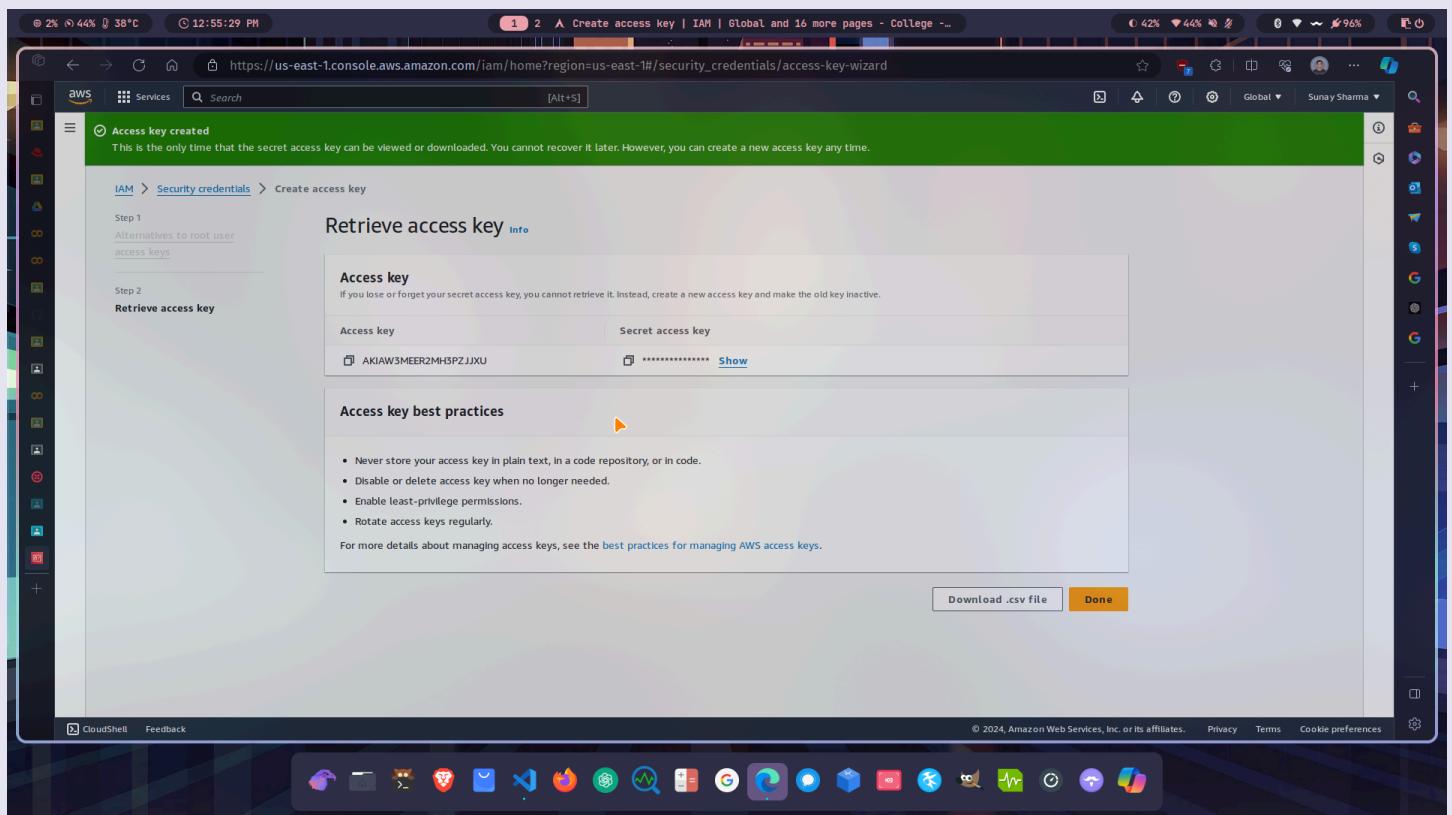


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EADC Practical 3

Aim : You are a developer working on a Node.js application that you need to deploy to AWS Elastic Beanstalk (EB) using the EB CLI. Your application utilizes Express.js for the backend and HTML CSS for the frontend. You want to ensure a smooth deployment process with minimal downtime for your users. Additionally, you want to configure environment variables specific to your deployment environment. Prepare a step by step guide for the code deployment using CLI.

Steps :

1. Create access key in AWS, via IAM > Security Credentials > Create access key and copy the credentials



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2. Make sure, aws-eb-cli is installed in the system and PATH variable is set. Then, initialize the elasticbeanstalk in the node project directory.

The screenshot shows a Linux desktop environment with a dark theme. In the top panel, there are system status icons for battery level (3%), signal strength (47%), and temperature (40°C). The time is listed as 12:57:36 PM. The bottom panel features a dock with various application icons, including a terminal, file manager, and system settings.

In the center, a terminal window is open with the command `eb init` typed in. The window title bar shows "app.js - Practical_3". The terminal status bar indicates the user is in the `main` directory at version `v18.18.2` at 12:57. The status bar also shows "Ln 10, Col 1" and "Spaces:4" and "LF".

To the left of the terminal is a code editor window for the file `app.js`. The code is as follows:

```
1 let express = require("express");
2 let app = express();
3 let port = process.env.PORT || 3000;
4
5 app.use(express.static(__dirname + "/public"));
6
7 app.listen(port, function () {
8   console.log(`\nServer is being started on ${port}`);
9 });
10
```

The code editor interface includes an Explorer sidebar showing the project structure, an Outline sidebar, and tabs for OPEN EDITORS, PORTS, SQL CONSOLE, GIT LENS, and TERMINAL. The status bar at the bottom of the code editor shows "Ln 10, Col 1" and "Spaces:4" and "LF".

