Elastic Beanstalk

THE TECH STUFF

TABLE OF CONTENT

Introduction

INTRODUCTION

AWS Elastic Beanstalk is a Platform as a Service (PaaS) that allows you to deploy and manage applications in the AWS cloud without worrying about the infrastructure that runs those applications. It supports various programming languages and frameworks, including Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker.

Key Features

KEY FEATURES

01 Managed Platform

Elastic Beanstalk manages the underlying infrastructure, including the EC2 instances, load balancers, auto-scaling, and more.

02 Multiple Language Support:

Supports popular programming languages and frameworks.

03 Easy Deployment

Simple application deployment using the AWS Management Console, CLI, or APIs.

04 Auto-scaling

Automatically scales your application up or down based on demand.

KEY FEATURES

05 **Monitoring**

Integrated with Amazon CloudWatch for application health monitoring.

06 **Customization**

Customize the environment by selecting different instance types, applying load balancer configurations, and using custom AMIs.

07 **Integrated with CI/CD Tools**

Easily integrate with CI/CD pipelines using tools like Jenkins, GitLab CI, and AWS CodePipeline.

Key Concept

Architecture 1.1

KEY CONCEPTS

Environment:

A collection of AWS resources running an application version.

Application

A logical collection of Elastic Beanstalk components, including environments, versions, and configurations.

Architecture 1.2

KEY CONCEPTS

Application Version:

A specific, labeled iteration of deployable code.

Environment Configuration:

The settings and parameters used to define and control the behavior of an environment.

Deployment Options

SimpSingle Instance Deployment:licity

Suitable for development, testing, or small applications.

ScLoad Balanced, Auto-Scaling Deployment: alability

Suitable for production applications requiring high availability and scalability.

SECURITY

KEY CONCEPTS

01   **Supports VPC for network isolation.**

02   **Integration with IAM for fine-grained access control.**

03   **Configurable security groups and instance profiles.**

How it Works

● TOPIC 03

HOW IT WORKS

01

Upload Your Code

Upload your application code in a ZIP file or a WAR file.

02

Elastic Beanstalk Provisions Resources:

Elastic Beanstalk automatically provisions the resources necessary to run your application, including EC2 instances, load balancers, and auto-scaling groups.

HOW IT WORKS

03

Application Deployment

Your application is deployed on the provisioned resources.

04

Monitoring and Management

Elastic Beanstalk monitors the health of your application and provides a management interface to update or scale your application.

Benefits

BENEFITS

Simplicity

Simplifies the process of deploying and managing applications.

Scalability

Automatically scales your application to handle varying levels of traffic.

Cost-Effective

You pay only for the resources your application uses.

Flexibility

Provides the flexibility to customize the environment and configurations as needed.
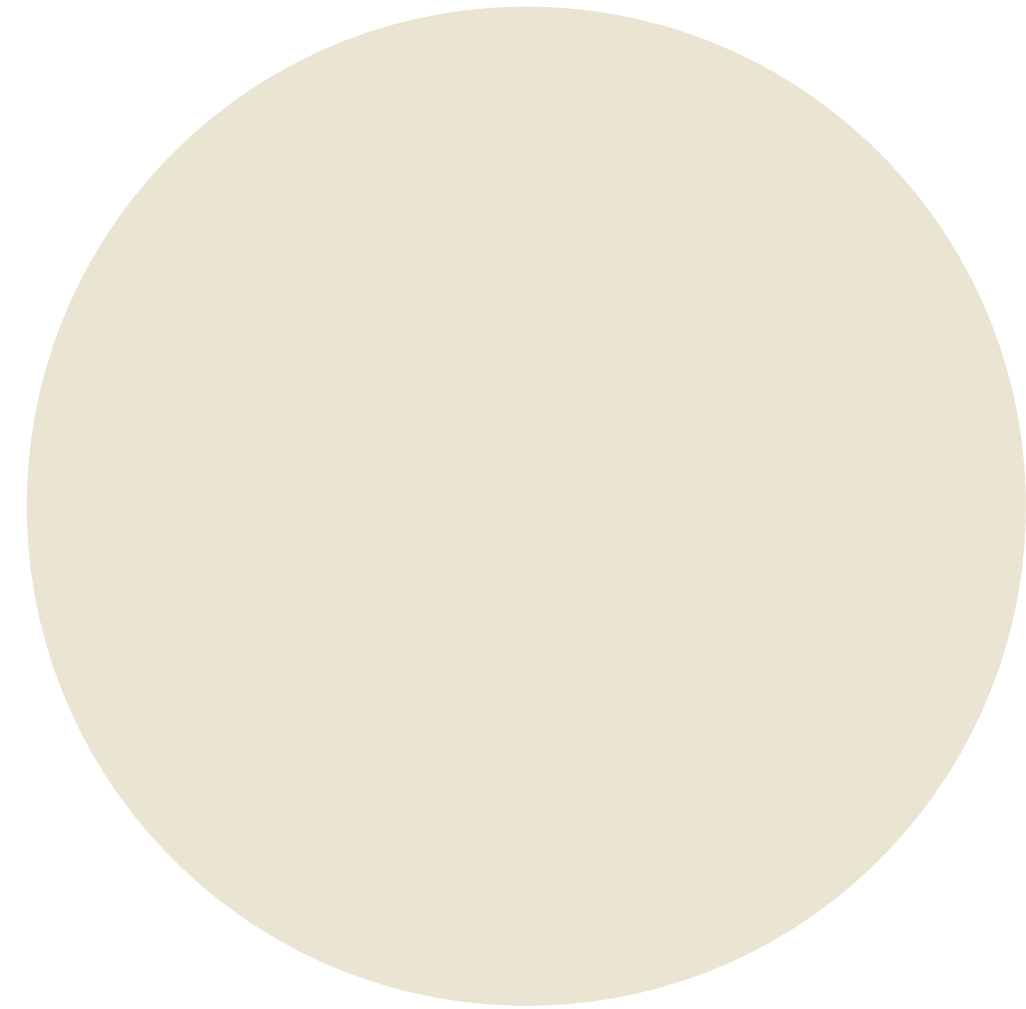
Use Cases

USE CASES

01) Web applications and APIs

02) Microservices architecture

03) Continuous integration and delivery pipelines

04) Dev/Test environments

Pricing

PRICING

No additional charge for Elastic Beanstalk.

Pay for the underlying AWS resources used (e.g., EC2 instances, load balancers, etc.).

Best Practices

BEST PRACTICES

VERSION CONTROL:

Use version control to manage application versions and rollbacks.

ENVIRONMENT SEPARATION:

Use separate environments for development, testing, and production.

BEST PRACTICES

MONITORING:

Regularly monitor application health and performance metrics.

COST MANAGEMENT:

Optimize resource usage to manage costs effectively

THANK YOU

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