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EXPERIMENT NO. 02

Aim: To Build Your Application using AWS CodeBuild and Deploy on S3 / SEBS using AWS
CodePipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy.

Theory:

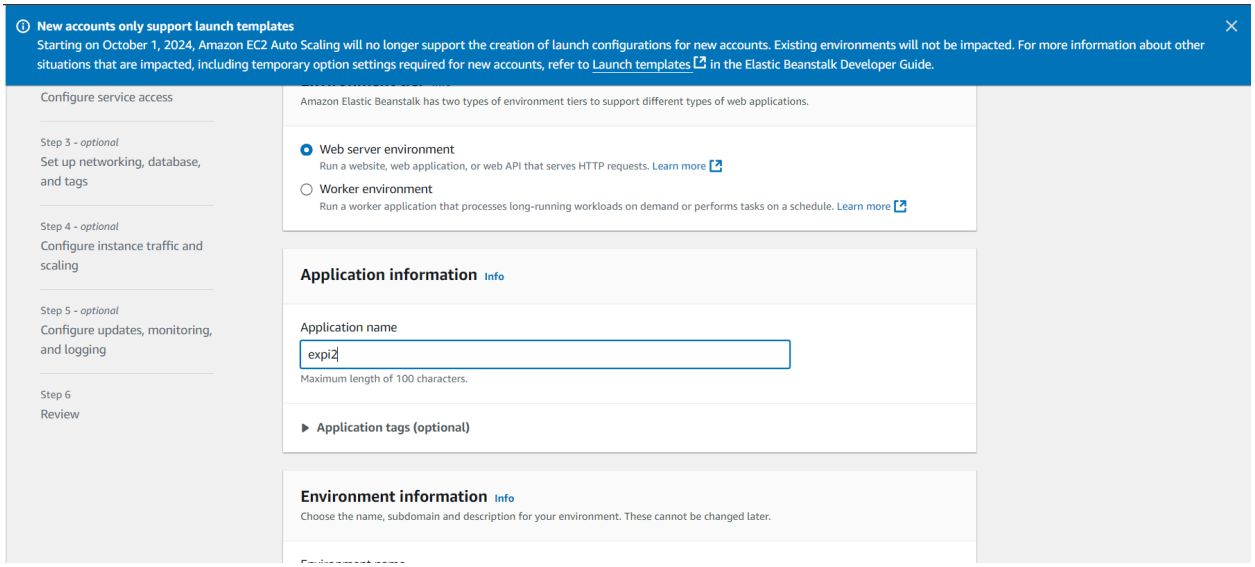
Continuous deployment allows you to deploy revisions to a production environment automatically without explicit approval from a developer, making the entire software release process automated.
You will create the pipeline using AWS CodePipeline, a service that builds, tests, and deploys your code every time there is a code change. You will use your GitHub account, an Amazon Simple Storage Service (S3) bucket, or an AWS CodeCommit repository as the source location for the sample app's code. You will also use AWS Elastic Beanstalk as the deployment target for the sample app. Your completed pipeline will be able to detect changes made to the source repository containing the sample app and then automatically update your live sample app.

