

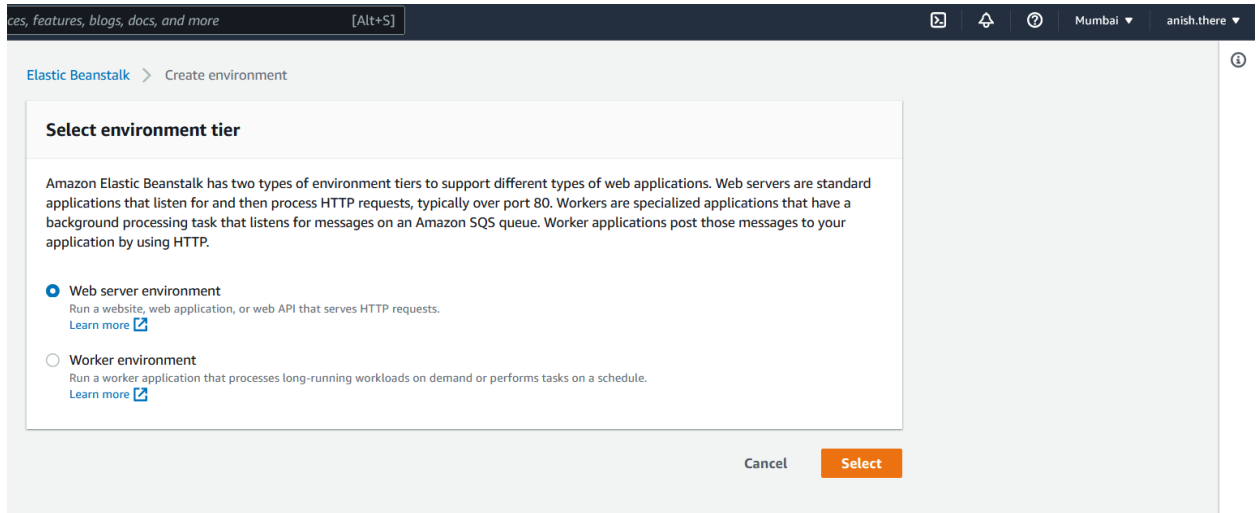
Name: Anish Hemant There

Reg. No: 19BCE1349

Course: Cloud Computing for AI / ML

Topic: Cloud based electricity bill calculation platform with a load balancer and monitoring services

1. AWS Elastic Beanstalk



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Elastic Beanstalk > Create environment

