

# **Building High-Performance and Secure RDS-MySQL Databases on AWS**

The objective of this 3-day training program is to equip participants with the knowledge and skills necessary to design, implement, and manage secure and scalable cloud solutions on the AWS platform. By the end of the course, participants will be able to:

- **Understand the fundamentals of cloud computing and AWS services.**
- **Demonstrate proficiency in core AWS services such as EC2, S3, RDS-MySQL, and VPC.**
- **Master the concepts of networking, security, and compliance in AWS.**
- **Implement best practices for designing and managing AWS Database workloads.**

No. of Days -3

No. of Hours- 24 hrs

## **DAY 1**

### **Module 1 - Fundamental of AWS**

- Introduction to Cloud Computing
- Cloud deployment models
- AWS and its Global Infrastructure
- Account Security
- Networking Components

**Lab 1:** Explore and interact with the AWS Management Console and AWS Command Line Interface

**Lab 2:** Build your Amazon VPC infrastructure

### **Module 2 - Introduction to Databases**

- Relational and Non-relational Databases
- Understanding managed Database services
- Introduction to RDS
- Benefits and use-cases of RDS

### **Module 3 – Exploring RDS Database Engines**

- Supported Database Engines (MySQL, PostgreSQL, Oracle, SQL Server, MariaDB)
- Choosing the Right Database Engine for Your Use Case
- Creating Your First RDS Database Instance Configuring Database Parameters

**Lab 3:** Create a database layer in your Amazon VPC infrastructure

## **DAY 2:**

### **Module 4 - Managing RDS Instance**

- Security Groups and Network Configuration
- Backing Up and Restoring RDS Instances
- Monitoring Performance and Utilizing Logs
- Scaling and Replicating RDS Instances

**Lab 4:** Create and Connect to a MySQL Database with Amazon RDS

### **Module 5 - Advanced RDS Concepts**

- High Availability with Multi-AZ Deployments
- Read Replicas for Improved Read Scalability
- Performance Tuning and Optimization Strategies
- Data Migration to and from RDS

**Lab 4:** Configure high availability in your Amazon VPC

## **Day 3:**

### **Module 7: Security and Compliance**

- Shared responsibility model
- Infrastructure Security
- Compliance and governance

### **Module 8: Identity and access management**

- IAM Authentication and Database User Management
- Encryption at Rest and in Transit
- Compliance and Auditing Best Practices

### **Module 9: Protecting Infrastructure and Data**

- Protecting your network infrastructure
- Edge Security
- DDoS Mitigation
- Protecting compute resources

### **Module 10: Database Security**

- Application Monitoring
- Securing the data and resources
- Data Security in Amazon RDS

- Securing your Workload

**Lab 5: Create Alarm trigger to manage your database application.**

**Lab 6: Create Web ACL and block the set of Internet protocol addresses to not allow any action on your database.**

**Lab 7: Use GuardDuty to Detect threats in your Database server.**

**Lab 8: Create the database and manage the secrets into AWS secret manager.**