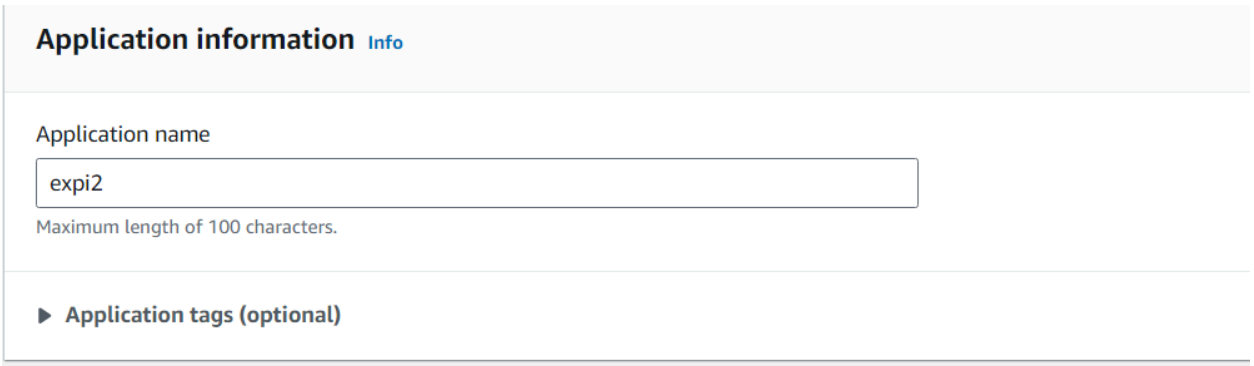
Step1: Create a deployment environment

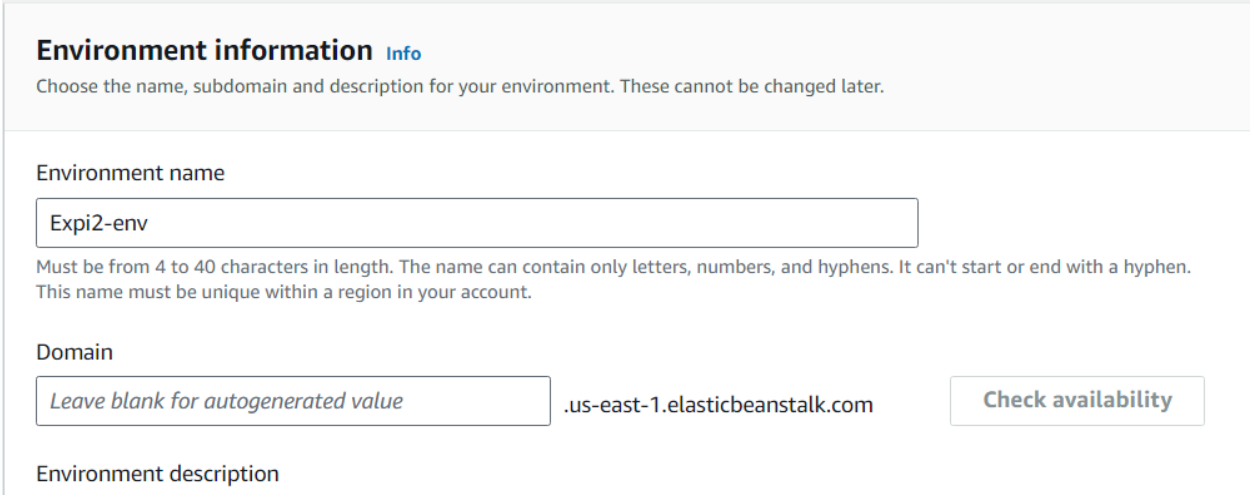
Your continuous deployment pipeline will need a target environment containing virtual servers, or
Amazon EC2 instances, where it will deploy sample code. You will prepare this environment before
creating the pipeline.

1) To simplify the process of setting up and configuring EC2 instances for this tutorial, you will
spin up a sample environment using AWS Elastic Beanstalk. Elastic Beanstalk lets you easily host
web applications without needing to launch, configure, or operate virtual servers on your own. It automatically provisions and operates the infrastructure (e.g. virtual servers, load balancers, etc.)
and provides the application stack (e.g. OS, language and framework, web and application server, etc.) for you.

2) Name your web app and choose PHP from the drop-down menu(or any other language you are interested in) and then click Create Application.







Platform Info

Platform type

- (•) Managed platform
  Platforms published and maintained by Amazon Elastic Beanstalk. Learn more
- ( ) Custom platform
  Platforms created and owned by you. This option is unavailable if you have no platforms.

Platform

Python

Platform branch

Python 3.12 running on 64bit Amazon Linux 2023

Platform version

4.2.0 (Recommended)

Application code Info

- (•) Sample application
- ( ) Existing version
  Application versions that you have uploaded.
- ( ) Upload your code
  Upload a source bundle from your computer or copy one from Amazon S3.

Presets Info

Start from a preset that matches your use case or choose custom configuration to unset recommended values and use the service's default values.