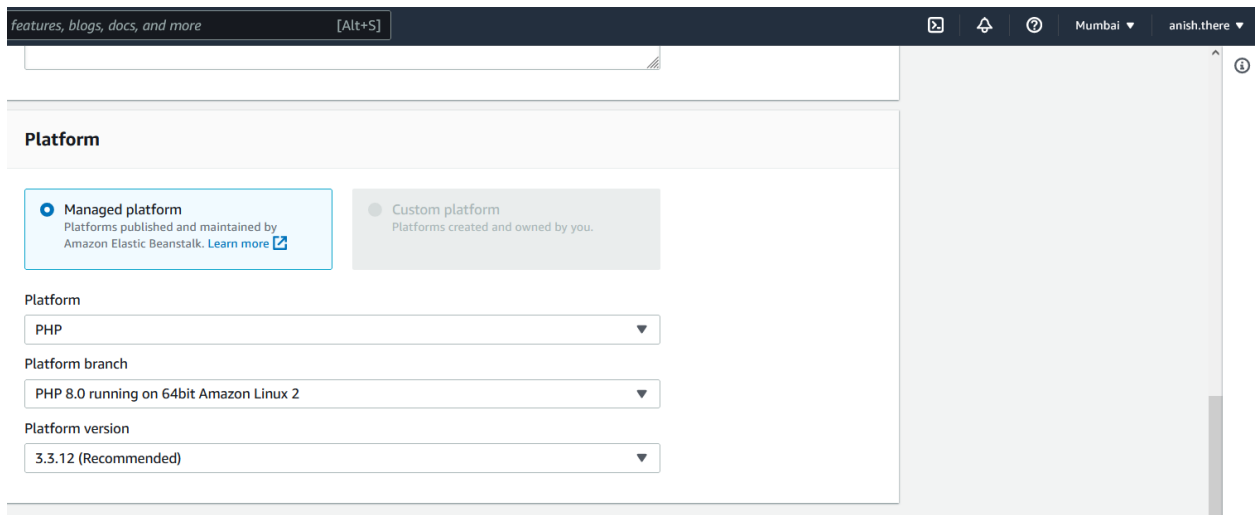
Select environment tier

Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications. Web servers are standard applications that listen for and then process HTTP requests, typically over port 80. Workers are specialized applications that have a background processing task that listens for messages on an Amazon SQS queue. Worker applications post those messages to your application by using HTTP.

- ☒ **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](#)

Cancel Select

2. PHP Platform



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Platform

- ☒ **Managed platform**
Platforms published and maintained by Amazon Elastic Beanstalk. [Learn more](#)
- ☐ **Custom platform**
Platforms created and owned by you.

Platform
PHP

Platform branch
PHP 8.0 running on 64bit Amazon Linux 2

Platform version
3.3.12 (Recommended)

3. Upload code

Application code

☐ Sample application
Get started right away with sample code.

☐ Existing version
Application versions that you have uploaded for Ebillcalc.

-- Choose a version --

☒ 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.

ebillcalc-source

Source code origin
Maximum size 512 MB

☒ Local file

☐ Public S3 URL

Choose file

4. Upload the zip

File Upload

Organization - Personal

This PC

3D Objects

Desktop

Documents

Downloads

Music

Pictures

Videos

OS (C:)

DATA (D:)

New Volume (E:)

New Volume (F:)

Network

Name	Date modified	Type	Size
ebextensions	20-Apr-22 06:20 PM	File folder	
assets	20-Apr-22 06:20 PM	File folder	
calc	20-Apr-22 01:02 PM	PHP File	4 KB
cron.yaml	15-Apr-20 04:29 AM	YAML File	1 KB
ebill	20-Apr-22 01:04 PM	WinRAR ZIP archive	203 KB
EBSampleApp-PHP.html	15-Apr-20 04:31 AM	HTML File	1 KB
index	20-Apr-22 06:51 PM	PHP File	4 KB
signupd	20-Apr-22 06:53 PM	PHP File	3 KB
wstyle	09-Oct-20 06:32 PM	Cascading Style S...	3 KB

File name: ebill

All Files

Open Cancel

5. Uploaded

Application code

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

Source code origin

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

ebillcalc-source

Source code origin
Maximum size 512 MB

☒ Local file

☐ Public S3 URL

Choose file

File name : ebill.zip

File successfully uploaded


6. Created

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Elastic Beanstalk > Environments > Ebillcalc-env

Ebillcalc-env
Ebillcalc-env.eba-jayxqxtm.ap-south-1.elasticbeanstalk.com (e-sgzkqmsipn)
Application name: Ebillcalc

Refresh Actions

Health

Ok
Causes

Running version
ebillcalc-source
Upload and deploy

Platform

PHP 8.0 running on 64bit
Amazon Linux 2/3.3.12
Change

7. Adding database in configuration tab

Database Edit

8. Mysql database

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Choose an engine and instance type for your environment's database.

Engine
mysql

Engine version
8.0.28

Instance class
db.t2.micro

Storage
Choose a number between 5 GB and 1024 GB.
5

Username
admin

Password
••••••

9. Create environment variables from software in configuration

Software

Allow URL fopen: On
Display errors: Off
Document root: --
Log streaming: disabled
Max execution time (seconds): 60
Memory limit: 256M
Proxy server: nginx
Rotate logs: disabled
X-Ray daemon: disabled
Zlib output compression: Off

Edit

10.

