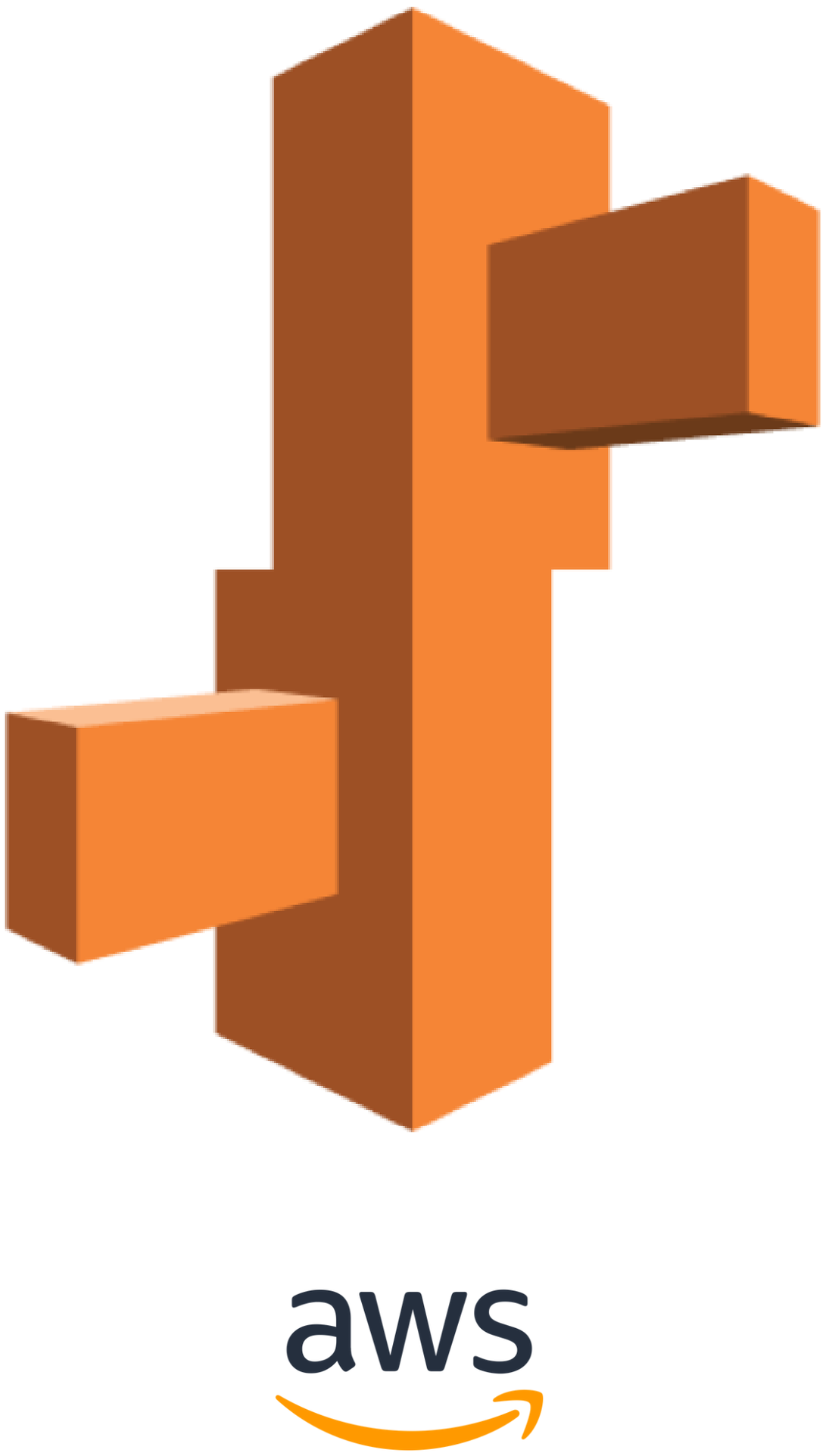
# ELASTIC BEANSTALK

## DEPLOY EVEN MORE SEAMLESSLY



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CHAPTER 01 - INTRODUCTION

# INTRODUCTION TO ELASTIC BEANSTALK

## DEPLOY | SCALE

Elastic Beanstalk allows you to quickly deploy and manage applications in the AWS Cloud without worrying about the infrastructure that runs those applications. AWS Elastic Beanstalk reduces management complexity without restricting choice or control. You simply upload your application, and Elastic Beanstalk automatically handles the details of capacity provisioning, load balancing, scaling, and application health monitoring.

