ondia

Elastic Beanstalk

AGENDA

- Introduction to Elastic Beanstalk
- Basic concepts of Elastic Beanstalk

Introduction to Elastic Beanstalk

Introduction to Elastic Beanstalk

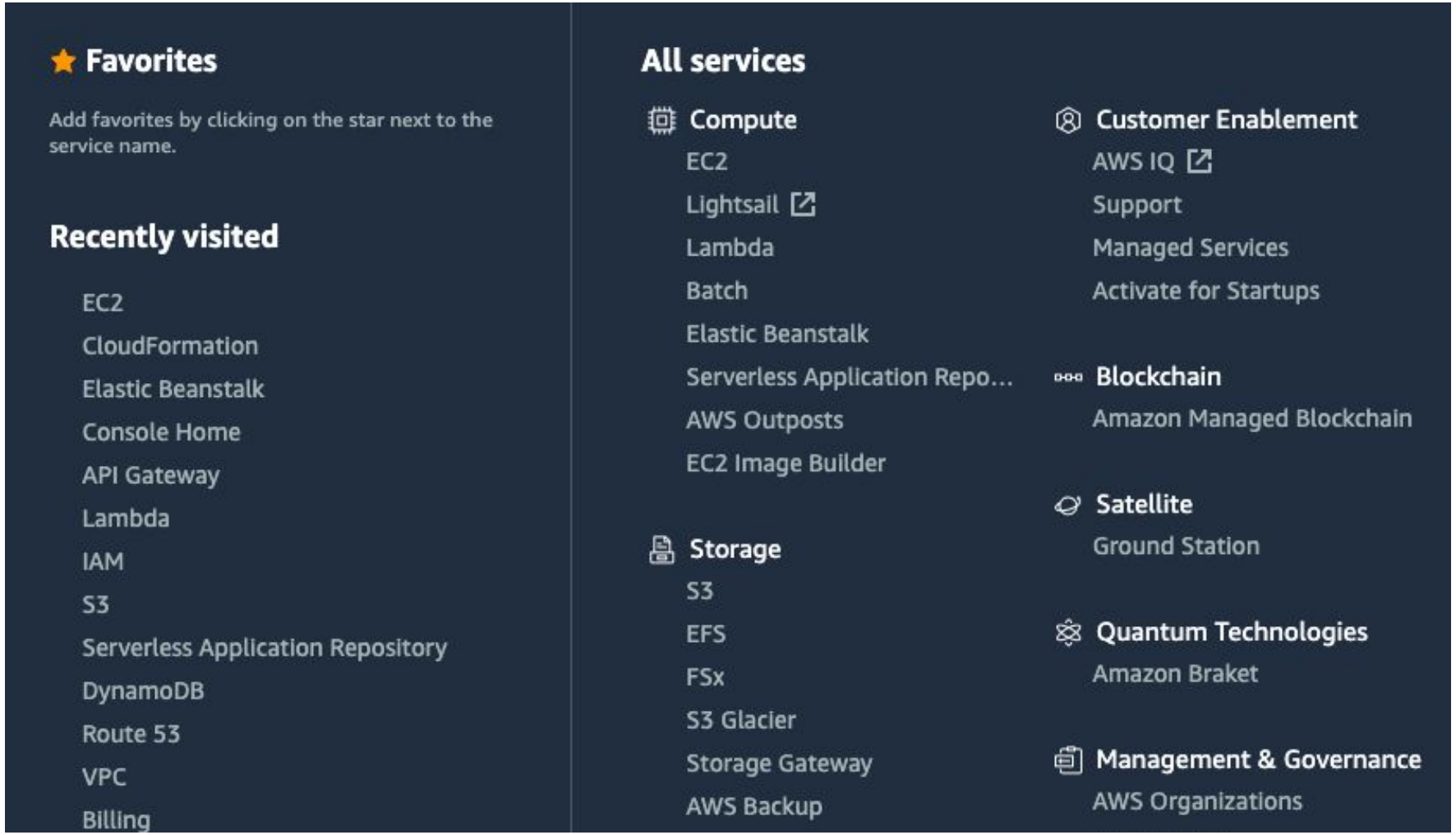
What is Elastic Beanstalk ?

- AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services.

- It is a kind of orchestration service offered by Amazon Web Services used to set up your application architecture.