Environment properties

The following properties are passed in the application as environment properties. [Learn more](#)

Name	Value
RDS_HOSTNAME	Ebillcalc-env-1.eba-58fa4md9.ap-south-1.elasticbeanstalk.com
RDS_PORT	3306
RDS_DB_NAME	db1
RDS_USERNAME	admin
RDS_PASSWORD	12345678

11. Add monitoring

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Time

Add Graph

Resource: Ebillcalc-env

CloudWatch metric: EnvironmentHealth

Statistic: Maximum (Default)

Description: Max EnvironmentHealth

Dimensions: (no dimension)

Refresh

Add

12. Created

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CloudWatch > Alarms

Alarms (2)

☐ Hide Auto Scaling alarms

Clear selection

🔄

Create composite alarm

Actions

Create alarm

Search

Any state

Any type

< 1 >

⚙️

<input type="checkbox"/>	Name	State	Last state update	Conditions	Actions
<input type="checkbox"/>	aws-e-sgzkqmsipn-stack-AWSEBCloudwatchAlarmHigh-1QNL6AG1MV984	OK	2022-04-21 11:48:08	NetworkOut > 6000000 for 1 datapoints within 5 minutes	Actions enabled

13. Load balancer

EC2 > Target groups > awseb-AWSEB-13MXEH8P5ALCX

awseb-AWSEB-13MXEH8P5ALCX

arn:aws:elasticloadbalancing:ap-south-1:548324359583:targetgroup/awseb-AWSEB-13MXEH8P5ALCX/f5a8e7f4d7cd8de2

Actions

Details					
Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1	VPC vpc-0b8f4d0262c3ccae5		
IP address type IPv4	Load balancer awseb-AWSEB-U4I6DR9BPJLP				
Total targets 1	Healthy ✔ 1	Unhealthy ✘ 0	Unused 0	Initial 0	Draining 0

14. Website

ebillcalc-env-eba-jaynqtm.ap-sou: X


ebillcalc-env-eba-jaynqtm.ap-south-1.elasticbeanstalk.com

E-Bill Calculator Home Calculator Login / SignUp


Electricity Billing System

This website at the end of its construction will act as a consumer oriented service for users for easy payment of their respective **Electricity Bill** as well as interact with their providers in case of any queries or grievances.


How this Portal woks



1 - Login



2 - Peruse Bills



3 - Transact

15.

The screenshot shows a web browser window with the URL `ebillcalc-env-eba-jayxqtm.ap-south-1.elasticbeanstalk.com/calc.php`. The page has a blue header with navigation links: "E-Bill Calculator", "Home", "Calculator", and "Login / SignUp". The main content area has a dark blue background with the title "Calculate Electricity Bill" in white. Below the title is a white input field with the placeholder text "Please enter no. of Units" and a green "Submit" button. At the bottom of the dark blue section, it displays "Total amount of 56 - ₹199.00". The rest of the page is a light gray background.

16.

The screenshot shows a web browser window with the URL `ebillcalc-env-eba-jayxqtm.ap-south-1.elasticbeanstalk.com/calc.php`. The page has a blue header with navigation links: "E-Bill Calculator", "Home", "Calculator", and "Login / SignUp". The main content area has a gray background with a white "Login" form in the center. The form has the title "Login" and two input fields: "Username" and "Email Address". Below the input fields is a blue "LOGIN" button. At the bottom of the form, it says "Not a member? [Create Account](#)".