It is easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

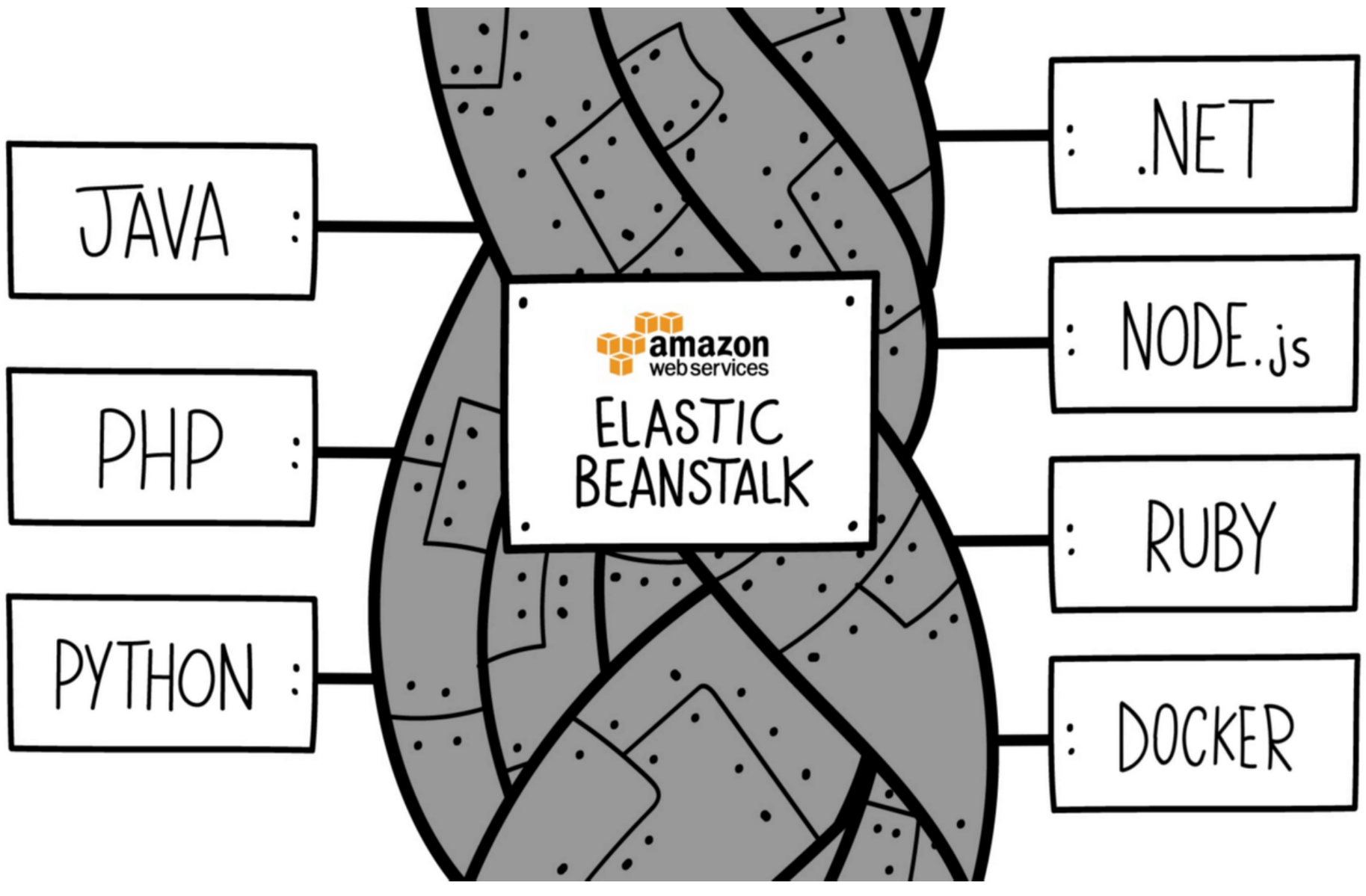


Figure: 01

With Elastic Beanstalk you need to simply upload your code and Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring.

There is no additional charge for Elastic Beanstalk - you pay only for the AWS resources needed to store and run your applications.

CHAPTER 02 - ALL YOU NEED TO KNOW

# FACTS AND FIGURES

AWS Elastic Beanstalk features are designed to run an application on the Amazon cloud as seamlessly as possible. This includes a variety of apps, including those that require highly variable amounts of traffic.

Elastic BeanStalk stands next to other AWS services like EC2 instances, Elastic Load Balancers, and Auto Scaling, and allows you to modify and configure these to adapt to your application needs.

Time to check out the features available to Amazon Web Services Elastic Beanstalk users, and how they can be used to rapidly and easily deploy cloud-powered applications to the AWS platform, manage, maintain, and monitor them.

## FACTS

Developer(s): Amazon Web Services
Initial release: January 19, 2011 [1]
Type: Web development

## APPLICATION AND SOFTWARE STACKS

**Ruby**, **PHP** and **Python** applications on Apache HTTP Server
**.NET** Framework applications on IIS 7.5
**Java** applications on Apache Tomcat
**Node.js** applications
**Docker** containers

## DEPLOYMENT METHODS

Zip files
Java Web Application Archive (.WAR file)
Docker containers
Git



# ADVANTAGES

AWS Elastic BeanStalk comes with the bundle of advantages including the following but not limited to:

1) Easy to Use
2) Automated Scalability
3) Complete control
4) Flexible
5) Reliable
6) Free of Cost

