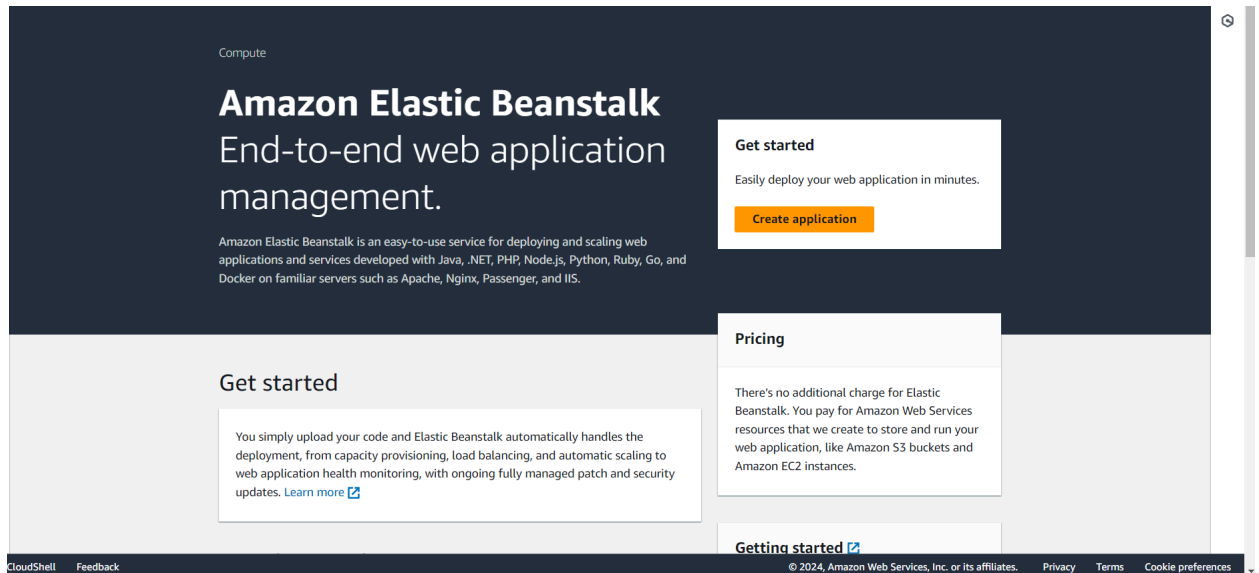Name: Kshitij Hundre
Div: D10C
Roll No:18

Practical No 2 : Elastic Beanstalk

1) Go to services and choose elastic Beanstalk.following page will appear.

2) Configure the environment. Give the application name, check domain availability and choose PHP as platform.Then click next.

Environment information Info

Choose the name, subdomain and description for your environment. These cannot be changed later.

Environment name

Sampel-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

kshitij   .us-east-1.elasticbeanstalk.com   [Check availability]

⊘ kshitij.us-east-1.elasticbeanstalk.com is available

Environment description

created a new environment and checked domain availability.

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

PHP   ▼

Platform branch

PHP 8.3 running on 64bit Amazon Linux 2023   ▼

3) Configure the service access.

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

◯ Create and use new service role
◉ Use an existing service role

Existing service roles
Choose an existing IAM role for Elastic Beanstalk to assume as a service role. The existing IAM role must have the required IAM managed policies.

EMR_EC2_DefaultRole   ▼   ↻

EC2 key pair
Select an EC2 key pair to securely log in to your EC2 instances. Learn more ↗

test   ▼   ↻

EC2 instance profile
Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.

EMR_EC2_DefaultRole   ▼   ↻

[View permission details]

Cancel   [Skip to review]   [Previous]   [Next]

4) Choose one of the available VPC and instance subnet.Click next.