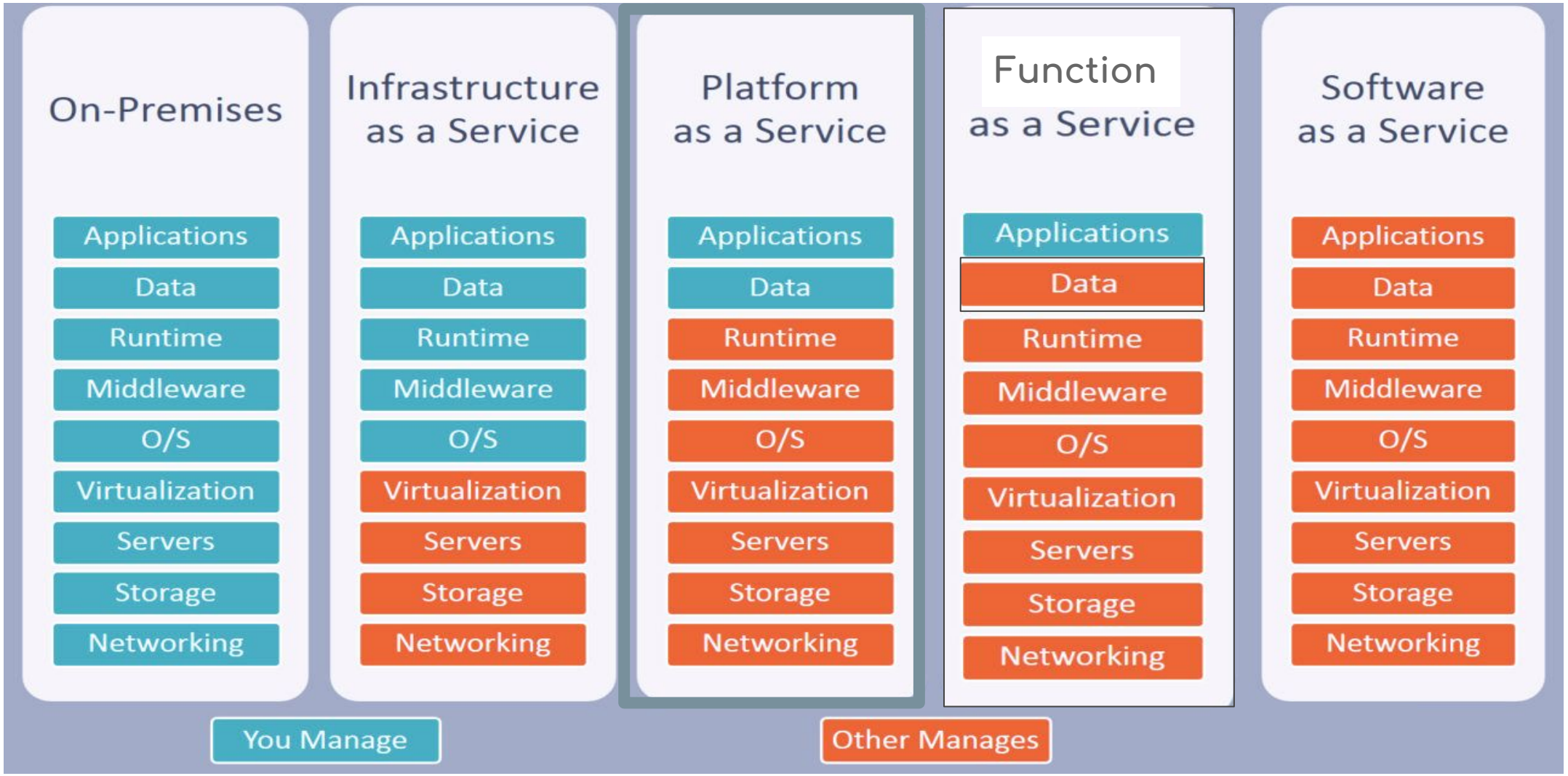
Introduction to Elastic Beanstalk

What is Elastic Beanstalk ?



Introduction to Elastic Beanstalk

What is Elastic Beanstalk ?



Introduction to Elastic Beanstalk

What is Elastic Beanstalk ?

Ruby Programming

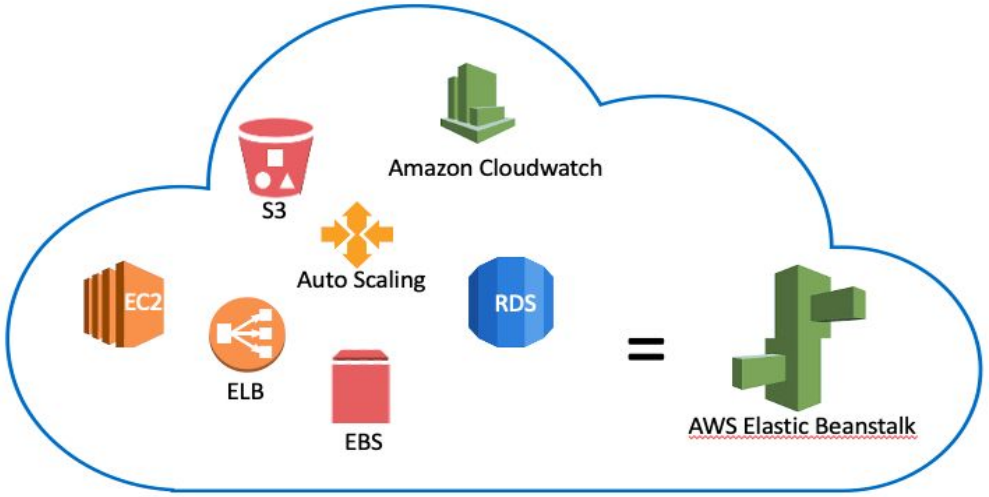
python Programming

Go

Microsoft® .NET™

Introduction to Elastic Beanstalk

Why AWS Elastic Beanstalk?



- Automates the details of capacity provisioning,
- Load balancing,
- Auto scaling,
- Application deployment,

Introduction to Elastic Beanstalk

- Automates management tasks:

  - Monitoring,
  - Version deployment,
  - Health check
  - Log

Monitoring

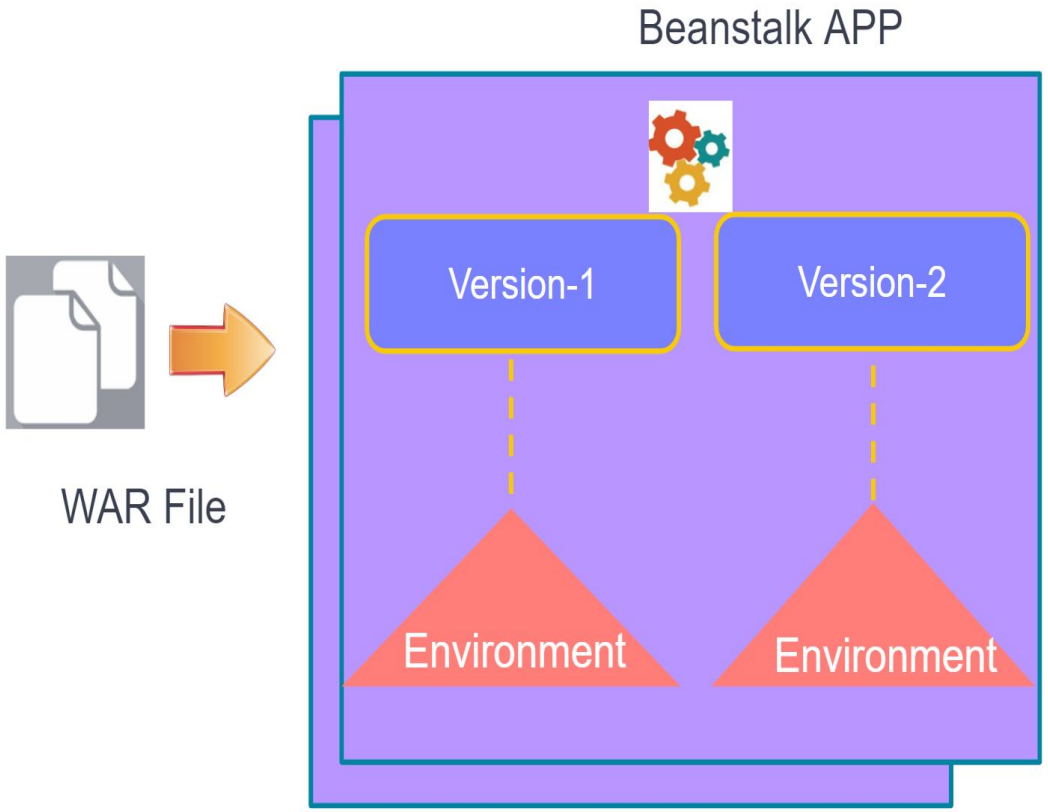
Health Check

Basic Concepts of Elastic Beanstalk

Basic Concepts of Elastic Beanstalk

Application

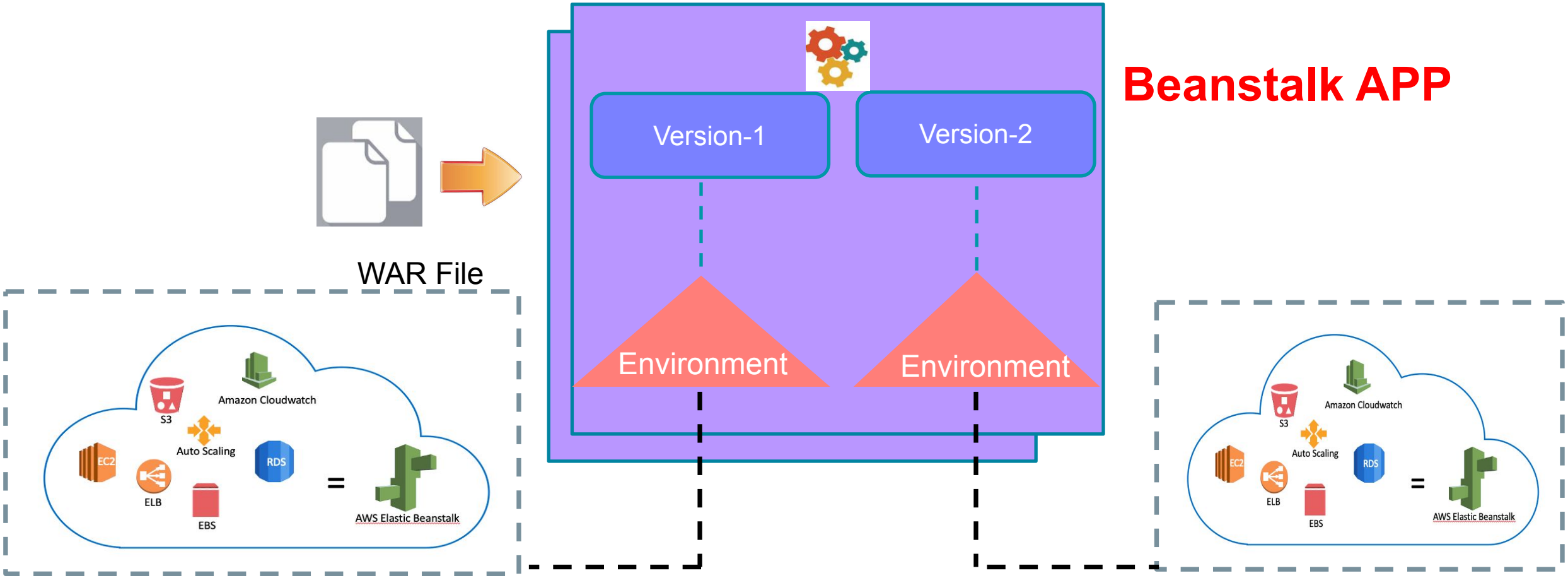
- **Application is a logical collection** of Elastic Beanstalk components.It covers all components.



Application version

- Specific, labeled iteration of deployable code for a web application.

Basic Concepts of Elastic Beanstalk

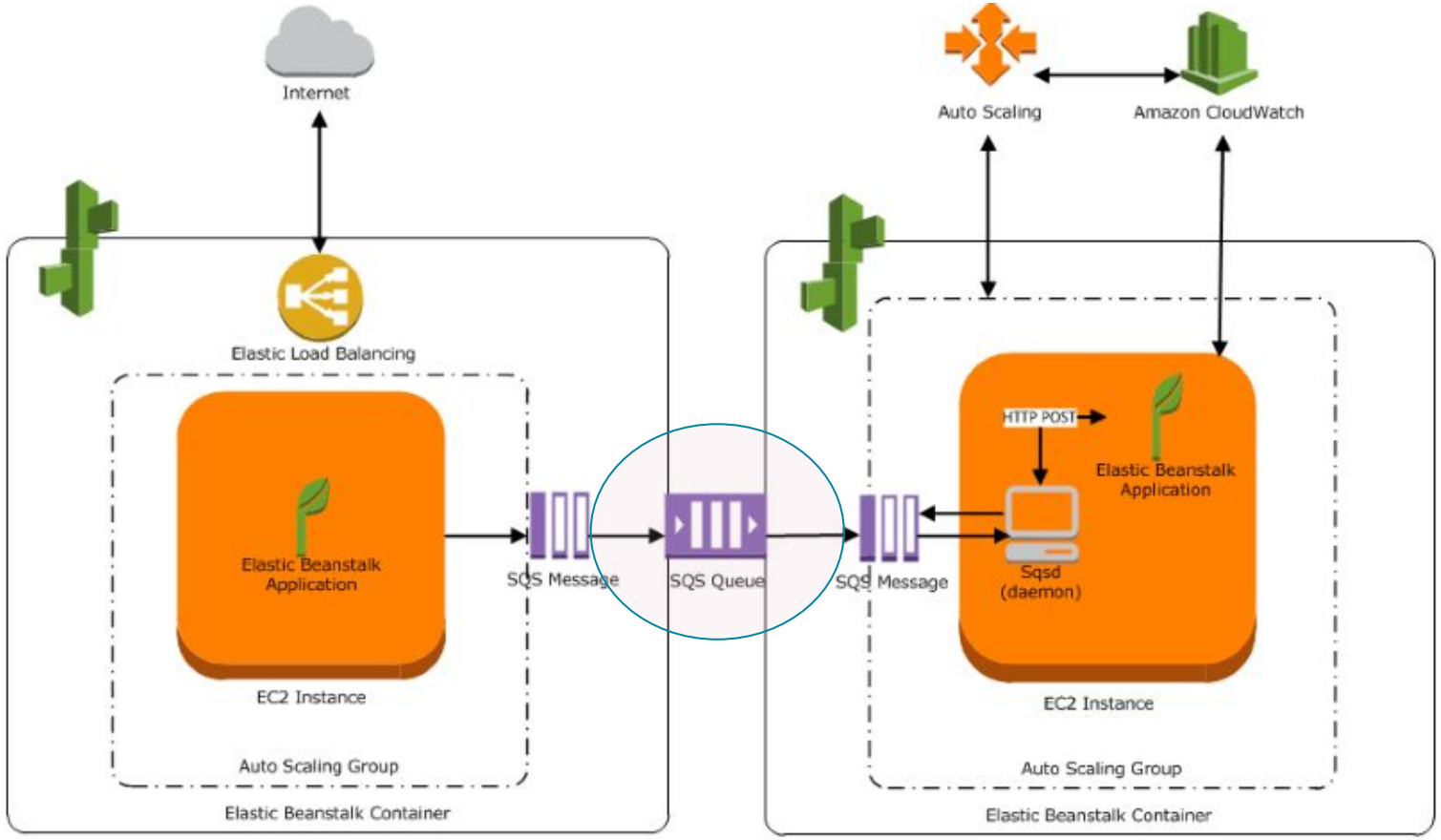


Environment

- An environment is **a collection of AWS resources** running an application version. Each environment runs only one application version at a time.

Basic Concepts of Elastic Beanstalk

Environment Tier:



Web Server Environment tier

Worker Environment tier

- The environment tier designates the type of application that the environment runs, and determines what resources Elastic Beanstalk provisions to support it.

