Assignment: Deploy PHP App Using Elastic Beanstalk

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Problem Statement

You work for XYZ Corporation. The company wants to launch a new **web-based application** that should **not have servers running all the time** and should be **fully managed by AWS**.
You are required to **implement a suitable managed solution.**

Tasks To Be Performed

1. Create an **Elastic Beanstalk environment** with the runtime as **PHP**.
2. **Upload a simple PHP file** to the environment once created.

✅ Solution: Using AWS Elastic Beanstalk

Overview

AWS Elastic Beanstalk is a fully managed service that automatically handles environment provisioning, load balancing, scaling, and application monitoring.
You only need to provide your application code — AWS takes care of the infrastructure and scaling automatically.

□ Steps to Perform

Step 1 — Open Elastic Beanstalk

- Go to the **AWS Management Console**
- Search for **Elastic Beanstalk**
- Click **Create Environment**

Step 2 — Choose Environment Type

- Select **Web server environment**
- Click **Select**

Step 3 — Configure Environment

Setting	Value
Application name	demo-php
Environment name	demo-php-env
Platform	PHP
Platform branch	Latest available (e.g., PHP 8.3)
Platform version	Default

Step 4 — Upload Application Code

1. Create a file named **index.php**.
2. Open your text editor (like Notepad on Windows)
3. Copy and paste the following code:

```
<?php
echo "Hello from XYZ Corporation!";
?>
```

4. **Save the file:**
   - Go to **File > Save As**.
   - In the "File name" field, type index.php
   - In the "Save as type" field, choose **All Files**.
   - Click **Save**.
5. Zip the file (make sure index.php is directly inside the zip, not within a folder).
   Example file name: index.php.zip
6. In Elastic Beanstalk:
   - Under **Application code**, select **Upload your code**
   - **Choose your php-app.zip**
   - Click **Next**

Step 5 — Configure Service Access

After clicking **Next**, Elastic Beanstalk will ask for **Service Access configuration**.

This allows Beanstalk to launch and manage AWS resources securely.

Configuration:

- **Service role:**
  - Choose **"Create and use new service role"**
  - (This will create a role named aws-elasticbeanstalk-service-role automatically.)

- **EC2 instance profile:**

Choose "Create and use new instance profile"

- (This will create a role named aws-elasticbeanstalk-ec2-role.)

✅ These roles allow Beanstalk to launch EC2 instances, access S3, and send metrics to CloudWatch.

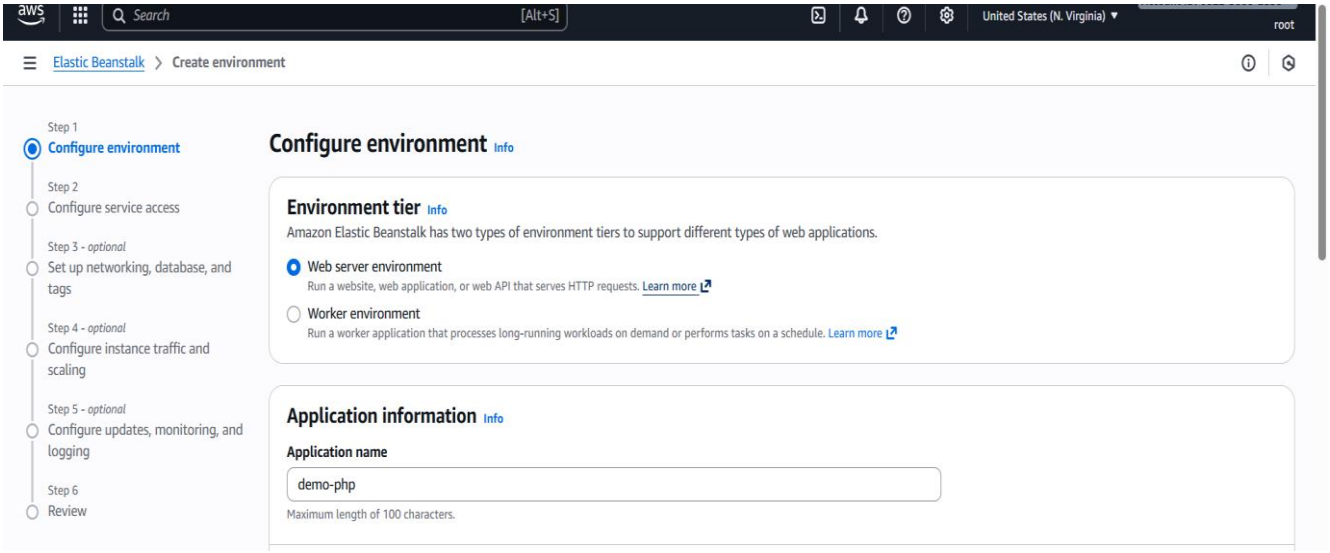
- After verifying these options, click **Next** to proceed.

