Customized Course for Elasticbeanstalk and its Integration with AWS Services

Course Duration: 16 hrs (2 days)

Day 1: Introduction to AWS Elastic Beanstalk and Core Concepts

1. Introduction to AWS Elastic Beanstalk

- Overview of AWS Elastic Beanstalk

- Benefits and Use Cases

- Elastic Beanstalk vs. Other AWS Compute Services (EC2, ECS, Lambda)

2. Core Components of Elastic Beanstalk

- Applications and Environments

- Versions and Deployments

- Environments and Configuration Settings

- Health Monitoring and Logs

3. Creating and Managing Elastic Beanstalk Applications

- Setting Up Your First Application

    o Creating an Application

    o Configuring Environments

    o Deploying an Application

- Managing Application Versions

- Rolling Back Deployments

4. Application Deployment Strategies

- Deployment Methods (All at Once, Rolling, Rolling with Additional Batch, Immutable)

- Deployment Policies and Best Practices

5. Environment Configuration

- Environment Tiers (Web Server vs. Worker)

- Configuration Options (Instance Types, Scaling, Load Balancing)

6. Monitoring and Logging

- Using Elastic Beanstalk Console for Monitoring

- Configuring CloudWatch Alarms

- Accessing and Analyzing Logs

7. Hands-On Lab: Deploying a Sample Application

- Walkthrough of Application Deployment

- Configuring Environments and Monitoring

Day 2: Advanced Topics and Cost Optimization Techniques

1. Scaling and Load Balancing

- Auto Scaling Configuration

- Load Balancer Types (Classic vs. Application Load Balancer)

- Managing Scaling Policies

2. Application Health and Performance Tuning

- Understanding Elastic Beanstalk Health Metrics

- Performance Tuning Best Practices

- Troubleshooting Common Issues

3. Security Best Practices

- Managing IAM Roles and Permissions

- Configuring VPC and Security Groups

4. Cost Optimization Techniques for Elastic Beanstalk

- Understanding Elastic Beanstalk Cost Structure

- Instance Types and Sizing

- Auto Scaling and Instance Management

- Optimizing Storage Costs (EBS, S3)

- Utilizing Reserved Instances and Savings Plans

- Cost Monitoring Tools (AWS Cost Explorer, Budgets)

- Cost Optimization Best Practices

5. Integrating Elastic Beanstalk with Other AWS Services

- RDS (Relational Database Service) Integration

- S3 for Static Files and Asset Management

- SNS and SQS for Messaging

6. Backup and Disaster Recovery

- Setting Up Backups and Snapshots

- Disaster Recovery Strategies

- Restoring from Backups

7. Hands-On Lab: Implementing Cost Optimization and Advanced Configuration

- Applying Cost Optimization Techniques

- Implementing Advanced Configurations and Security Best Practices

8. Q&A and Wrap-Up

- Recap of Key Concepts

- Open Q&A Session

- Resources and Next Steps