Basic Concepts of Elastic Beanstalk

Platform:

Supported platform versions

- Docker
- Multicontainer Docker
- Preconfigured Docker
- Go
- Java SE
- Tomcat
- .NET Core on Linux
- .NET on Windows Server
- Node.js
- PHP
- Python
- Ruby

Summary of Terms / Concepts

Concept	What it Means
Application	Logical collection of Elastic Beanstalk components required for a working deployment
Application Version	A labelled version of an application (e.g. 1.0, 1.1, 2.0, etc…)
Environment	A set of AWS resources running a specific application version (e.g. DEV, TEST, PROD)
Environment Tier	The type of application that an environment runs (either Web or Worker)
Platform	Combination of OS, programming language, web server - i.e. the “technology stack”

Basic Concepts of Elastic Beanstalk

Elastic Beanstalk Command Line Interface (EB CLI)

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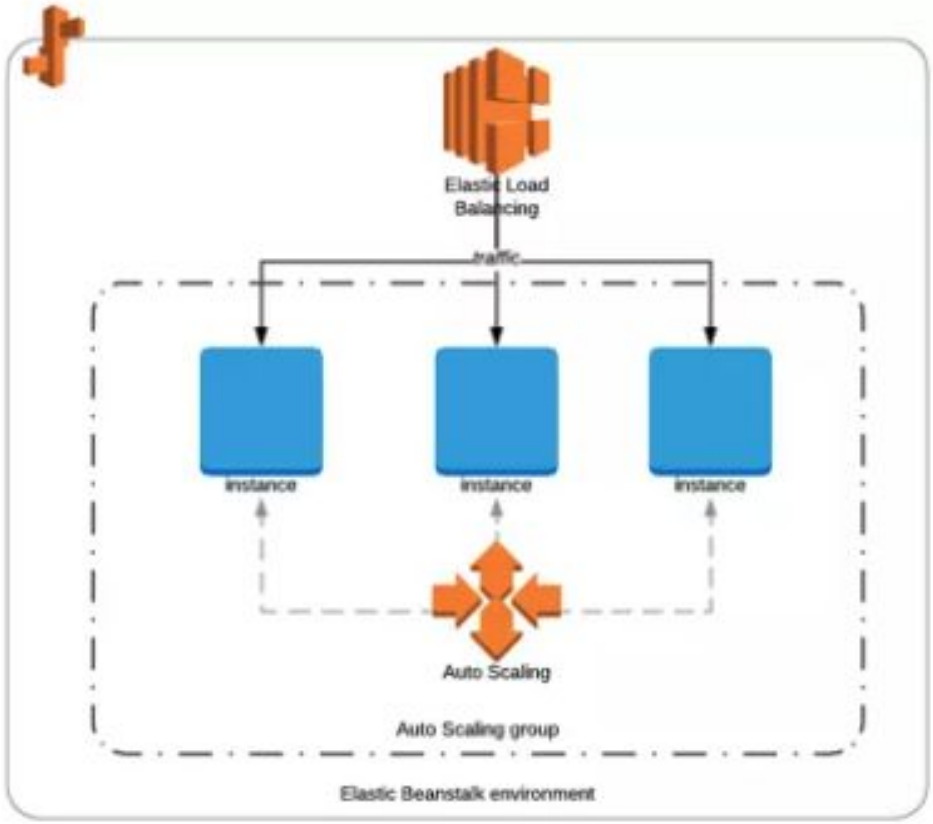
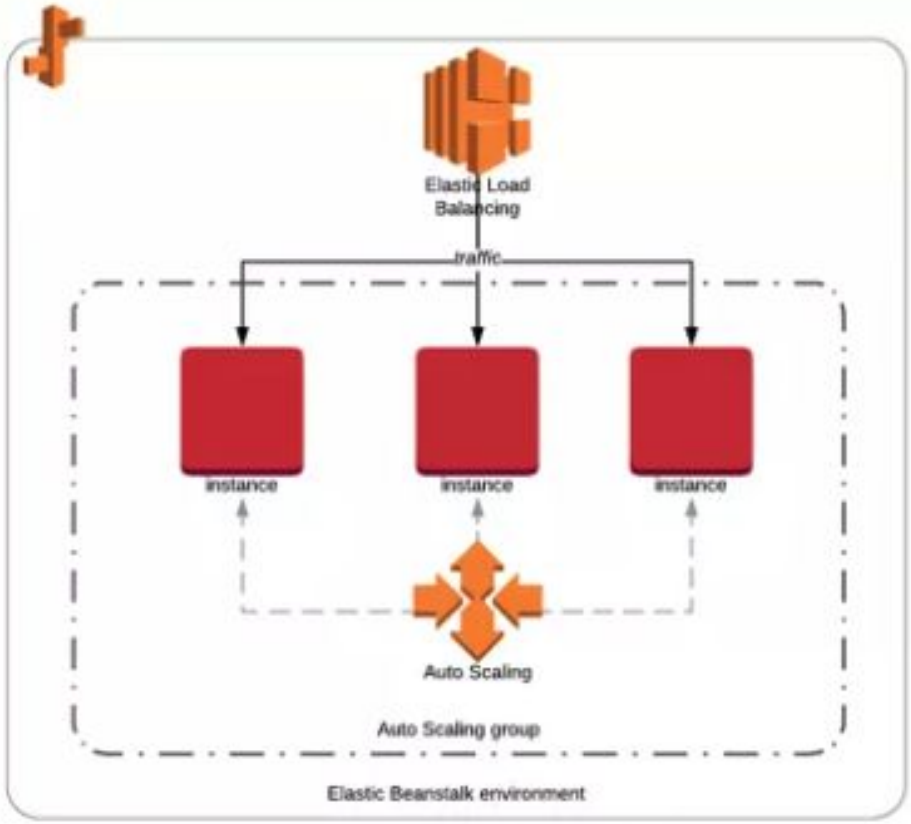
```
user@clarusway-MacBook~ % eb --version
EB CLI 3.19.4 (Python 3.9.4)
```