Configuration presets

- (•) Single instance (free tier eligible)
- ( ) Single instance (using spot instance)
- ( ) High availability
- ( ) High availability (using spot and on-demand instances)
- ( ) Custom configuration

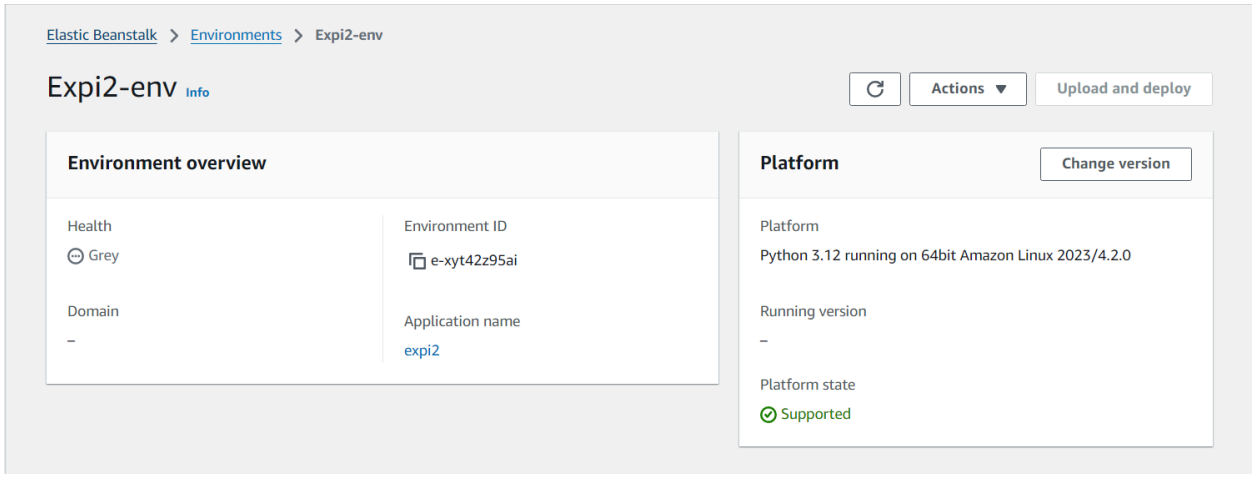
Set up networking, database, and tags – *optional* Info

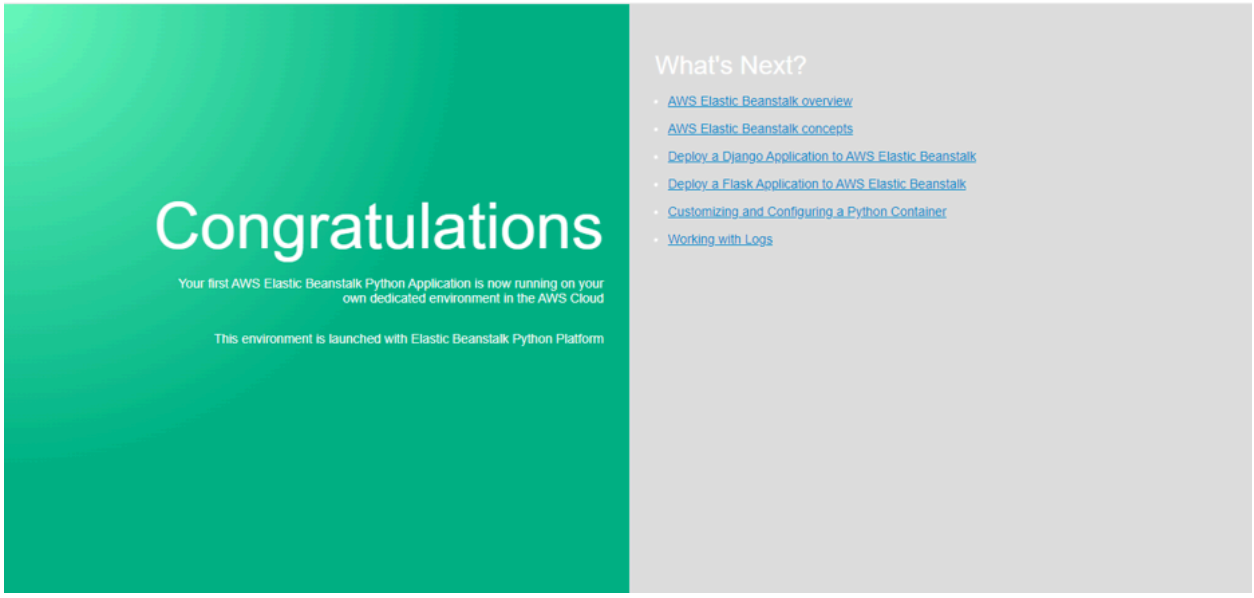
Virtual Private Cloud (VPC)