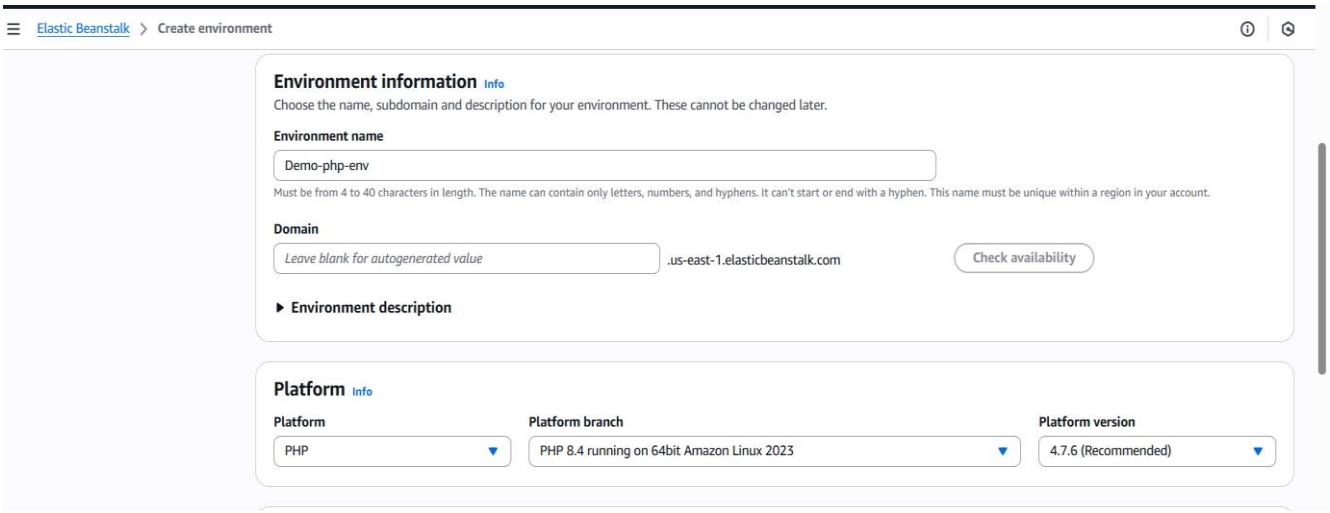
Step 6 — Set up networking

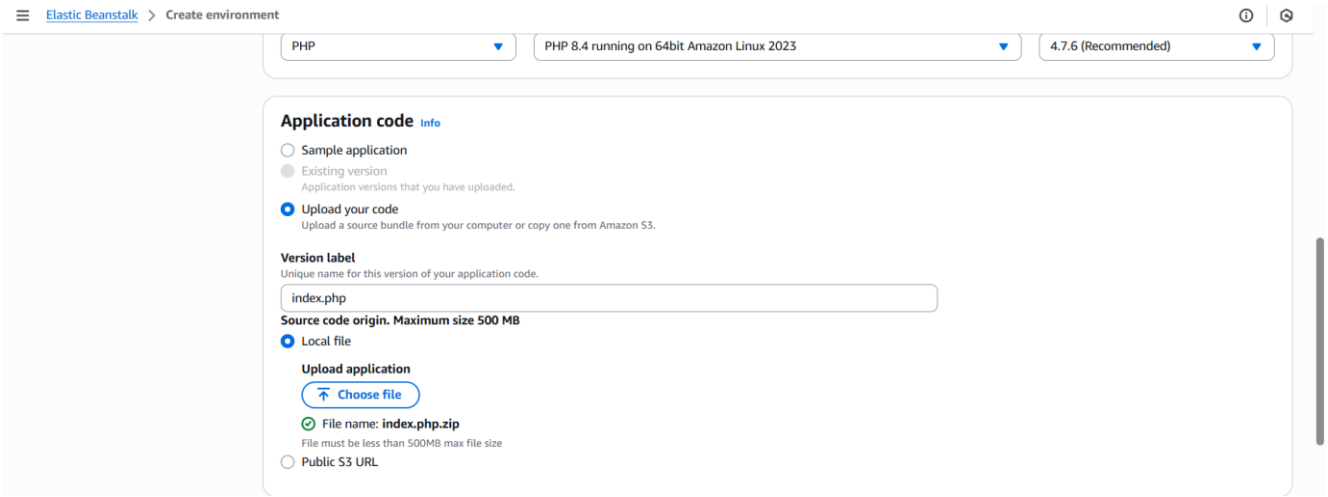
- ➢ Select VPC and subnet.
- ➢ Enable Public IP Address.