Deployment Models - All at once

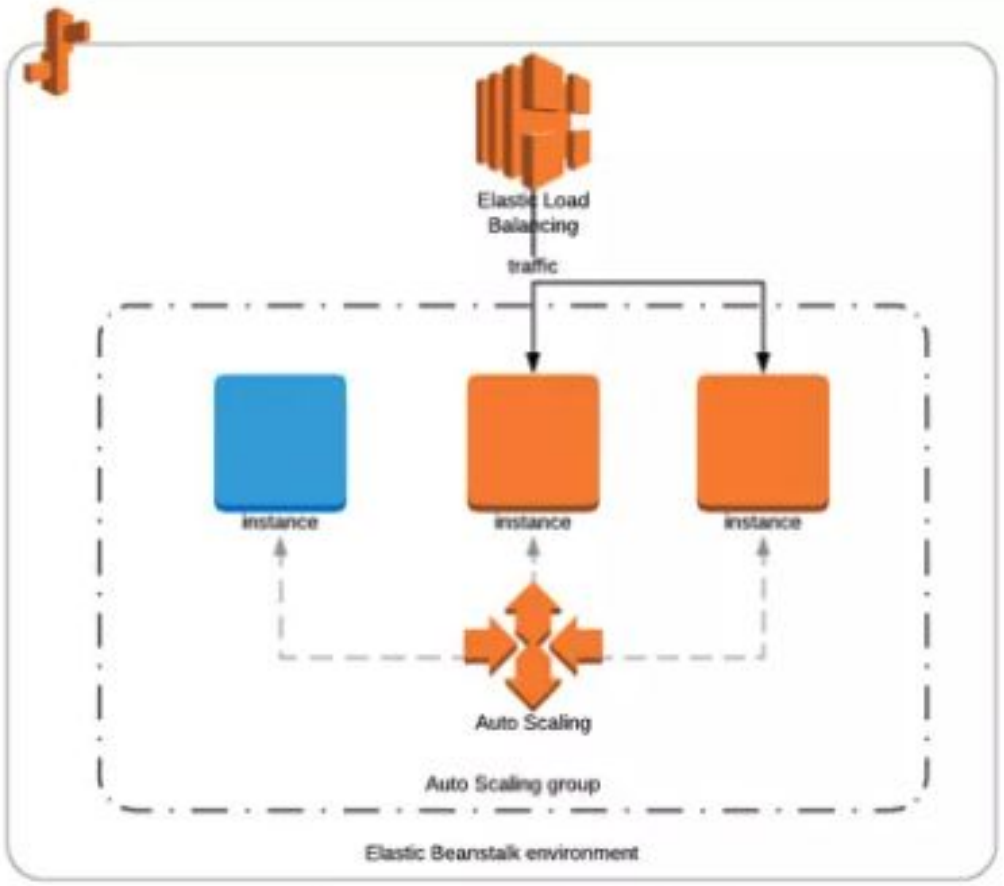


1. Deployment starts in all instances

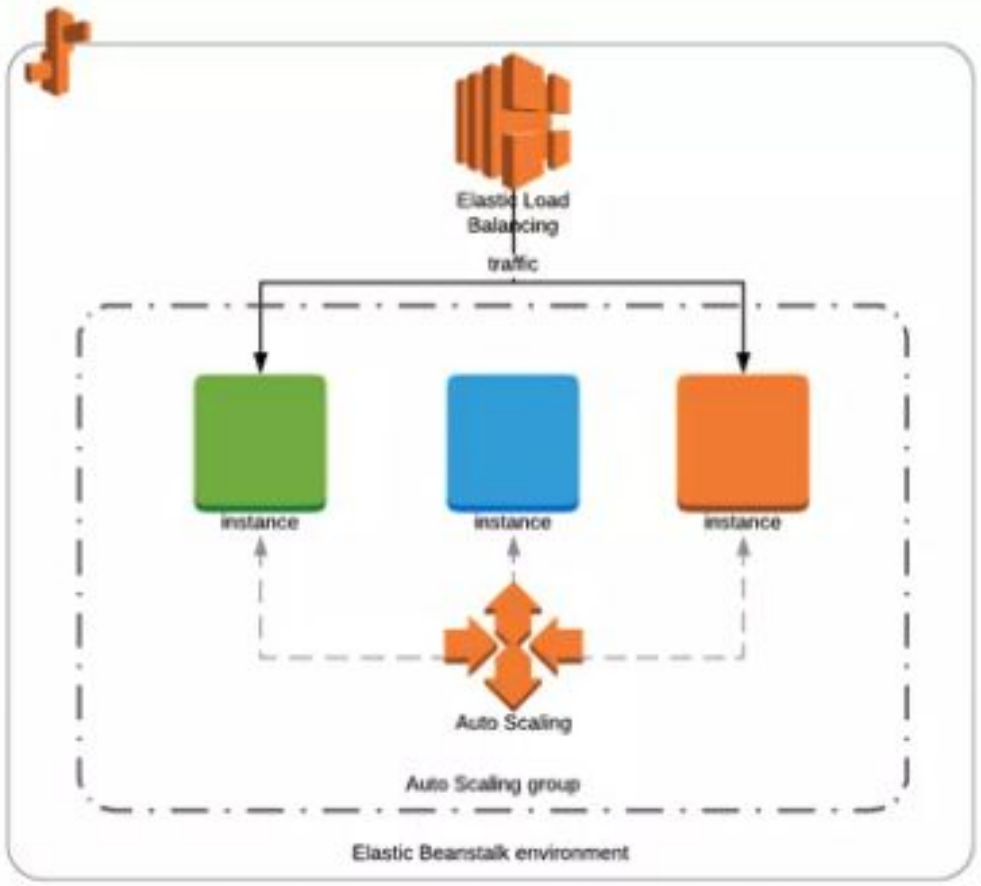


2. In case of failure, all fails!

Deployment Models - Rolling

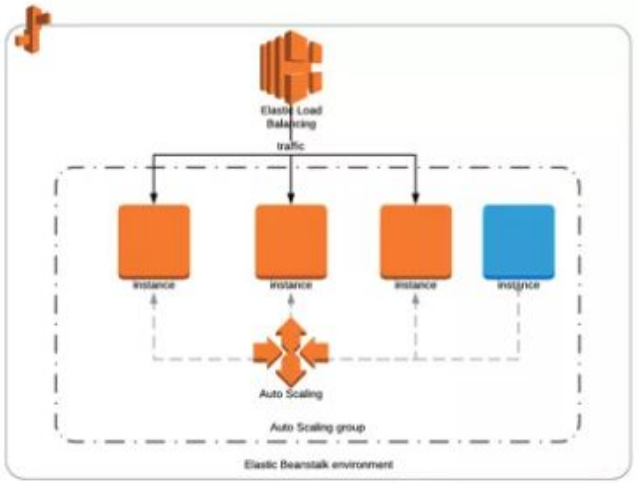


1. Deployment starts in the first batch.

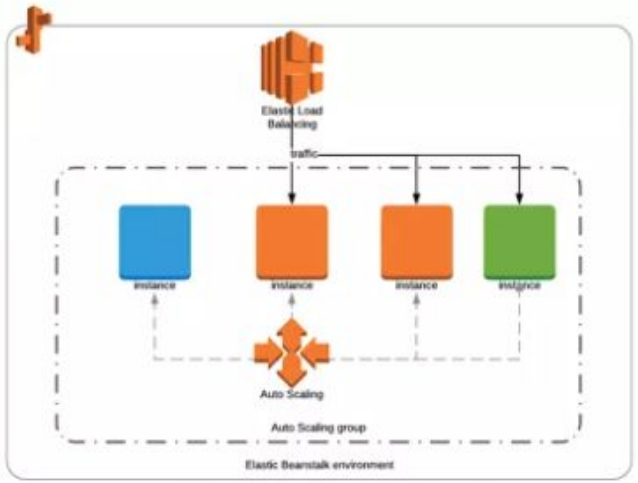


2. Deployment continues with the next batch.

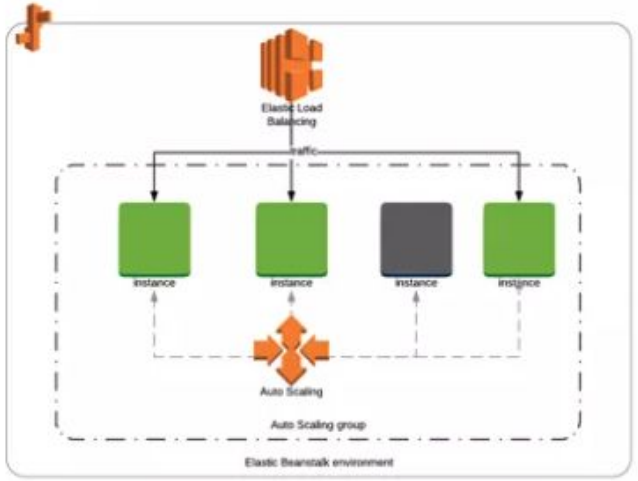
Deployment Models - Rolling with additional batch