Another advantage is that we get full control of Amazon resources. If it launches an EC2 instance, we can have root access to it. It will also create and manage the AMI automatically.

## BENEFITS

### FAST AND SIMPLE TO BEGIN

Elastic Beanstalk is the fastest and simplest way to deploy your application on AWS. You simply use the AWS Management Console, a Git repository, or an integrated development environment (IDE) such as Eclipse or Visual Studio to upload your application, and Elastic Beanstalk automatically handles the deployment details of capacity provisioning, load balancing, auto-scaling, and application health monitoring.

### DEVELOPER PRODUCTIVITY

Elastic Beanstalk provisions and operates the infrastructure and manages the application stack (platform) for you, so you don't have to spend the time or develop the expertise. It will also keep the underlying platform running your application up-to-date with the latest patches and updates.

### IMPOSSIBLE TO OUTGROW

Elastic Beanstalk automatically scales your application up and down based on your application's specific need using easily adjustable Auto Scaling settings. For example, you can use CPU utilization metrics to trigger Auto Scaling actions. With Elastic Beanstalk, your application can handle peaks in workload or traffic while minimizing your costs.



# BENEFITS

## COMPLETE RESOURCE CONTROL

You have the freedom to select the AWS resources, such as Amazon EC2 instance type, that is optimal for your application. Additionally, Elastic Beanstalk lets you "open the hood" and retain full control over the AWS resources powering your application. If you decide you want to take over some (or all) of the elements of your infrastructure, you can do so seamlessly by using Elastic Beanstalk's management capabilities.