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-0a482134962ed0c59 | (172.31.0.0/16)                                    ▼
```

Create custom VPC

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

Public IP address
Assign a public IP address to the Amazon EC2 instances in your environment.
☐ Activated

Instance subnets

🔍 Filter instance subnets

☐	Availability Zone	Subnet	CIDR	Name
☑	us-east-1d	subnet-04a4cfde8...	172.31.0.0/20	

5) Configure instance traffic and scaling. Keep all the options as default.

Configure instance traffic and scaling – *optional* Info

▼ **Instances** Info
Configure the Amazon EC2 instances that run your application.

Root volume (boot device)

Root volume type
```
(Container default)              ▼
```

Size
The number of gigabytes of the root volume attached to each instance.
```
8                           GB
```

IOPS
Input/output operations per second for a provisioned IOPS (SSD) volume.
```
100                         IOPS
```

Throughput
The desired throughput to provision for the Amazon EBS root volume attached to your environment's EC2 instance
```
125                         MiB/s
```

Amazon CloudWatch monitoring
The time interval between when metrics are reported from the EC2 instances

Monitoring interval
```
5 minute                         ▼
```

Instance types
Add instance types for your fleet. Change the order that the instances are in to set the preferred launch order. This only affects On-Demand instances. We recommend you include at least two instance types. Learn more

Choose x86 instance types

t3.micro ✕   t3.small ✕

AMI ID
Elastic Beanstalk selects a default Amazon Machine Image (AMI) for your environment based on the Region, platform version, and processor architecture that you choose. Learn more

ami-083f545ce1a73bf03

Availability Zones
Number of Availability Zones (AZs) to use.

Any

Placement
Specify Availability Zones (AZs) to use.

Choose Availability Zones (AZs)

Scaling cooldown

360   seconds

Cancel   Skip to review   Previous   Next

6) Configure updates, monitoring, and logging.Keep everything as default and click next.

Configure updates, monitoring, and logging – *optional* Info

▼ **Monitoring** Info

Health reporting
Enhanced health reporting provides free real-time application and operating system monitoring of the instances and other resources in your environment. The **EnvironmentHealth** custom metric is provided free with enhanced health reporting. Additional charges apply for each custom metric. For more information, see Amazon CloudWatch Pricing

System
○ Basic
● Enhanced

CloudWatch Custom Metrics - Instance

Choose metrics

CloudWatch Custom Metrics - Environment

Choose metrics

Health event streaming to CloudWatch Logs
Configure Elastic Beanstalk to stream environment health events to CloudWatch Logs. You can set the retention up to a maximum of ten years and configure Elastic Beanstalk to delete the logs when you terminate your environment.

Log streaming
☐ Activated (standard CloudWatch charges apply.)

Retention

7

Lifecycle

Instance log streaming to CloudWatch logs

Configure the instances in your environment to stream logs to CloudWatch logs. You can set the retention to up to 10 years and configure Elastic Beanstalk to delete the logs when you terminate your environment. Learn more 🗗

Log streaming
(standard CloudWatch charges apply.)

☐ Activated

Retention

| 7 | ▼ |

Lifecycle

| Keep logs after terminating envir... | ▼ |

Environment properties

The following properties are passed in the application as environment properties. Learn more 🗗

No environment properties have been configured.

Add environment property

Cancel   Previous   **Next**

7) In the review section,click submit.

false   false

Platform software

| Lifecycle | Log streaming | Allow URL fopen |