1. Deployment starts by launching new instances for the first batch.

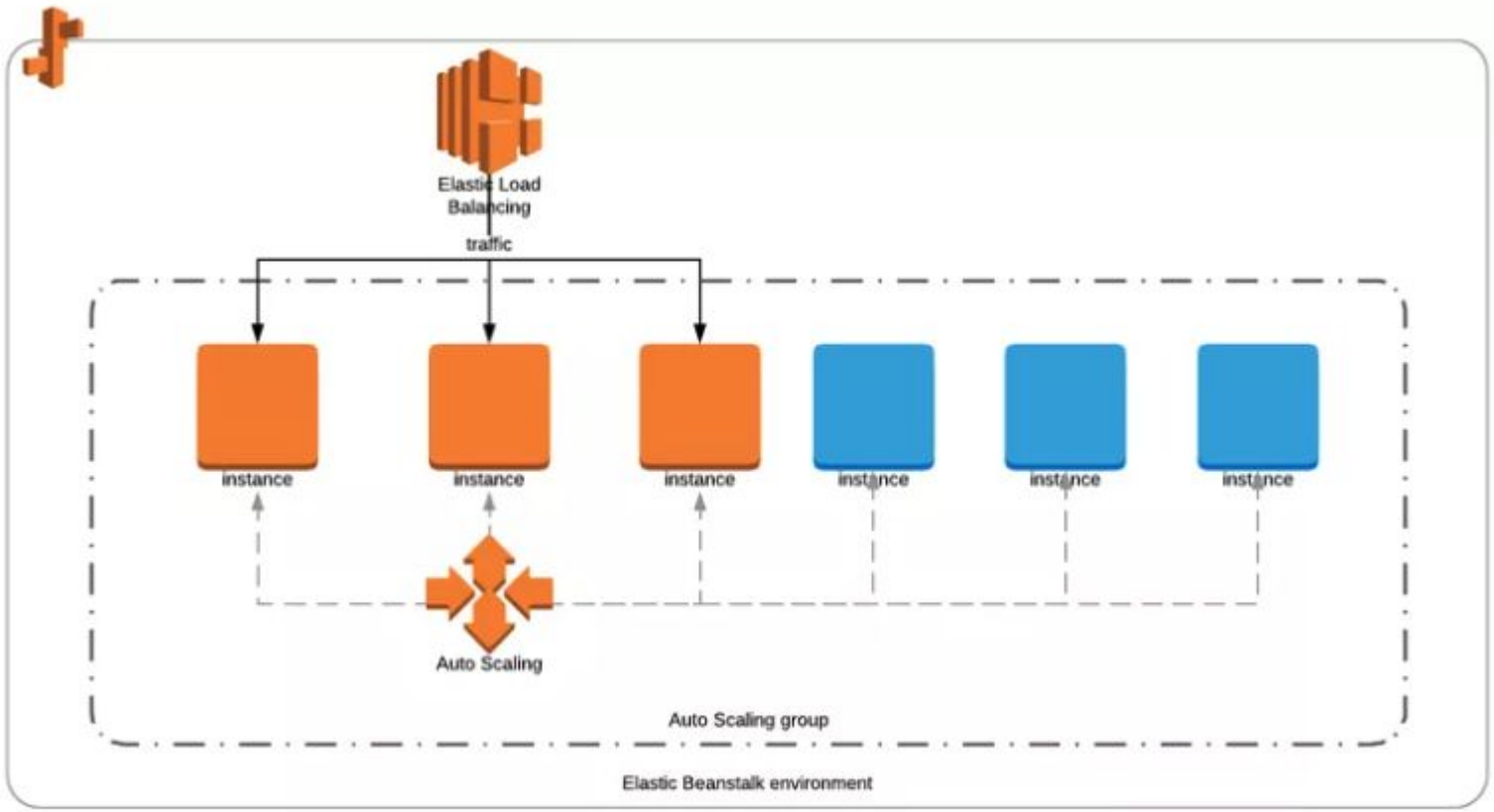


2. Deployment continues with the next batch.



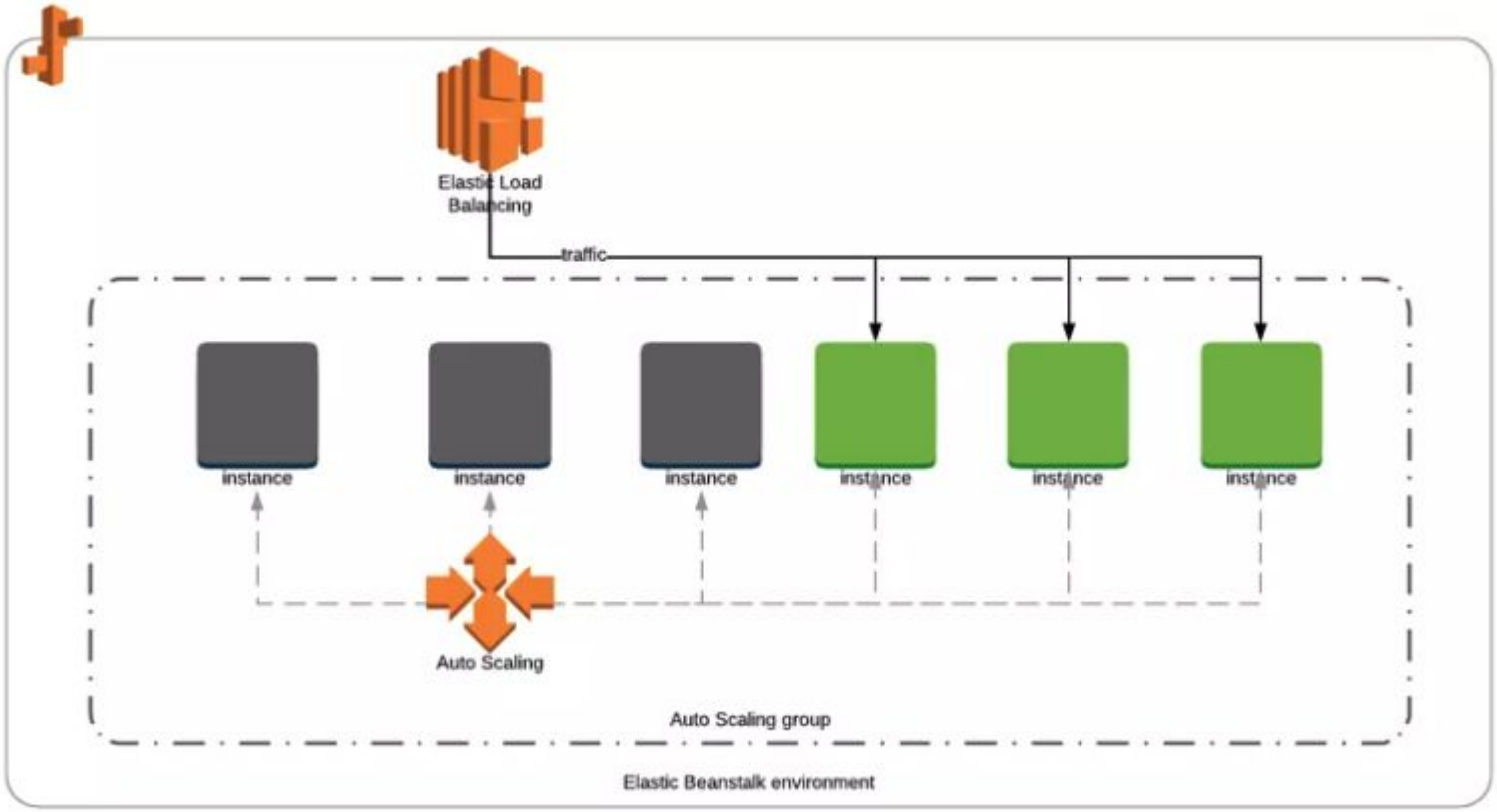
3. After the final batch, excess instance is terminated.

