

**Cloud Computing Architecture Lab**

**Name:** Pratham Kandari

**Sap Id:** 500097663

**Batch:** 7

**Experiment- 6**

# Deploy an application using AWS Elastic Beanstalk (PaaS)

# Q:1. List the features and advantages of AWS Elastic Beanstalk?

# Ans:

# AWS Elastic Beanstalk is a fully-managed service that makes it easy to deploy, manage, and scale applications in the cloud. Some of its key features and advantages include:

# Easy Deployment: AWS Elastic Beanstalk simplifies the deployment process by automating infrastructure provisioning and application deployment, making it easy to get started.

# Multiple Language Support: Elastic Beanstalk supports multiple programming languages, including Java, Python, Node.js, Ruby, .NET, and PHP, allowing developers to choose the language that best suits their needs.

# Auto Scaling: Elastic Beanstalk automatically scales your application based on traffic, ensuring that your application can handle any amount of load without downtime.

# Monitoring and Alerting: Elastic Beanstalk provides built-in monitoring and alerting capabilities, so you can keep track of your application's health and performance in real-time.

# Customization: Elastic Beanstalk allows you to customize the environment to meet your specific needs, including setting up custom domains, SSL certificates, and more.

# Integrated with AWS Services: Elastic Beanstalk integrates with other AWS services, such as Amazon RDS, Amazon S3, and Amazon CloudWatch, making it easy to take advantage of these services within your application.

# Cost-Effective: Elastic Beanstalk's pay-as-you-go pricing model makes it cost-effective, as you only pay for the resources you use.

# Security: Elastic Beanstalk provides built-in security features, such as encrypted communication between the load balancer and instances, ensuring that your application is secure.

# Overall, AWS Elastic Beanstalk provides a powerful platform that allows developers to quickly and easily deploy, manage, and scale their applications in the cloud, with minimal infrastructure setup and maintenance required.

# Q:2. Explain in detail Web Server and Worker Environment of Elastic Beanstalk.

# Ans:

# AWS Elastic Beanstalk is a fully-managed service that allows developers to deploy and manage their applications in the cloud. Elastic Beanstalk provides two types of environments for running applications: web server environment and worker environment.

# Web Server Environment:

# A web server environment in Elastic Beanstalk is a type of environment that is used to run web applications, such as websites, web services, or web APIs. In a web server environment, Elastic Beanstalk provisions a load balancer, web servers, and other necessary infrastructure to run your application. The load balancer distributes incoming traffic to the web servers, ensuring that your application can handle any amount of load.

# The web server environment is further divided into two tiers:

# a. Web Tier: This tier is responsible for handling incoming requests from the internet and directing them to the application's backend.

# b. Worker Tier: This tier is responsible for handling background tasks, such as processing jobs, sending emails, or performing other asynchronous tasks.

# Worker Environment:

# A worker environment in Elastic Beanstalk is a type of environment that is used to run background tasks, such as processing jobs or performing other asynchronous tasks. In a worker environment, Elastic Beanstalk provisions a worker server, which runs the worker application and performs the required background tasks.

# The worker environment is designed to work in conjunction with a web server environment. The web server environment provides the necessary frontend and API endpoints for the application, while the worker environment handles the background processing of tasks.

# Overall, Elastic Beanstalk's web server and worker environments provide a flexible and scalable platform for running web and worker applications in the cloud. By automatically provisioning the necessary infrastructure and managing scaling and availability, Elastic Beanstalk allows developers to focus on writing and deploying their code, without having to worry about the underlying infrastructure.