- ➢ Keep all the Default settings
- ➢ Click Next

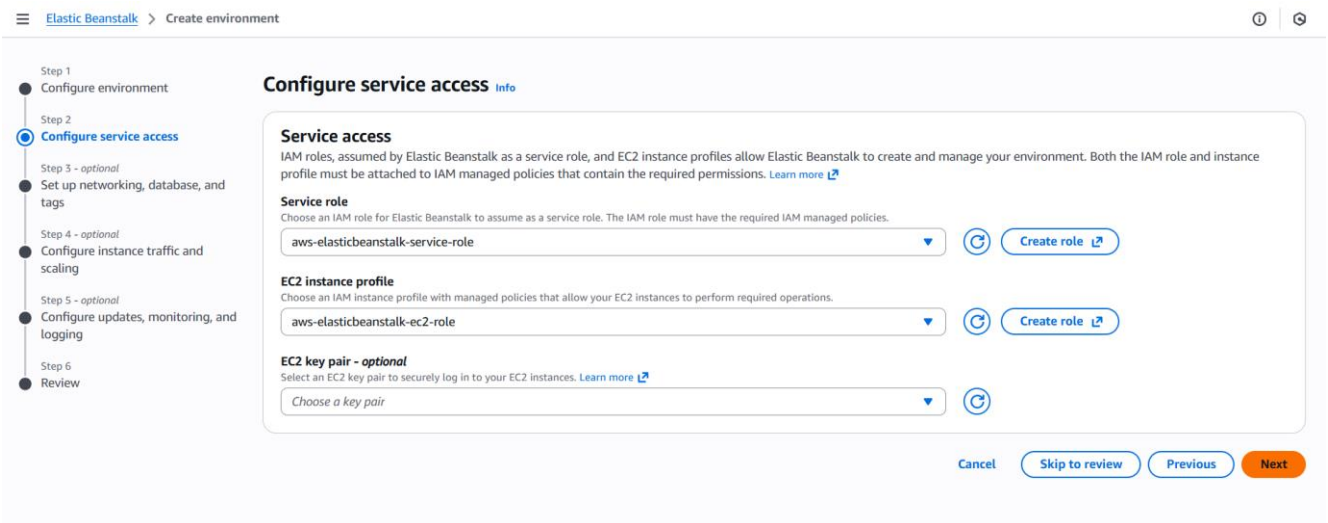
Step 7 — Configure instance traffic and scaling