Deployment Models - Immutable



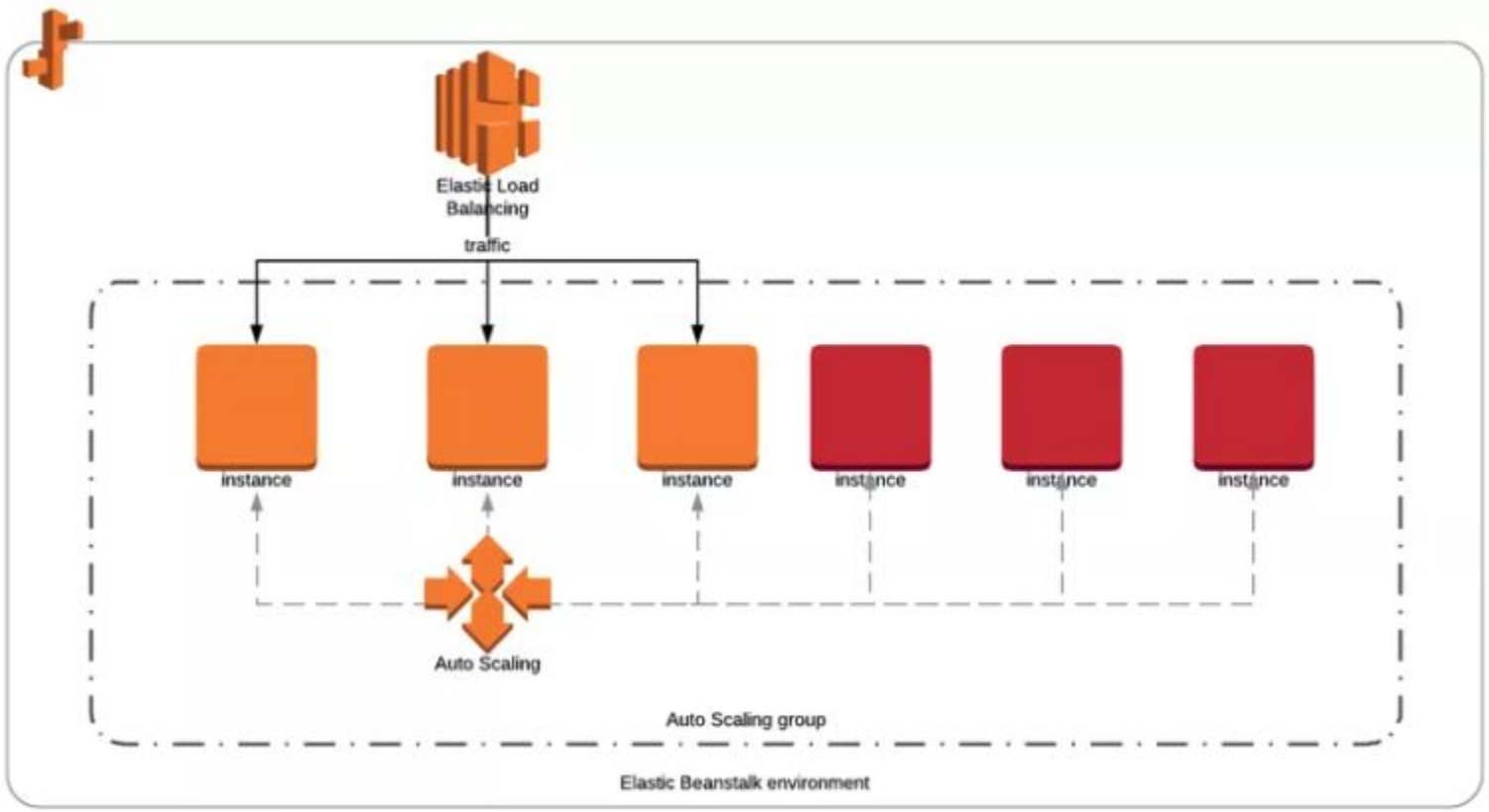
1. Deployment starts by duplicating the instances and deploying the app in new instances