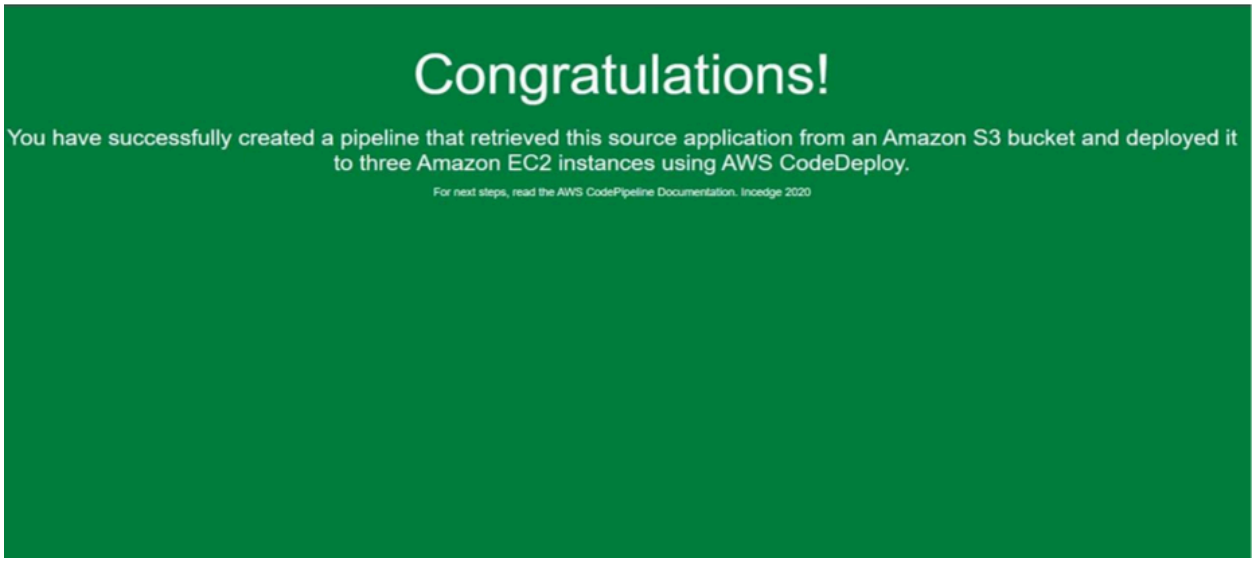
VPC
Launch your environment in a custom VPC instead of the default VPC. You can create a VPC and subnets in the VPC management console.
Learn more

vpc-004343f75115095e3 | (10.0.0.0/16) | defaultVPC-vpc

Create custom VPC


Elastic Beanstalk > Environments > Expi2-env
Expi2-env Info
Actions
Upload and deploy
Environment overview
Health
Grey
Environment ID
e-xyt42z95ai
Domain
–
Application name
expi2
Platform
Change version
Platform
Python 3.12 running on 64bit Amazon Linux 2023/4.2.0
Running version
–
Platform state
Supported


Congratulations
Your first AWS Elastic Beanstalk Python Application is now running on your own dedicated environment in the AWS Cloud
This environment is launched with Elastic Beanstalk Python Platform
What's Next?
AWS Elastic Beanstalk overview
AWS Elastic Beanstalk concepts
Deploy a Django Application to AWS Elastic Beanstalk
Deploy a Flask Application to AWS Elastic Beanstalk
Customizing and Configuring a Python Container
Working with Logs


Congratulations!
You have successfully created a pipeline that retrieved this source application from an Amazon S3 bucket and deployed it to three Amazon EC2 instances using AWS CodeDeploy.
For next steps, read the AWS CodePipeline Documentation. Incedge 2020