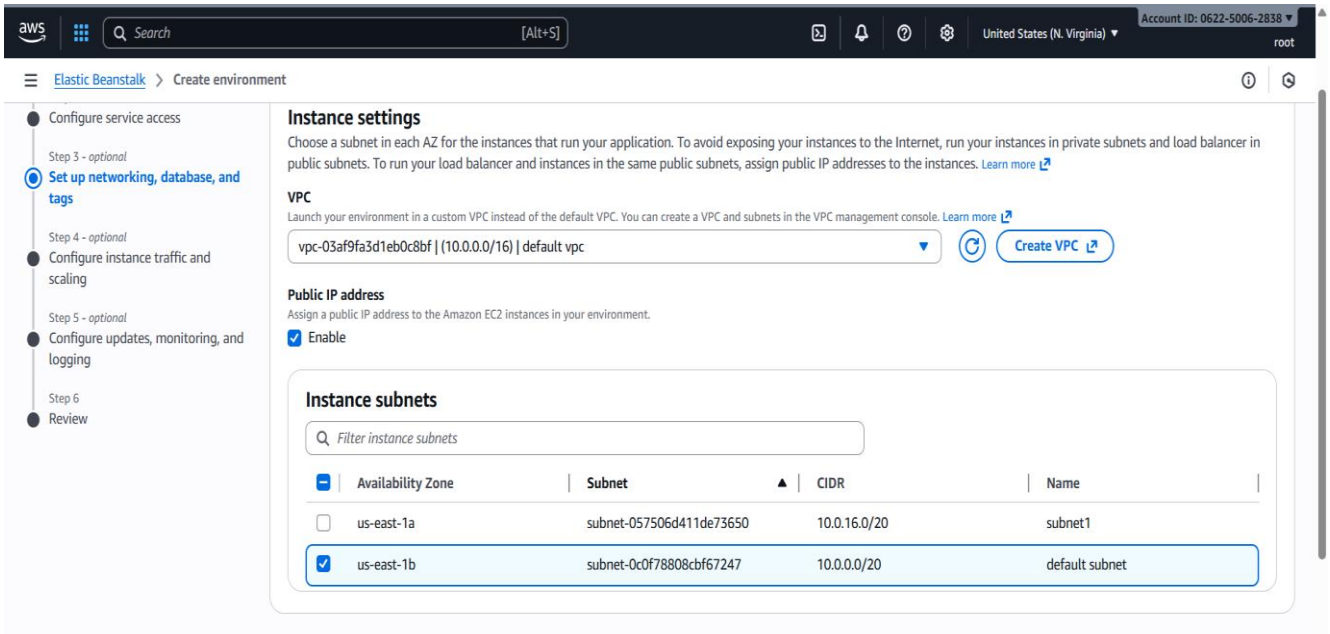
- ➢ Select the EC2 security group
- ➢ And keep all the settings default
- ➢ Review and Create Environment.