Code:

Index.php

```
<!doctype html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.min.
css"
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/
dAiS6JXm" crossorigin="anonymous">
    <link href="assets/css/bootstrap.css" rel="stylesheet">
    <link href="assets/css/font-awesome.css" rel="stylesheet">
    <link href="assets/css/main.css" rel="stylesheet">
  </head>
  <body>

    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">
      <a class="navbar-brand" href="index.php"><h4 style="color:white">E-Bill
Calculator</h4></a>
      <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false"
aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
      </button>
      <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav">
          <li class="nav-item active">
            <a class="nav-link" href="index.php"
style="padding-right:20px;">Home <span
class="sr-only">(current)</span></a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href="calc.php"
style="padding-right:20px;">Calculator</a>
          </li>
          <li class="nav-item">
```

```

        <a class="nav-link" href="signupd.php"
style="padding-right:20px;">Login / SignUp</a>
    </li>
</ul>
</div>
</nav>

<div id="headerwrap">
    <div class="darkheaderwrap">
        <div >
            <div >
                <div style="padding-left: 270px;">
                    <h2 style="color: white">Electricity Billing
System</h2>

                    <p>This website at the end of its construction
will act as a consumer oriented service for users for
                    easy payment of their <br>respective <b>Electricity Bill</b> as
well as interact with their providers
                    in case of any queries or grivances. </p>
                </div>
            </div>
        </div>
    </div>
</div>
<div class="container">
    <div class="row mt centered">
        <div class="col-lg-6 col-lg-offset-3">
            <h1>How this Portal woks</h1>
            <h3></h3>
        </div>
    </div>

    <div class="row mt centered">
        <div class="col-lg-4">
            
            <h4>1 - Login</h4>
            <p></p>
        </div>

        <div class="col-lg-4">

```



```

        
        <h4>2 - Peruse Bills</h4>
        <p></p>
    </div>

    <div class="col-lg-4">
        
        <h4>3 - Transact</h4>
        <p></p>
    </div>

</div>
</div>

<script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"
integrity="sha384-KJ3o2DKtIkvYIK3UENzmM7KChRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93
hXpG5KkN" crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.12.9/dist/umd/popper.min.js"
integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXu
svfa0b4Q" crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/js/bootstrap.min.js"
integrity="sha384-JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+
76PVCmYl" crossorigin="anonymous"></script>
</body>
</html>

```

Calc.php

```

<!doctype html>
<html lang="en">
    <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">
        <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.min.
css"

```

```
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/
dAiS6JXm" crossorigin="anonymous">
<link href="assets/css/bootstrap.css" rel="stylesheet">
<link href="assets/css/font-awesome.css" rel="stylesheet">
<link href="assets/css/main.css" rel="stylesheet">
</head>

<body>
<?php
$result_str = $result = '';
if (isset($_POST['unit-submit'])) {
    $units = $_POST['units'];
    if (!empty($units)) {
        $result = calculate_bill($units);
        $result_str = 'Total amount of ' . $units . ' - &#x20b9;' .
$result;
    }
}

function calculate_bill($units) {
    $unit_cost_first = 3.50;
    $unit_cost_second = 4.00;
    $unit_cost_third = 5.20;
    $unit_cost_fourth = 6.50;

    if($units <= 50) {
        $bill = $units * $unit_cost_first;
    }
    else if($units>50 && $units<=100) {
        $temp = 50 * $unit_cost_first;
        $remaining_units = $units - 50;
        $bill = $temp + ($remaining_units * $unit_cost_second);
    }
    else if($units > 100 && $units <= 200) {
        $temp = (50 * 3.5) + (100 * $unit_cost_second);
        $remaining_units = $units - 150;
        $bill = $temp + ($remaining_units * $unit_cost_third);
    }
    else {
```

```

        $temp = (50 * 3.5) + (100 * $unit_cost_second) + (100 *
$unit_cost_third);
        $remaining_units = $units - 250;
        $bill = $temp + ($remaining_units * $unit_cost_fourth);
    }
    return number_format((float)$bill, 2, '.', '');
}

?>

<nav class="navbar navbar-expand-lg navbar-dark bg-primary">
    <a class="navbar-brand" href="index.php"><h4 style="color:white">E-Bill
Calculator</h4></a>
    <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false"
aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav">
            <li class="nav-item">
                <a class="nav-link" href="index.php"
style="padding-right:20px;">Home <span
class="sr-only">(current)</span></a>
            </li>
            <li class="nav-item active">
                <a class="nav-link" href="calc.php"
style="padding-right:20px;">Calculator</a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="signupd.php"
style="padding-right:20px;">Login / SignUp</a>
            </li>
        </ul>
    </div>
</nav>

<div id="headerwrap">
    <h1>Calculate Electricity Bill</h1>

