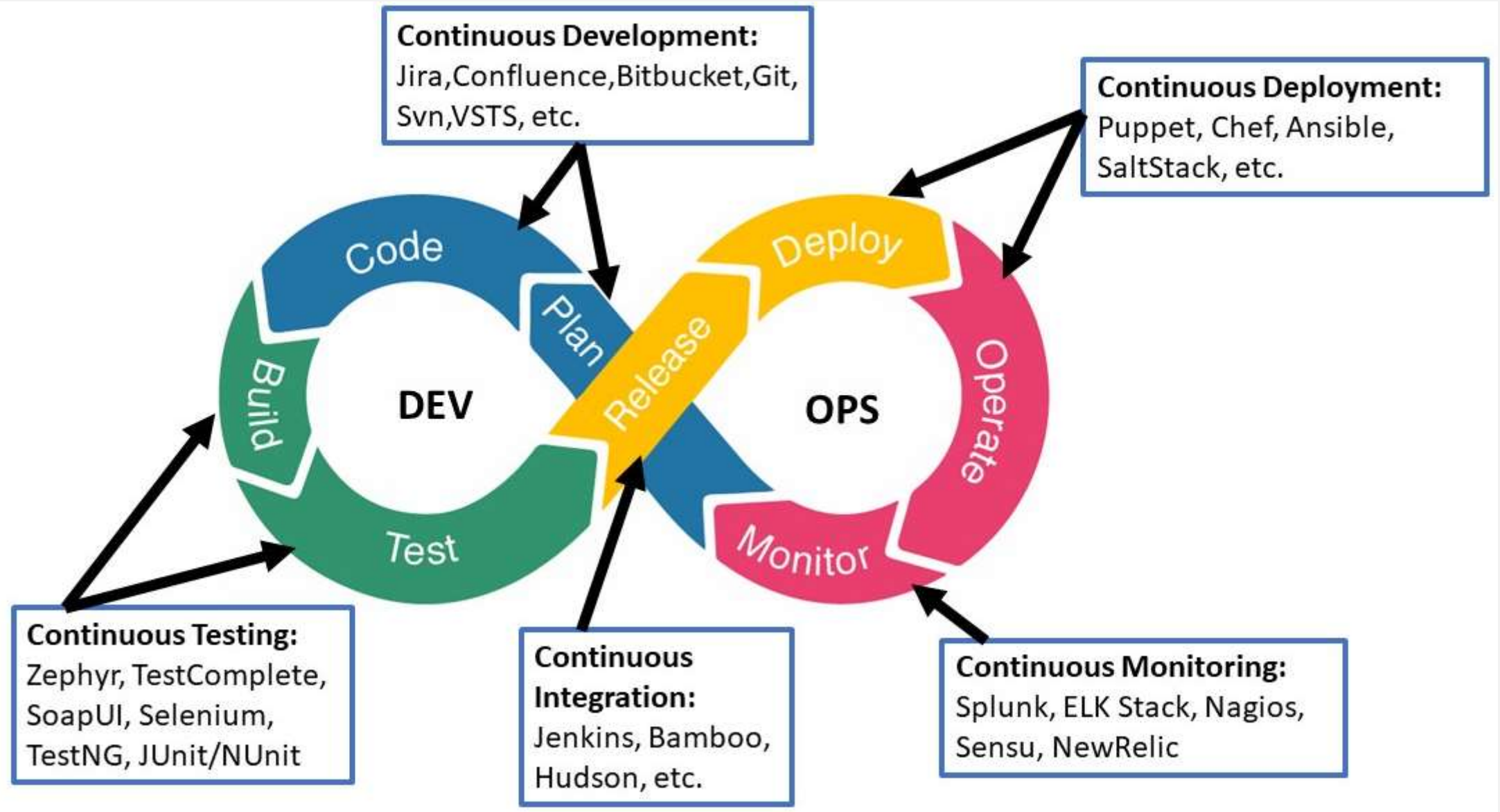


**DEVOPS**

# INTRODUCTION TO DEVOPS



- DevOps is the acronym given for the combination of Development and Operations. It refers to a collaborative approach to making the Application Development team and the IT Operations team of an organization to seamlessly work with better communication.
- DevOps is visualized as an infinite loop comprising the steps: plan, code, build, test, release, deploy, operate, monitor, then back to plan, and so on.