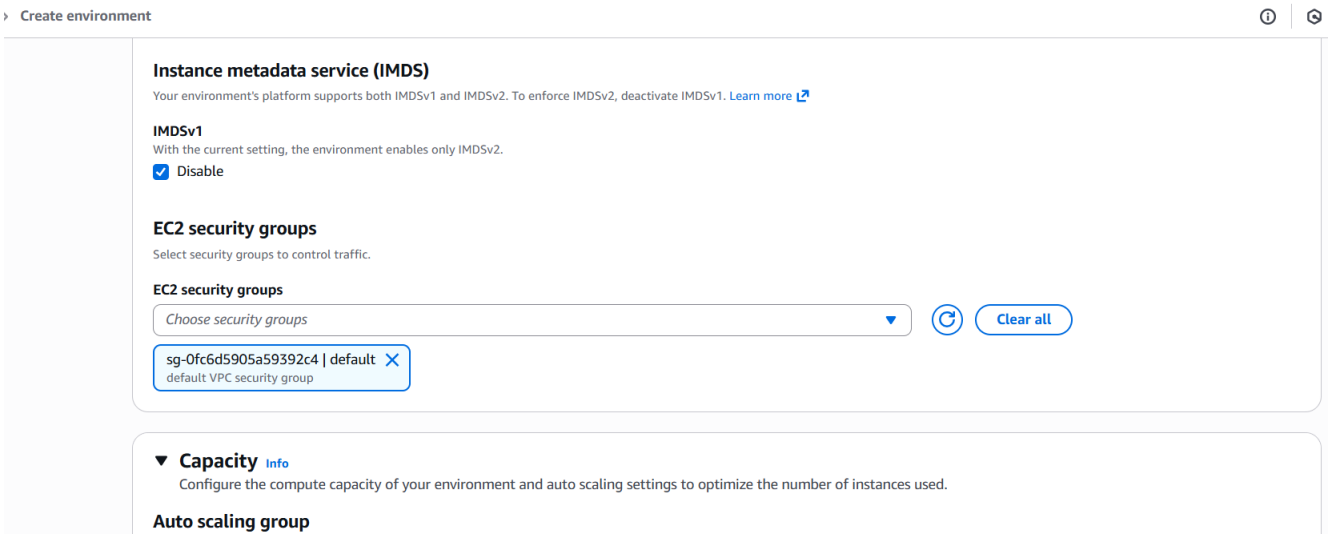


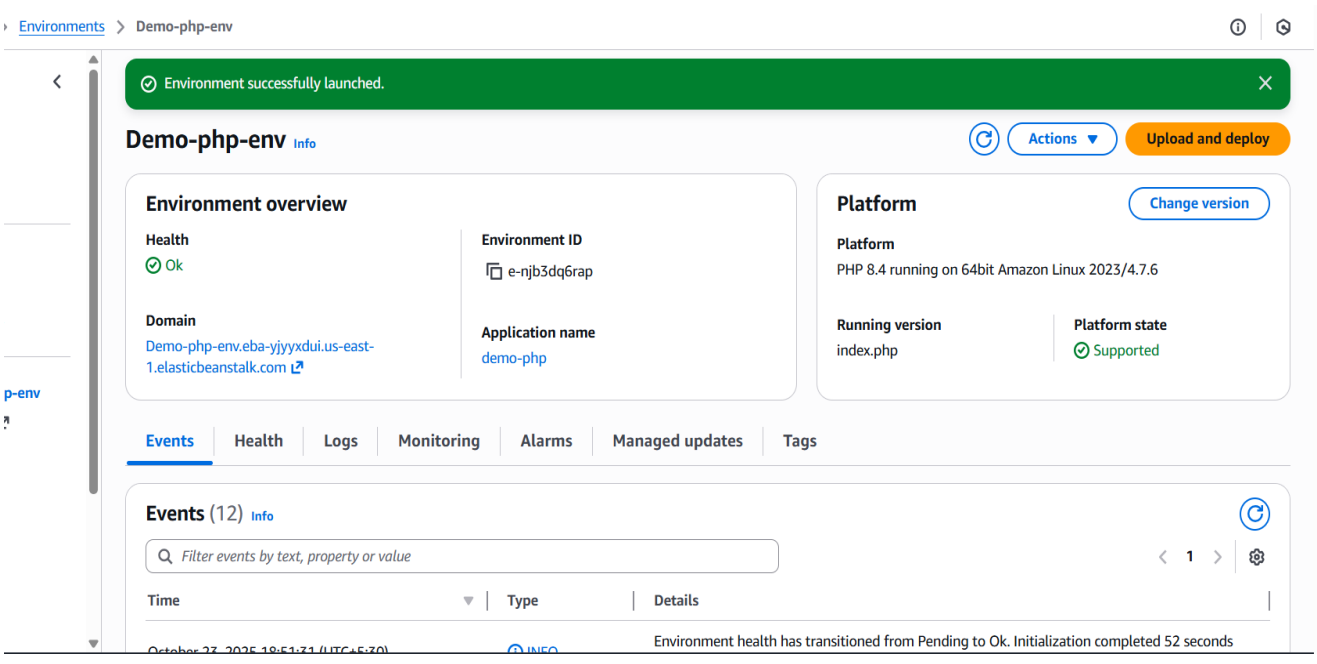

Elastic Beanstalk > Create environment
Environment information Info
Choose the name, subdomain and description for your environment. These cannot be changed later.
Environment name
Demo-php-env
Must be from 4 to 40 characters in length. The name can contain only letters, numbers, and hyphens. It can't start or end with a hyphen. This name must be unique within a region in your account.
Domain
Leave blank for autogenerated value
.us-east-1.elasticbeanstalk.com
Check availability
Environment description
Platform Info
Platform
PHP
Platform branch
PHP 8.4 running on 64bit Amazon Linux 2023
Platform version
4.7.6 (Recommended)


Elastic Beanstalk > Create environment
PHP
PHP 8.4 running on 64bit Amazon Linux 2023
4.7.6 (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.
Version label
Unique name for this version of your application code.
index.php
Source code origin. Maximum size 500 MB
Local file
Upload application
Choose file
File name: index.php.zip
File must be less than 500MB max file size
Public S3 URL


Elastic Beanstalk > Create environment
Step 1
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Configure service access Info
Service access
IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions. Learn more
Service role
Choose an IAM role for Elastic Beanstalk to assume as a service role. The IAM role must have the required IAM managed policies.
aws-elasticbeanstalk-service-role
Create role
EC2 instance profile
Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.
aws-elasticbeanstalk-ec2-role
Create role