| false | Deactivated | On |

| Display errors | Document root | Max execution time |
| Off | – | 60 |

| Memory limit | Zlib output compression | Proxy server |
| 256M | Off | nginx |

| Logs retention | Rotate logs | Update level |
| 7 | Deactivated | minor |

| X-Ray enabled |
| Deactivated |

Environment properties

Key	▲	Value	▽
No environment properties			
There are no environment properties defined			

Cancel   Previous   **Submit**

8) Environment has been created successfully.

Elastic Beanstalk > Environments > Sampel-env

Sampel-env Info

Actions ▼   **Upload and deploy**

Environment overview

Health	Environment ID
⚠ Warning	⎘ e-u7kfdezi3r

Domain	Application name
kshitij.us-east-1.elasticbeanstalk.com ↗	sampel

Platform

Change version

Platform
PHP 8.3 running on 64bit Amazon Linux 2023/4.3.1

Running version	Platform state
–	⊘ Supported

Events | Health | Logs | Monitoring | Alarms | Managed updates | Tags

### Events (10) Info

🔍 Filter events by text, property or value

< 1 > ⚙

Time ▽	Type	Details
August 9, 2024 21:25:13 (UTC+5:30)	⚠ WARN	Environment health has transitioned from Pending to Warning. Initialization completed 27 seconds ago and took 2 minutes. There are no instances. Unable to assume role "arn:aws:iam::996474913977:role/EMR_EC2_DefaultRole". Verify that the role exists and is configured correctly.

9) Deploy something on the recently created environment.

Upload and deploy

ⓘ To deploy a previous version, go to the Application versions page

Upload application

⤴ Choose file

⊘ File name: **Screenshot 2023-11-10 185456.png**
File must be less than 500MB max file size

Version label
Unique name for this version of your application code.

sampel-version-1

Current number of EC2 instances: **1**

Cancel   **Deploy**

Elastic Beanstalk > Environments > Sampel-env

Sampel-env Info

[↻] [Actions ▼] [Upload and deploy]

Environment overview

Health
⚠ Warning

Environment ID
⊡ e-u7kfdezi3r

Domain
kshitij.us-east-1.elasticbeanstalk.com ↗

Application name
sampel

Platform   [Change version]

Platform
PHP 8.3 running on 64bit Amazon Linux 2023/4.3.1

Running version
–

Platform state
⊘ Supported

| Events | Health | Logs | Monitoring | Alarms | Managed updates | Tags |

Events (11) Info   [↻]

🔍 Filter events by text, property or value

‹ **1** › ⚙

Time ▽	Type	Details
August 9, 2024 21:25:22 (UTC+5:30)	⚠ WARN	Service role "arn:aws:iam::996474913977:role/EMR_EC2_DefaultRole" is missing permissions required to check for

PIpeline Creation:

1) Fork a github repository. This forked repository will act as source for your code pipeline.
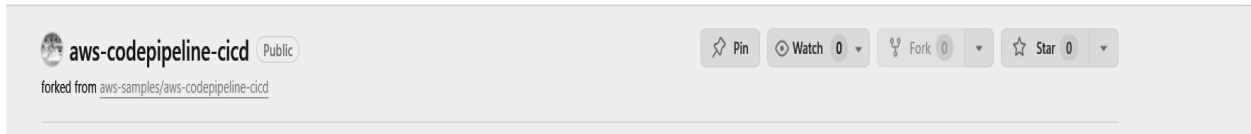
2) Go to developer tools and select CodePipeline and create a new pipeline
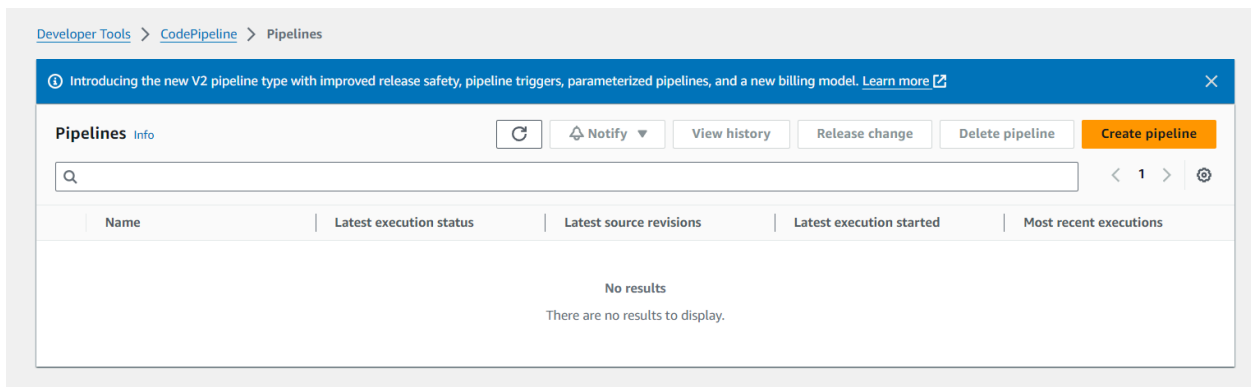
3) Create a pipeline:

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

Choose pipeline settings Info

Step 1 of 5

Pipeline settings

Pipeline name

Enter the pipeline name. You cannot edit the pipeline name after it is created.

> firstpipeline

No more than 100 characters

Pipeline type

ⓘ You can no longer create V1 pipelines through the console. We recommend you use the V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model.

Execution mode

Choose the execution mode for your pipeline. This determines how the pipeline is run.

○ **Superseded**
A more recent execution can overtake an older one. This is the default.

● **Queued (Pipeline type V2 required)**
Executions are processed one by one in the order that they are queued.

○ **Parallel (Pipeline type V2 required)**

4)

Add source stage Info
Step 2 of 5

Source

Source provider
This is where you stored your input artifacts for your pipeline. Choose the provider and then provide the connection details.

GitHub (Version 1) ▼