Deployment Models - Immutable



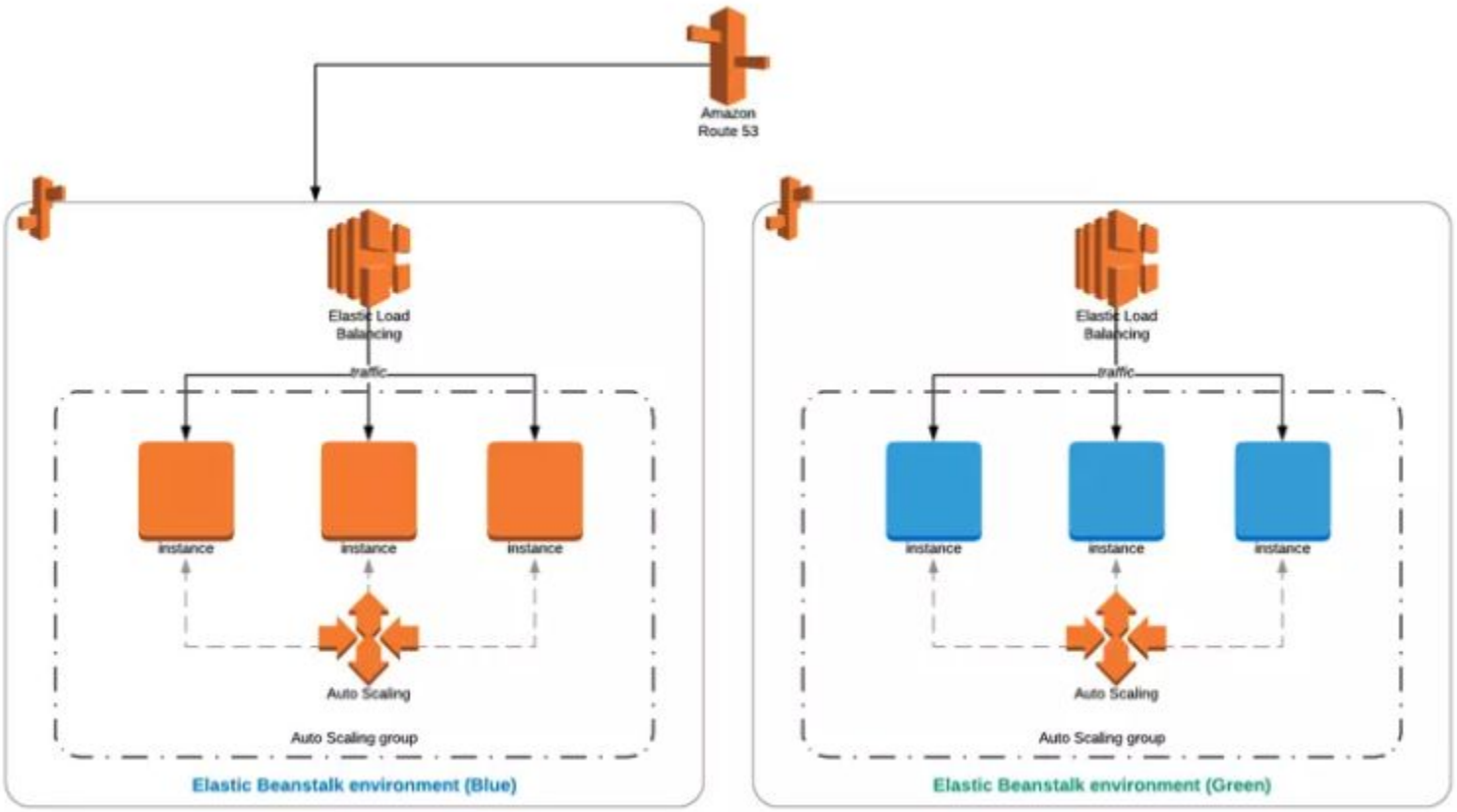
2. After deployment succeeds, older instances are terminated.

Deployment Models - Immutable



In case of failure, the new instances is terminated and traffic is not effected.

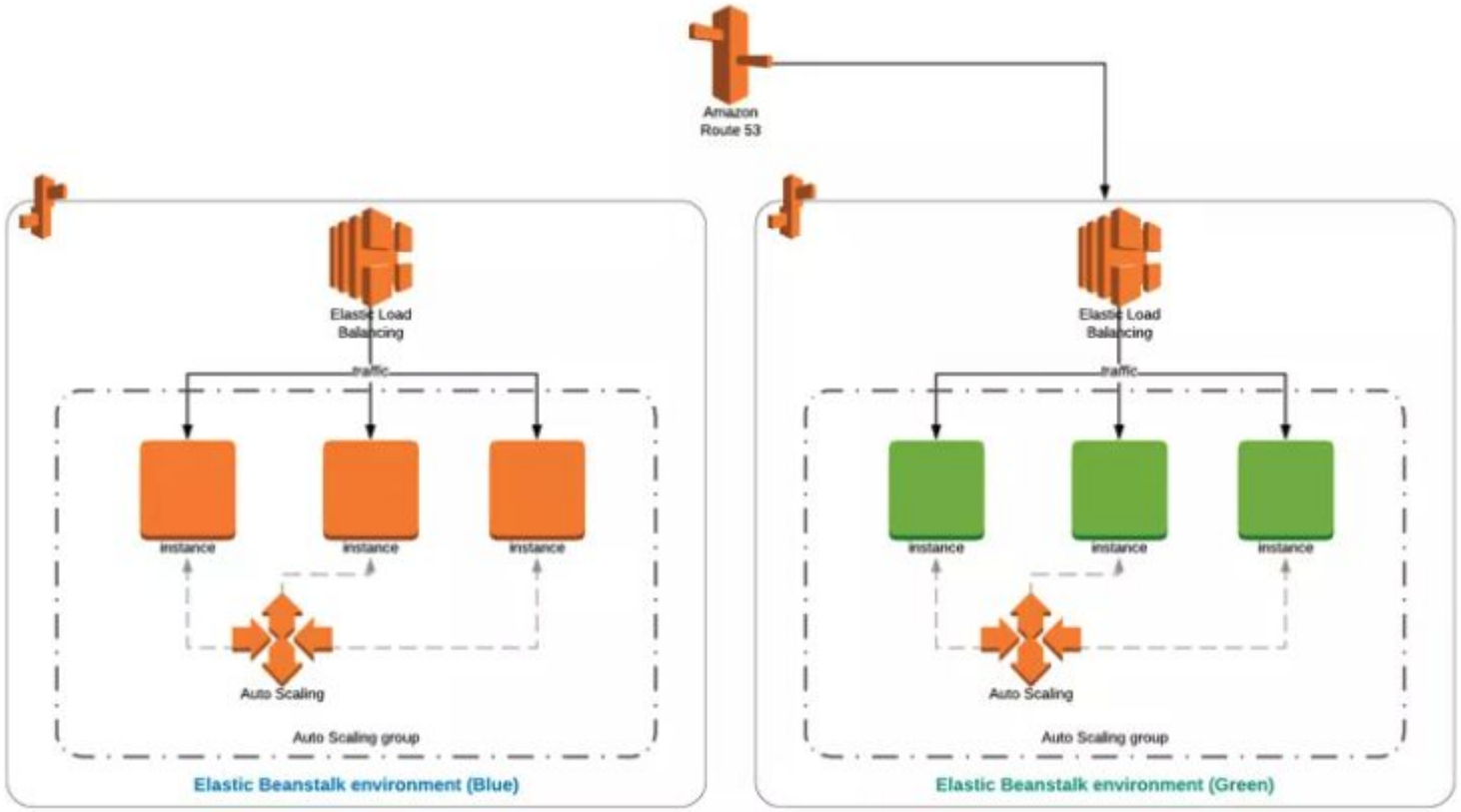
Deployment Models - Blue/Green



Old environment continues to serve the traffic during deployments on the cloned environment. In case of failure, it will not be effected.

Deployments are run on the cloned environment

Deployment Models - Blue/Green



Deployment Models - Pros & Cons

Supported deployment policies

Deployment policy	Load-balanced environments	Single-instance environments	Legacy Windows Server environments†
All at once	Yes	Yes	Yes
Rolling	Yes	No	Yes
Rolling with an additional batch	Yes	No	No
Immutable	Yes	Yes	No
Traffic splitting	Yes (Application Load Balancer)	No	No

Elastic Beanstalk

Let's get our hands dirty!

- Creating Application

THANKS!

Any questions?