EC2 key pair - optional
Select an EC2 key pair to securely log in to your EC2 instances. Learn more
Choose a key pair
Cancel
Skip to review
Previous
Next


Search [Alt+S]
United States (N. Virginia)
Account ID: 0622-5006-2838
root
Elastic Beanstalk > Create environment
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Instance settings
Choose a subnet in each AZ for the instances that run your application. To avoid exposing your instances to the Internet, run your instances in private subnets and load balancer in public subnets. To run your load balancer and instances in the same public subnets, assign public IP addresses to the instances. Learn more
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-03af9fa3d1eb0c8bf | (10.0.0.0/16) | default vpc
Create VPC
Public IP address
Assign a public IP address to the Amazon EC2 instances in your environment.
Enable
Instance subnets
Filter instance subnets
Availability Zone
Subnet
CIDR
Name
us-east-1a
subnet-057506d411de73650
10.0.16.0/20
subnet1
us-east-1b
subnet-0c0f78808cbf67247
10.0.0.0/20
default subnet


Create environment
Instance metadata service (IMDS)
Your environment's platform supports both IMDSv1 and IMDSv2. To enforce IMDSv2, deactivate IMDSv1. Learn more
IMDSv1
With the current setting, the environment enables only IMDSv2.
Disable
EC2 security groups
Select security groups to control traffic.
EC2 security groups
Choose security groups
Clear all
sg-0fc6d5905a59392c4 | default
default VPC security group
Capacity Info
Configure the compute capacity of your environment and auto scaling settings to optimize the number of instances used.
Auto scaling group