Grant AWS CodePipeline access to your GitHub repository. This allows AWS CodePipeline to upload commits from GitHub to your pipeline.

Connect to GitHub

ⓘ **The GitHub (Version 1) action is not recommended**
The selected action uses OAuth apps to access your GitHub repository. This is no longer the recommended method. Instead, choose the GitHub (Version 2) action to access your repository by creating a connection. Connections use GitHub Apps to manage authentication and can be shared with other resources. Learn more

Change detection options
Choose a detection mode to automatically start your pipeline when a change occurs in the source code.

● **GitHub webhooks (recommended)**
Use webhooks in GitHub to automatically start my pipeline when a change occurs

○ **AWS CodePipeline**
Use AWS CodePipeline to check periodically for changes

S

Add source stage Info
Step 2 of 5

Source

Source provider
This is where you stored your input artifacts for your pipeline. Choose the provider and then provide the connection details.

GitHub (Version 1) ▼

Grant AWS CodePipeline access to your GitHub repository. This allows AWS CodePipeline to upload commits from GitHub to your pipeline.

Connected

✓ You have successfully configured the action with the provider.   ✕

ⓘ **The GitHub (Version 1) action is not recommended**
The selected action uses OAuth apps to access your GitHub repository. This is no longer the recommended method. Instead, choose the GitHub (Version 2) action to access your repository by creating a connection. Connections use GitHub Apps to manage authentication and can be shared with other resources. Learn more

Repository

🔍 pixelbypixels/aws-codepipeline-cicd   ✕

Branch

🔍 main   ✕

Change detection options
Choose a detection mode to automatically start your pipeline when a change occurs in the source code.

● **GitHub webhooks (recommended)**
Use webhooks in GitHub to automatically start my pipeline when a change occurs

○ **AWS CodePipeline**
Use AWS CodePipeline to check periodically for changes

5) Go to the deploy stage and ensure the following settings.

Add deploy stage Info
Step 4 of 5

ⓘ **You cannot skip this stage**
Pipelines must have at least two stages. Your second stage must be either a build or deployment stage. Choose a provider for either the build stage or deployment stage.

Deploy

Deploy provider
Choose how you deploy to instances. Choose the provider, and then provide the configuration details for that provider.

AWS Elastic Beanstalk ▼

Region

US East (N. Virginia) ▼

Input artifacts
Choose an input artifact for this action. Learn more ☒

▼

No more than 100 characters

Application name
Choose an application that you have already created in the AWS Elastic Beanstalk console. Or create an application in the AWS Elastic Beanstalk console and then return to this task.

Q test_application ✕

Environment name
Choose an environment that you have already created in the AWS Elastic Beanstalk console. Or create an environment in the AWS Elastic Beanstalk console and then return to this task.

Q test-application-env ✕

☐ Configure automatic rollback on stage failure

6) review the pipeline settings.

Review Info
Step 5 of 5

Step 1: Choose pipeline settings

Pipeline settings

Pipeline name
test_pipeline

Pipeline type
V2

Execution mode
QUEUED

Artifact location
A new Amazon S3 bucket will be created as the default artifact store for your pipeline

Service role name
AWSCodePipelineServiceRole-us-east-1-test_pipeline

7) Then go ahead and check the URL provided in the EBS environment.

8) Go to the repository and make the changes in the index.html file and commit them

9)The changes that are committed can be noticed in the source panel in real time and to view the changes check the url (refresh it) and you can view the changes once the deployment section shows success.