# USE CASE

*Founded in 2009, Prezi is a presentation software company aimed at reinventing presentations by giving users the tools needed to clearly organize their ideas and present them in a highly engaging way. Prezi's cloud-based software is known for its interactive, zoomable canvas that offers the ability to show relationships between the big picture and fine details, allowing users to place ideas within a broader context.*

## THE CHALLENGE

To keep up with rapid growth, Prezi needed a highly scalable and automated cloud-based platform to host its software as a service. It was also critical that the platform is easy to maintain, flexible, and intuitive so that developers could quickly create new features for customers.

In addition, the company needed a cloud platform that could reliably serve the more than one million new customers moving to Prezi every month.

## WHY AMAZON WEB SERVICES?

In the first few years of business, Prezi hosted its interactive presentation tools on a managed cloud platform, with many of its services built in house. The company eventually began migrating its software-as-a-service to Amazon Web Services (AWS) in 2012 because of the comprehensive, highly scalable platform AWS offers.

Additionally, Prezi moved two of its most critical back-end services to AWS Elastic Beanstalk, which deploys and scales web applications and services automatically. This lets Prezi's developers worry less about managing infrastructure. Prezi is also planning to move the rest of its infrastructure to AWS with Elastic Beanstalk. Using Elastic Beanstalk's multi-container Docker support, which is provided by Amazon EC2 Container Service (Amazon ECS), Prezi aims to create a microservices architecture that would let its developers easily spin up customized development environments without worrying about the complexities of provisioning infrastructure.

# USE CASE

## THE BENEFITS

By migrating to AWS, Prezi has obtained a highly scalable and automated platform that is helping the company keep pace with its explosive growth. Moreover, the user-friendly development environment has allowed developers to get up to speed very quickly while making it simple to view the information they need.

## OTHER FEATURED CLIENT

Ebury

"Ebury can scale to meet the demands of its customer base without increasing the size of its infrastructure team. »

rachio

"Rachio uses AWS Elastic Beanstalk to deploy and manage its website, web apps, and API infrastructure. »

CrowdChat™

"AWS has allowed us to build a web app at large scale." »

SAMSUNG BUSINESS

"Samsung decided to deploy it's new Samsung Printing Apps center app store on AWS". »

SPE3D

LEAGUE OF WOMEN VOTERS®

ividataGROUP

GeoNet

Jelly Button Games

BMW

AWS re:Invent 2015

# ALTERNATIVES

Alternatives to AWS Elastic Beanstalk for all platforms:

Heroku is a platform as a service (PaaS) that enables developers to build, run, and operate applications entirely in the cloud.

OpenShift is Red Hat's free, auto-scaling Platform as a Service (PaaS) for applications. As an application platform in the cloud, OpenShift manages the stack so you...

Google App Engine is a free* platform for developing and hosting web applications in Google-managed data centers. App Engine offers fast development and deployment

Microsoft Azure and SQL Azure enable you to build, host and scale applications in Microsoft datacenters



# HOW TO SETUP

These following links will help you out in setting up the environment and installing all the necessary packages.

**1) Create IAM User and Group:**
https://docs.aws.amazon.com/IAM/latest/UserGuide/id_groups_create.html

**2) Create an EC2 Instance:**
https://docs.aws.amazon.com/efs/latest/ug/gs-step-one-create-ec2-resources.html

**3) How to Install Elastic BeanStalk CLI:**
https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/eb-cli3-install.html

**4) How to create the Virtual Environment:**
https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create-deploy-python-django.html?refid=em_71166#python-django-setup-venv

**5) Create a Django project:**
https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create-deploy-python-django.html?refid=em_71166#python-django-create-app

**6) Configure the application with Elastic BeanStalk:**
https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create-deploy-python-django.html?refid=em_71166#python-django-configure-for-eb

CHAPTER 04 - CONCLUSION

# WHAT IS NEXT?

## START YOUR DEPLOYMENT TODAY


Sign-up for the
AWS Account


Build your first
Web Application


Deploy and Scale
with EB

amazon web services

# THANK YOU

consultadd