# DEPLOYMENT AND TESTING STRATEGIES

- **1. End to end tests-** It is very important to test the functional areas and therefore we need to write end-to-end tests. End to end tests cover the real-time scenarios of each module and not just depend upon the unit tests.
- **2. Test automation and testing types-** In DevOps, the constant integration of code is kept to a central repository, which means the application is always ready for continuous testing. Testing the application at several stages can help in delivering better products.
- **3. Kanban boards make it simple-** The Kanban boards are part of agile methodology which has a major focus on the smooth project delivery. With the key features such as a clear picture of the project status, issues and updates help the team to communicate and collaborate better.

- **4. Testing tools**

- Testing tools make the tester's work easier if the tester has adequate expertise and skills to analyze and use the tool. The budget factor also plays a role when talking about the testing tools in automation. Some of the DevOps testing tools are designated as:
  - Monitoring Tools
  - Version Control Tools
  - Security Testing Tools
  - Performance Testing Tools
  - Continuous Delivery Tools

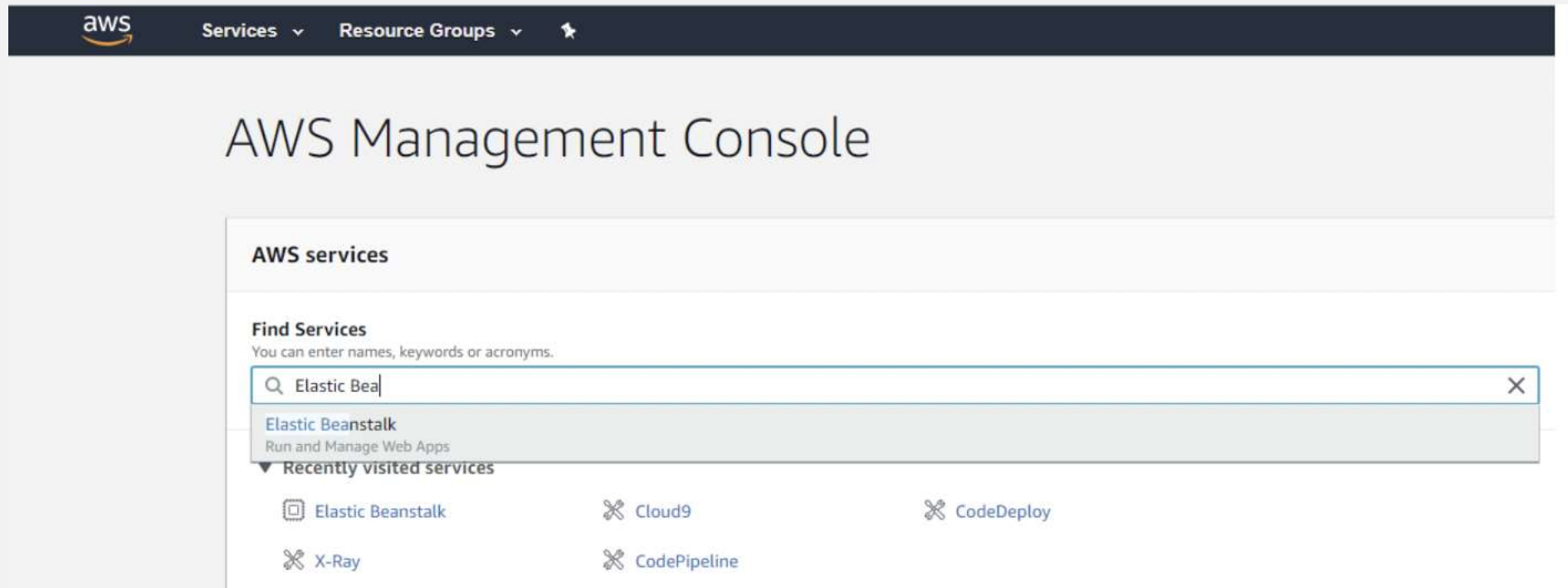
- **DevOps Testing Tools**

- Some of the familiar tools include:

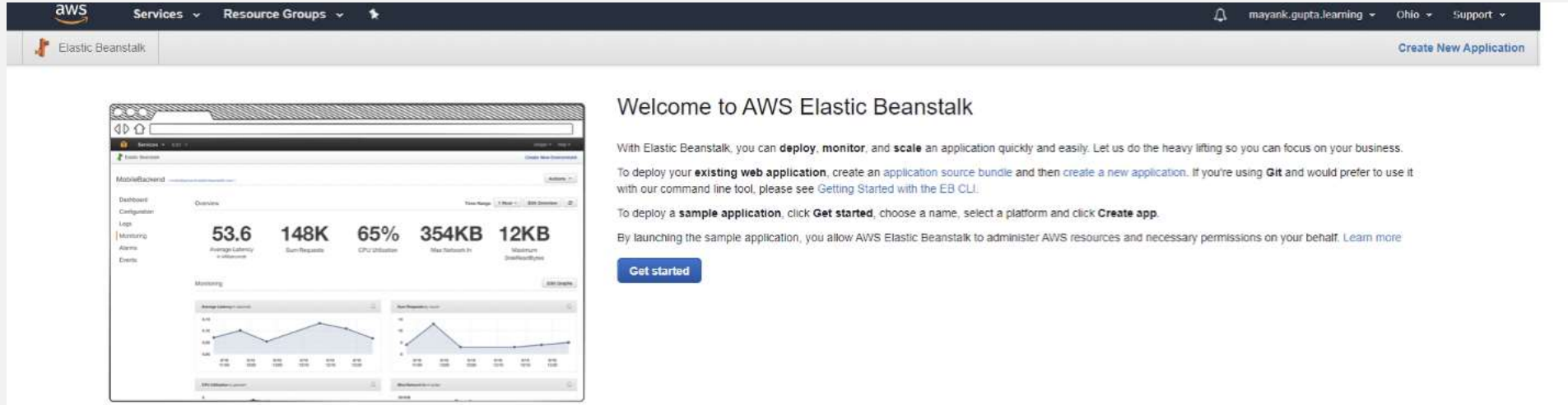
- **Docker:** It is an open-source DevOps technology suite that works on the concept of containerization enabling development teams to code, deploy and test applications regardless of the project environment.
- **Jenkins:** An open-source tool that helps create, test & deploy the software. It also permits developers to find and fix bugs in their codebase.
- **GitHub:** Another widely used tool holding up effortless collaboration. Version restoration is a key feature of GitHub in case of any error found in the latest version.
- **Selenium:** It is one of the browser automation tools plotted to carry through Web UI testing largely used in DevOps pipelines.
- **JMeter:** It is a highly adaptable open-source load testing tool used to test and assess the performance of the website.

# DEPLOYING APPLICATIONS WITH AWS ELASTIC BEANSTALK

1. First, we need an application to deploy.
2. Adding Configuration to Elastic Beanstalk



### 3. Go to the Elastic Beanstalk console



### 4. Create a new web application

**Create a web app**

Create a new application and environment with a sample application or your own code. By creating an environment, you allow AWS Elastic Beanstalk to manage AWS resources and permissions on your behalf. [Learn more](#)

**Application information**

**Application name**

Use 1-100 Unicode characters, not including forward slash (/)

▸ **Application tags**

**Base configuration**

**Platform**

Choose. Configure more options for more platform configuration options.

**Application code** ☒ **Sample application**

Get started right away with sample code.

☒ **Upload your code**

Upload a source bundle from your computer or copy one from Amazon S3.

☒ ☒

▸ **Application code tags**



# 5. Configuring application information

Application information

Application name

sample-node-application

Up to 100 Unicode characters, not including forward slash (/).

▼ Application tags

Apply up to 50 tags. You can use tags to group and filter your resources. A tag is a key-value pair. The key must be unique within the resource and is case-sensitive. [Learn more](#)

| Key (127 characters maximum) | Value (255 characters maximum) |
|------------------------------|--------------------------------|
|                              |                                |

# 6. Configuring base configuration

Base configuration

Platform

Node.js

Choose [Configure more options](#) for more platform configuration options.

Application code

☐ Sample application

Get started right away with sample code.

☒ Upload your code

Upload a source bundle from your computer or copy one from Amazon S3.

Upload

ZIP or WAR.