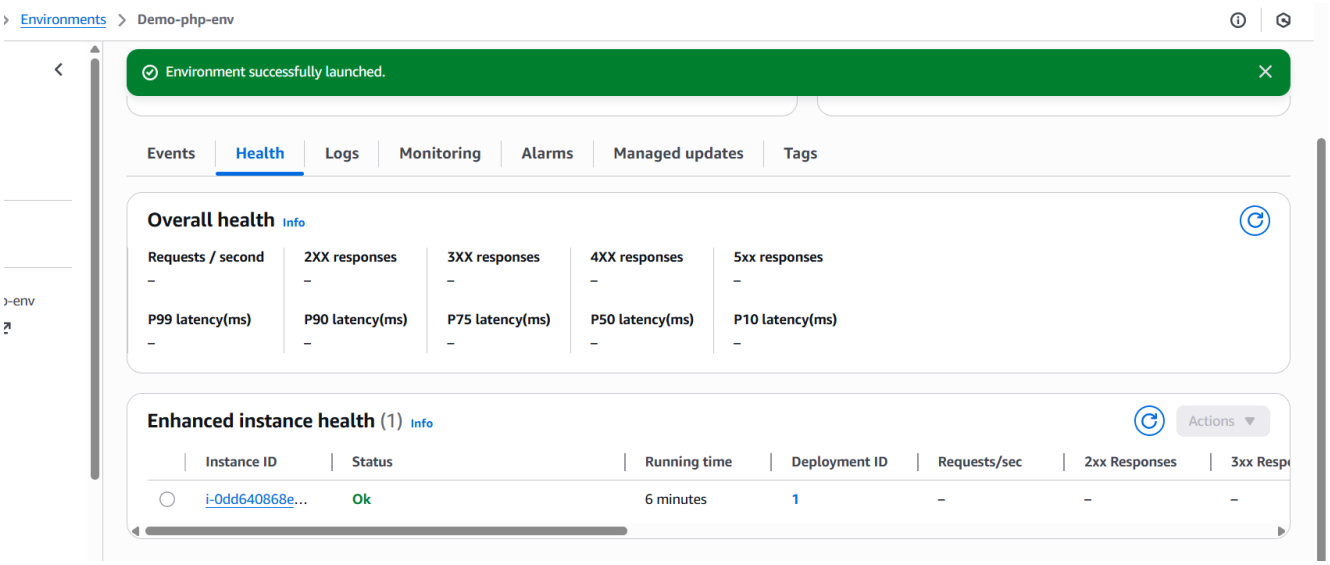

Environments > Demo-php-env
Environment successfully launched.
Demo-php-env Info
Actions
Upload and deploy
Environment overview
Health
Ok
Environment ID
e-njb3dq6rap
Domain
Demo-php-env.eba-yjyyxdui.us-east-1.elasticbeanstalk.com
Application name
demo-php
Platform
Change version
Platform
PHP 8.4 running on 64bit Amazon Linux 2023/4.7.6
Running version
index.php
Platform state
Supported
Events
Health
Logs
Monitoring
Alarms
Managed updates
Tags
Events (12) Info
Filter events by text, property or value
Time
Type
Details
Environment health has transitioned from Pending to Ok. Initialization completed 52 seconds

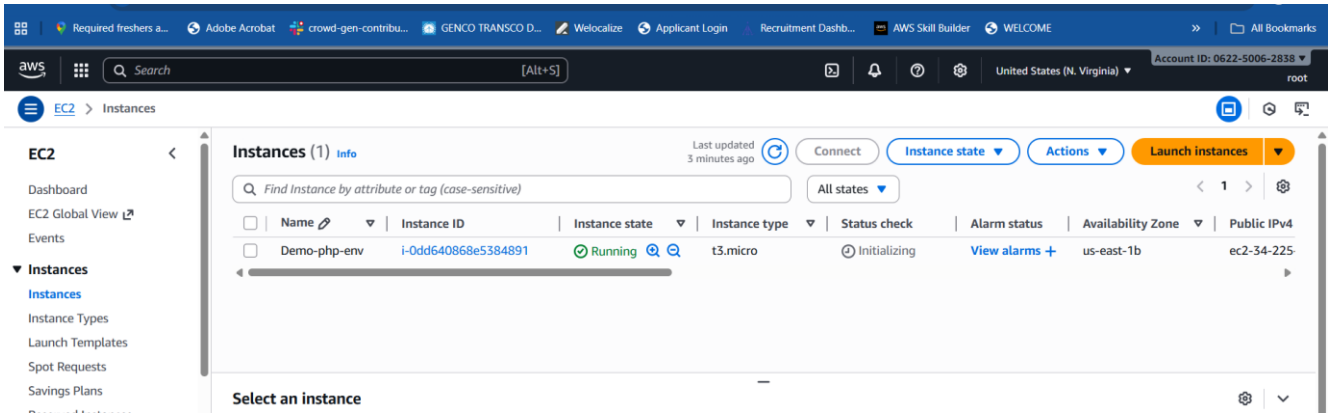
Step 8— Environment Creation

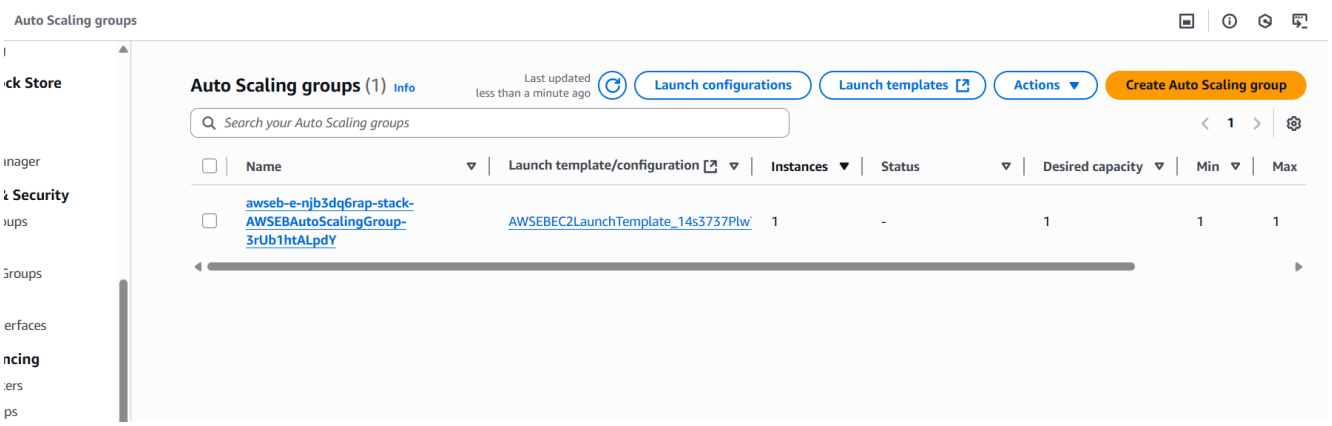
- AWS will automatically:
    - Launch an **EC2 instance**
    - Create an **Auto Scaling Group**
    - Set up a **Load Balancer**
    - Configure **CloudWatch monitoring**

Wait around **5–10 minutes** for deployment to complete.

Once done, you'll see **"Health: Green"** on the dashboard.



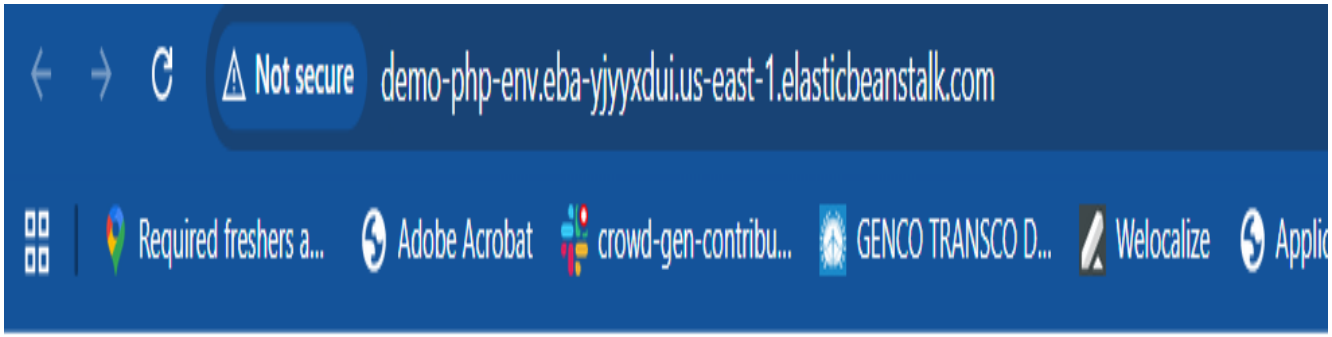




Step 9 — Verify Deployment

- Click the **environment URL** (e.g. http://demo-php-env.us-east-1.elasticbeanstalk.com)
- The browser should display:

  Hello from XYZ Corporation!



Hello from XYZ Corporation!