Command : **eb init**

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3. Select preferred region and paste the credentials

The screenshot shows a terminal window with the following content:

```
18) eu-north-1 : EU (Stockholm)
19) eu-south-1 : EU (Milano)
20) ap-east-1 : Asia Pacific (Hong Kong)
21) me-south-1 : Middle East (Bahrain)
22) il-central-1 : Middle East (Israel)
23) af-south-1 : Africa (Cape Town)
24) ap-southeast-3 : Asia Pacific (Jakarta)
25) ap-northeast-3 : Asia Pacific (Osaka)
(default is 3): 6

You have not yet set up your credentials or your credentials are incorrect
You must provide your credentials.
(aws-access-id): AKIAW3MEER2MH3PZJJXU
(aws-secret-key): 2vKgJzfL8ZAC0LmrGqBhRxd7lzbkMF0r2jV/4RPL

Select an application to use
1) YSL
2) [ Create new Application ]
(default is 2):
```

The terminal is part of a larger IDE interface, with code editor tabs for 'app.js' and 'index.html' visible at the top. The code editor shows a simple Express.js application.

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4. Assign the name, and select nodejs as platform and default branch

The screenshot shows the AWS Lambda Function Builder interface. In the top navigation bar, the path is "FUNCTIONS > EADC3 > Code". The main area displays the "app.js" file content:

```
let express = require("express");
let app = express();
let port = process.env.PORT || 3000;
app.use(express.static(__dirname + "/public"));
app.listen(port, function () {
    console.log(`Server is being started on ${port}`);
});
```

The "OPEN EDITORS" section shows the "app.js" file is open. The "TERMINAL" tab contains the following logs:

```
Enter Application Name
(default is "Practical_3"): EADC3
Application EADC3 has been created.

It appears you are using Node.js. Is this correct?
(Y/n): y
Select a platform branch.
1) Node.js 20 running on 64bit Amazon Linux 2023
2) Node.js 18 running on 64bit Amazon Linux 2023
3) Node.js 18 running on 64bit Amazon Linux 2
4) Node.js 16 running on 64bit Amazon Linux 2 (Deprecated)
5) Node.js 14 running on 64bit Amazon Linux 2 (Deprecated)
(default is 1):

Cannot setup CodeCommit because there is no Source Control setup, continuing with initialization
Do you want to set up SSH for your instances?
(Y/n):
```

The bottom status bar indicates "Ln 10, Col 1" and "JavaScript".

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5. Enter n for codecommit part and check if the app is created on AWS Cloud

```
Enter Application Name
(default is "Practical_3"): EADC3
Application EADC3 has been created.

It appears you are using Node.js. Is this correct?
(Y/n): y
Select a platform branch.
1) Node.js 20 running on 64bit Amazon Linux 2023
2) Node.js 18 running on 64bit Amazon Linux 2023
3) Node.js 18 running on 64bit Amazon Linux 2
4) Node.js 16 running on 64bit Amazon Linux 2 (Deprecated)
5) Node.js 14 running on 64bit Amazon Linux 2 (Deprecated)
(default is 1):

Cannot setup CodeCommit because there is no Source Control setup, continuing with initialization
Do you want to set up SSH for your instances?
(Y/n): n
yash .../Practical_3 $ main !↑ @ v18.18.2 12:59 |
```

Application name	Environments	Date created	Last modified	ARN
EADC3	-	February 21, 2024 12:58:44 (UTC+5:30)	February 21, 2024 12:58:44 (UTC+5:30)	arn:aws:elasticbeanstalk:ap-south-1:123456789012:application/EADC3

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6. Create environment via CLI and wait for upload to complete

The screenshot shows a terminal window with the following command and output:

```
yash ~/.../Practical_3 $ main !? @ v18.18.2 01:00 eb create EADCenv
Creating application version archive "app-240221_130139216711".
Uploading EADC3/app-240221_130139216711.zip to S3. This may take a while.
Upload Complete.
Environment details for: EADCenv
  Application name: EADC3
  Region: ap-south-1
  Deployed Version: app-240221_130139216711
  Environment ID: e-w73xshrvk
  Platform: arn:aws:elasticbeanstalk:ap-south-1::platform/Node.js 20 running on 64bit Amazon Linux 2023/6.1.0
  Tier: WebServer-Standard-1.0
  CNAME: UNKNOWN
  Updated: 2024-02-21 07:31:48.066000+00:00
Printing Status:
2024-02-21 07:31:46  INFO  createEnvironment is starting.
-- Events -- (safe to Ctrl+C)
```

Command : **eb create <env-name>**

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7. Check the URL and webpage after environment is created successfully

The screenshot shows the AWS Elastic Beanstalk console with the URL <https://ap-south-1.console.aws.amazon.com/elasticbeanstalk/home?region=ap-south-1#/environment/dashboard?environmentId=e-w73xshrvk>. The environment 'EADCenv' is successfully launched. The 'Environment overview' section displays details like Environment ID (e-w73xshrvk), Application name (EADC3), and Platform (Node.js 20 running on 64bit Amazon Linux 2023/6.1.0). The 'Events' tab shows 19 events, including a warning about role configuration and an info message about successful launch. The left sidebar shows the application and environment configurations.

The screenshot shows a Microsoft Edge browser window with the URL <http://eadcenv.eba-bupeztwt.ap-south-1.elasticbeanstalk.com>. The page displays a large red lightbulb icon with the text 'ON' and 'OFF' buttons below it. The browser status bar indicates 'Not secure'.