► Application code tags

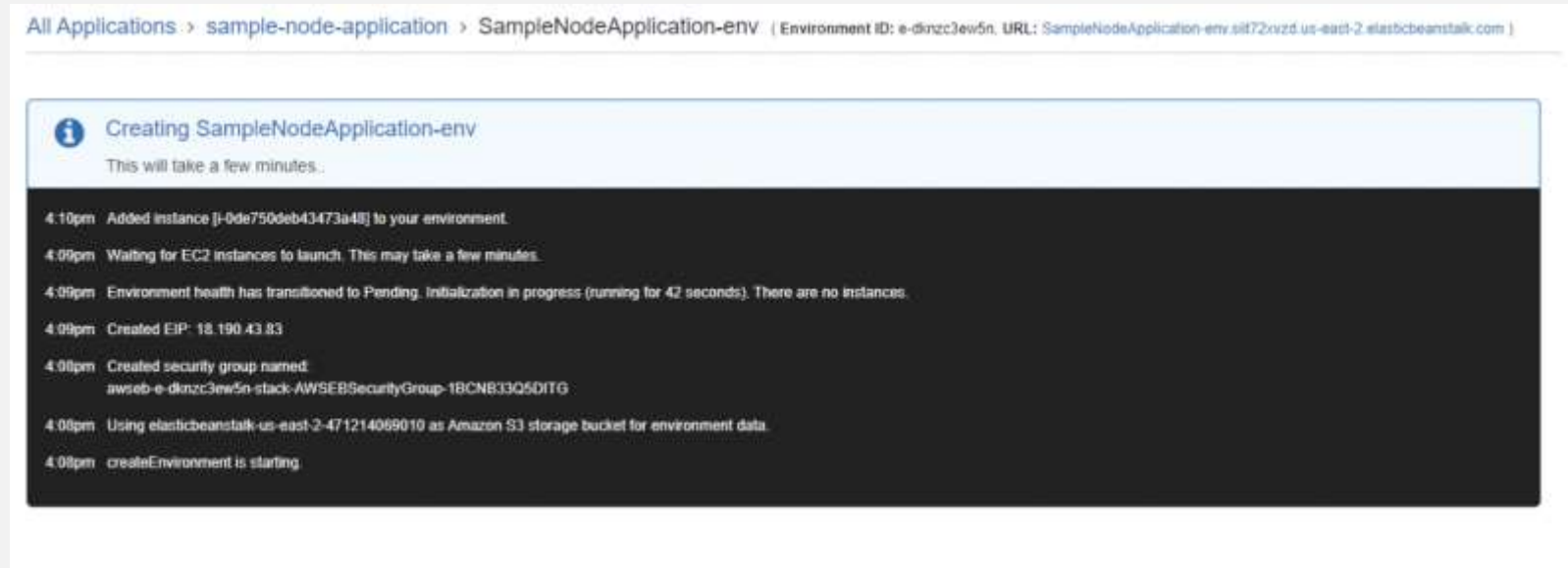
Cancel

Configure more options

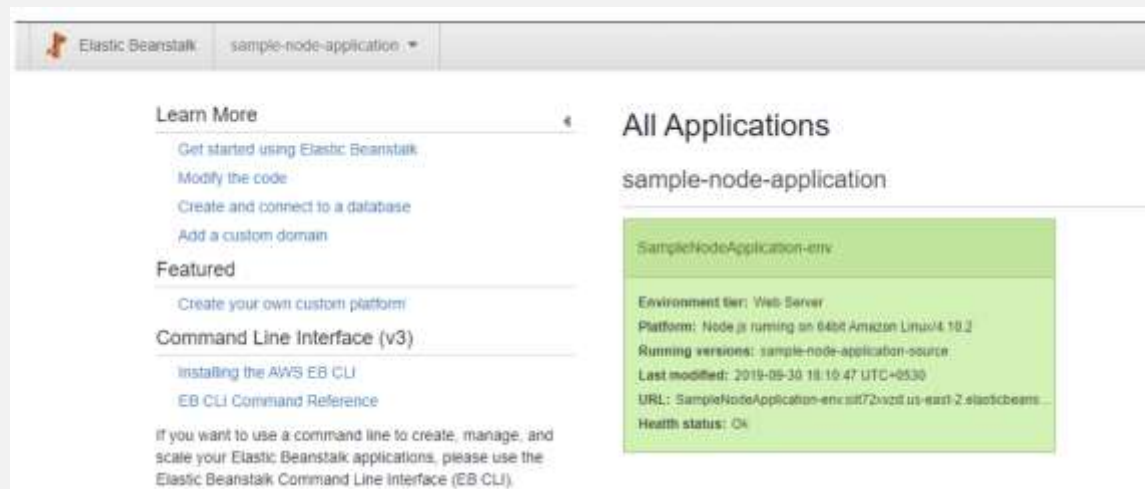
Create application

7. Upload the ZIP file to the base configuration.

8. Create an application once configured



9. After a while, the application will be deployed and made available.



And, finally, the application is up and running on the URL specified:

