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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.

Configure environment Info

Environment tier Info

Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.

- ● **Web server environment**
  Run a website, web application, or web API that serves HTTP requests. Learn more ☒

- ○ **Worker environment**
  Run a worker application that processes long-running workloads on demand or performs tasks on a schedule. Learn more ☒

Application information Info

Application name

```
school
```

Maximum length of 100 characters.

ironment information Info

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

onment name

```
ool-env
```

e 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.
ame must be unique within a region in your account.

ain

```
n
```
.us-east-1.elasticbeanstalk.com

Check availability

onment description

```
created new environment and checked domain availability in elastic beanstalk
```

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 | ▼ |

Platform version

| 4.3.2 (Recommended) | ▼ |

3) Configure the service access.

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.
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 manag
policies.

| EMR_EC2_DefaultRole ▼ | | C |

EC2 key pair

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

| vockey ▼ | | C |

EC2 instance profile

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

| EMR_EC2_DefaultRole ▼ | | C |

View permission details

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-075a1064485f44871 | (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-01b53f6df...		172.31.16.0/20	

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 ▼ |

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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-01666c45687a3fe87

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	▼

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.

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.

✓ Environment successfully launched.

Elastic Beanstalk > Environments > School-env

School-env Info

[Actions ▼] [Upl

Environment overview

Health	**Environment ID**
⚠ Warning	⧉ e-zvqb6m5cmf
Domain	**Application name**
Ishan.us-east-1.elasticbeanstalk.com ↗	school

Platform

Platform	
PHP 8.3 running on 64bit Amazon Linux 2023/4.3.2	
Running version	**Platform state**
–	✓ Supported

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

Events (10) Info

🔍 Filter events by text, property or value

Time	Type	Details
August 17, 2024 16:03:43 (UTC+5:30)	ⓘ INFO	Successfully launched environment: School-env

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: **1b devops.pdf**
File must be less than 500MB max file size