```

```

        <form action="" method="post" id="quiz-form" style="padding-left:
700px;padding-right:690px">
            <input type="number" name="units" id="units"
class="form-control" style="width: 100%;" placeholder="Please enter no. of
Units" /><br>
            <div style="padding-left:220px">
                <input type="submit" name="unit-submit" class="btn btn-success
btn-lg" id="unit-submit" value="Submit" />
            </div>
        </form>

        <div style="text-align:center">
            <?php echo '<br /><br /> <h3 >' . $result_str; '</h3> '?>
        </div>
    </div>
</body>
</html>

```

Signup.php

```

<!DOCTYPE html>
<html lang="en" >
<head>
    <meta charset="UTF-8">
    <title></title>
    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/normalize/5.0.0/normalize.min
.css">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.min.
css"
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/
dAiS6JXm" crossorigin="anonymous">
    <link href="assets/css/bootstrap.css" rel="stylesheet">
    <link href="assets/css/font-awesome.css" rel="stylesheet">
    <link href="assets/css/main.css" rel="stylesheet">
    </head>
    <link rel="stylesheet" href="./wstyle.css">
</head>

```

```

<?php
    $con = new mysqli($_SERVER['RDS_HOSTNAME'], $_SERVER['RDS_USERNAME'],
$_SERVER['RDS_PASSWORD'],
        $_SERVER['RDS_DB_NAME'], $_SERVER['RDS_PORT']);

    if (!$con) die('Could not connect: ' . mysql_error());

    $con->query("DROP TABLE IF EXISTS user");
    $con->query("CREATE TABLE 'user' (
        'id' int(14) NOT NULL,
        'name' varchar(40) NOT NULL,
        'email' varchar(40) NOT NULL,
        'phone' varchar(255) NOT NULL,
        'pass' varchar(20) NOT NULL,
        'address' varchar(100) NOT NULL
    )");

    $sql = "INSERT INTO user ('name','email','pass')
VALUES('$name','$email','$password')";
    echo $sql;
    if (!mysqli_query($con,$sql))
    {
        die('Error: ' . mysqli_error($con));
    }
    header("Location:index.php");

?>

<body>
<nav class="navbar navbar-expand-lg navbar-dark bg-primary">
    <a class="navbar-brand" href="index.php"><h4 style="color:white">E-Bill
Calculator</h4></a>
    <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false"
aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav">
            <li class="nav-item">

```

```
        <a class="nav-link" href="index.php"
style="padding-right:20px;">Home <span
class="sr-only">(current)</span></a>
    </li>
    <li class="nav-item">
        <a class="nav-link" href="calc.php"
style="padding-right:20px;">Calculator</a>
    </li>
    <li class="nav-item active">
        <a class="nav-link" href="signupd.php"
style="padding-right:20px;">Login / SignUp</a>
    </li>
</ul>
</div>
</nav>

<div id="login-form-wrap">
    <h2>Login</h2>
    <form id="login-form" action="signupd.php">
        <p>
            <input type="text" id="name" name="name" placeholder="Name"
required><i class="validation"><span></span><span></span></i>
        </p>
        <p>
            <input type="email" id="email" name="email" placeholder="Password"
required><i class="validation"><span></span><span></span></i>
        </p>

        <p>
            <input type="submit" id="login" value="Login">
        </p>
    </form>
    <div id="create-account-wrap">
        <p>Not a member? <a href="#">Create Account</a></p>
    </div>
</div>

</body>
</html>
```

