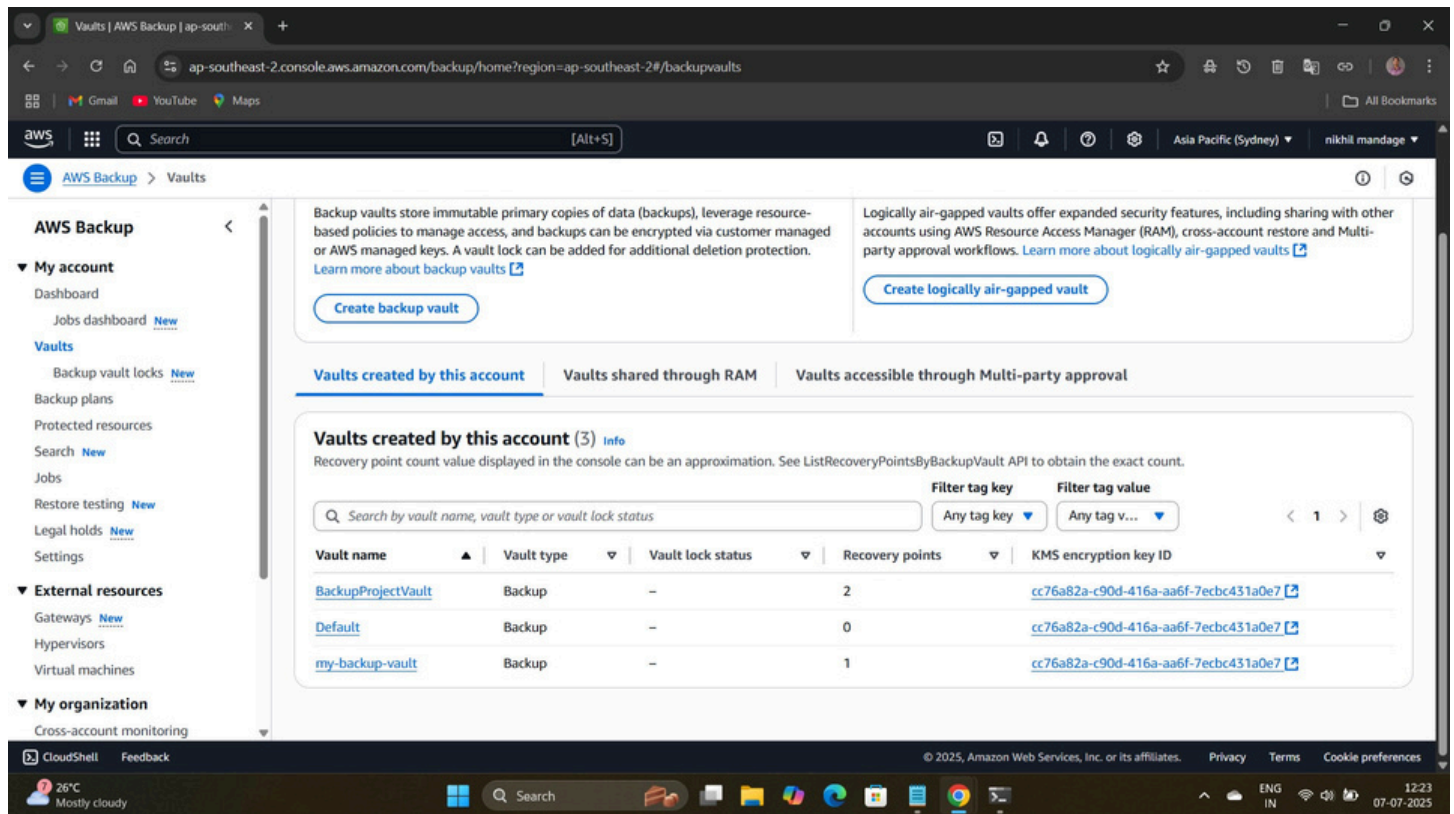
Results:

- EC2 Test Page accessible

- RDS table contains sample data

- Backup Plan active

- Recovery points verified

Conclusion:

This project successfully demonstrated how to configure a centralized backup solution using AWS Backup for both EC2 and RDS resources. By automating daily backups with a 7-day retention policy, we've implemented a reliable data protection and recovery mechanism.

https://github.com/nikhilmandage/-AWS-Backup-Plan

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