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

school-version-1

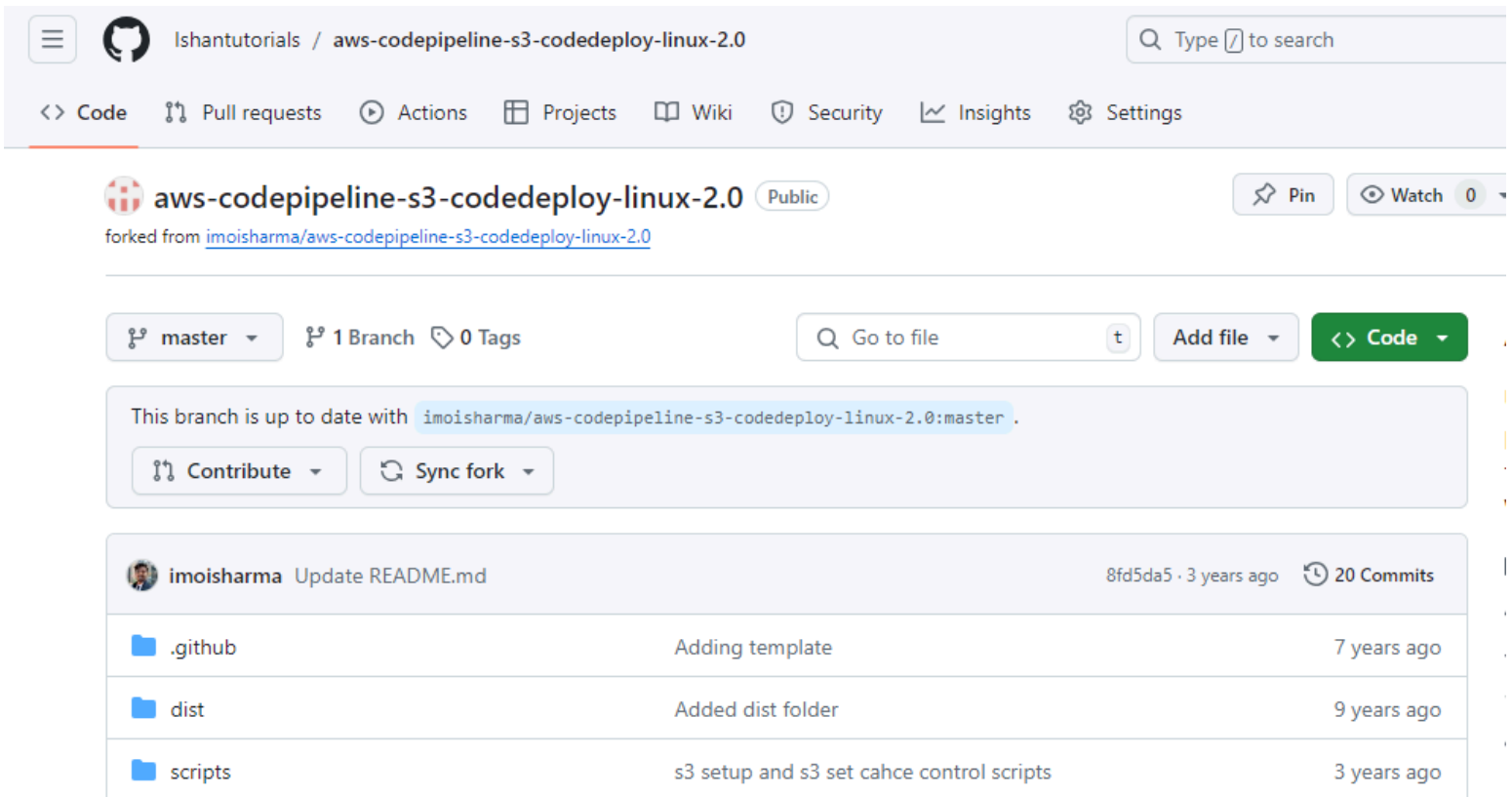Current number of EC2 instances: **1**

[Cancel] [Deploy]
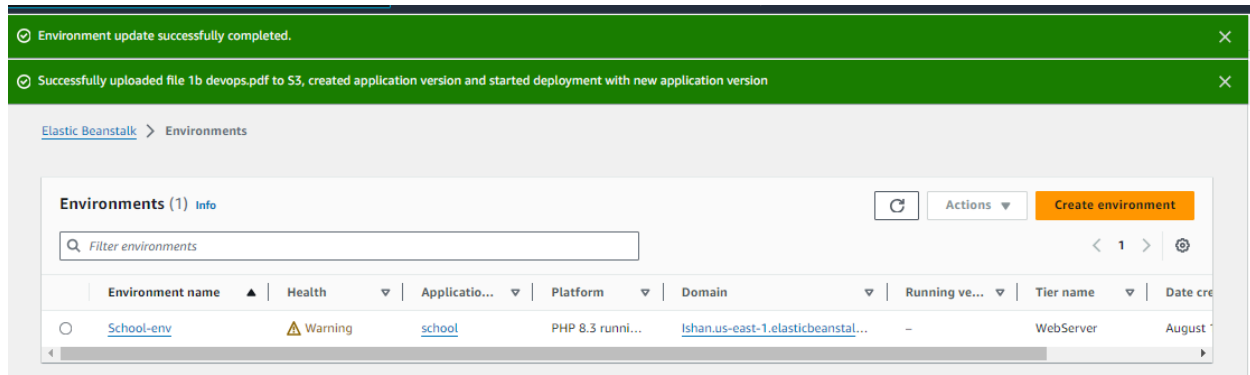
PIpeline Creation:

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

ⓘ Introducing the new V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model.
Learn more ↗

Pipelines Info   ⟳   🔔 Notify ▼   View history   Release change   Delete pipeline   Create pipelin

🔍   < 1 >

Name	Latest execution status	Latest source revisions	Latest execution started	Most recent execut
○ FinalPipeline (Type: V2 | Execution mode: QUEUED)	⊘ Succeeded	**Source** – 3cf895ae ↗: Updating the index.html file to contain a div and paragraph elements that are ad...	1 day ago	⊘ ⊘ ⊘ View details

3) Create a pipeline:

Pipeline settings

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

Ishanfirstpipeline

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 w 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)

Service role

○ ● New service role
Create a service role in your account

○ Existing service role
Choose an existing service role from your account

Role name

AWSCodePipelineServiceRole-ap-south-1-Ishanfirstpipeline

Type your service role name

☑ Allow AWS CodePipeline to create a service role so it can be used with this new pipeline

Variables

You can add variables at the pipeline level. You can choose to assign the value when you start the pipeline. Choosing this option requires pipeline type V2. Learn more ☑

No variables defined at the pipeline level in this pipeline.

Add variable

You can add up to 50 variables.

4)

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

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Repository

Q Ishantutorials/aws-codepipeline-s3-codedeploy-linux-2.0   ✕

Branch

Q master   ✕

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.

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

Asia Pacific (Mumbai)   ▼

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 Ishanbeanstalk   ✕

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 beanstalk4-env-1   ✕

☐ Configure automatic rollback on stage failure

Cancel   Previous   Next

6) review the pipeline settings

Step 1: Choose pipeline settings

Pipeline settings

Pipeline name
Ishanfirstpipeline

Pipeline type
V2

Execution mode
QUEUED

Artifact location
codepipeline-ap-south-1-698086377614

Service role name
AWSCodePipelineServiceRole-ap-south-1-Ishanfirstpipeline

.

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

Developer Tools > CodePipeline > Pipelines > Ishanfirstpipeline

Ishanfirstpipeline

🔔 Notify ▼ | Edit | Stop execution | Clone pipeline | **Release change**

Pipeline type: **V2**   Execution mode: **QUEUED**

⊖ **Source**   In progress

Pipeline execution ID: 27b6dac4-d70a-47fb-a4cb-cbe5789e6ddd

Source
GitHub (Version 1) ↗

⊙ In progress - Just now

View details

Disable transition

⊖ **Deploy** ⓘ   Didn't Run

Start rollback

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

Commit changes ×

Commit message

Update index.html

Extended description

Add an optional extended description..

● Commit directly to the **master** branch

○ Create a **new branch** for this commit and start a pull request Learn
more about pull requests

Cancel   **Commit changes**

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.

Hello this is my first deployment D15C

You have successfully created a pipeline that retrieved this source application from an Amazon S3 deployed it to three Amazon EC2 instances using AWS CodeDeploy.

For next steps, read the AWS CodePipeline Documentation. Incedge 2020