

ASSIGNMENT-2

Cloud Project & Video Explainer

IP ADDRESS- 51.20.11.128

DNS- <https://travel-madhav.online/>

www.travel-madhav.online

NAME -MADHAV MAHARIA

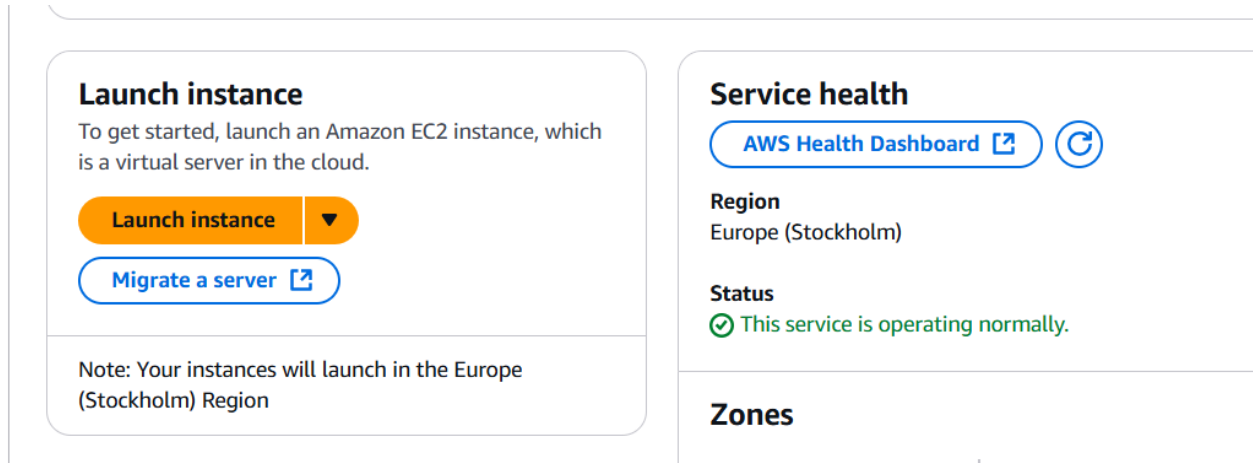
STUDENT ID-35633154

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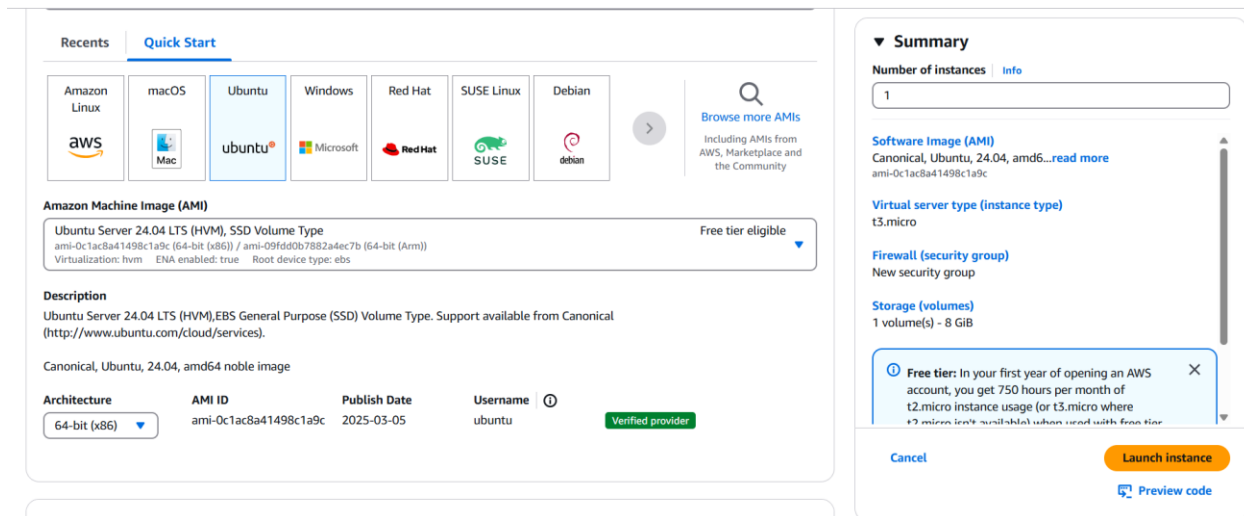
SETTING UP WEBSERVER-

1. GO TO THE EC2 DASHBOARD AND THEN CLICK ON LAUNCH INSTANCE-



The screenshot shows the 'Launch instance' page in the AWS Management Console. On the left, under the 'Launch instance' heading, there is a description: 'To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.' Below this are two buttons: 'Launch instance' (orange) and 'Migrate a server' (blue with an external link icon). A note states: 'Note: Your instances will launch in the Europe (Stockholm) Region'. On the right, under 'Service health', there is a link to the 'AWS Health Dashboard' and a refresh icon. Below that, the 'Region' is set to 'Europe (Stockholm)' and the 'Status' is 'This service is operating normally.' with a green checkmark. The 'Zones' section is partially visible at the bottom.

2. CHOOSE UBUNTU AS OPERATING SYSTEM, CREATE A NEW KEY PAIR AND CLICK ON LAUNCH INSTANCE AND THEN ASSOCIATE ELASTIC IP ADDRESS



The screenshot shows the 'Launch instance' wizard in the AWS Management Console. The 'Quick Start' tab is selected, showing a grid of operating system tiles: Amazon Linux, macOS, Ubuntu (selected), Windows, Red Hat, SUSE Linux, and Debian. Below the tiles, the 'Amazon Machine Image (AMI)' section shows 'Ubuntu Server 24.04 LTS (HVM), SSD Volume Type' with details like AMI ID, publish date, and architecture. The 'Description' section provides more details about the Ubuntu image. The 'Summary' panel on the right shows the configuration: 1 instance, Canonical Ubuntu 24.04 AMI, t3.micro instance type, new security group, and 1 volume (8 GiB). A 'Free tier' notification is displayed, stating that 750 hours of t2.micro or t3.micro usage are free in the first year. At the bottom, there are 'Cancel', 'Launch instance', and 'Preview code' buttons.

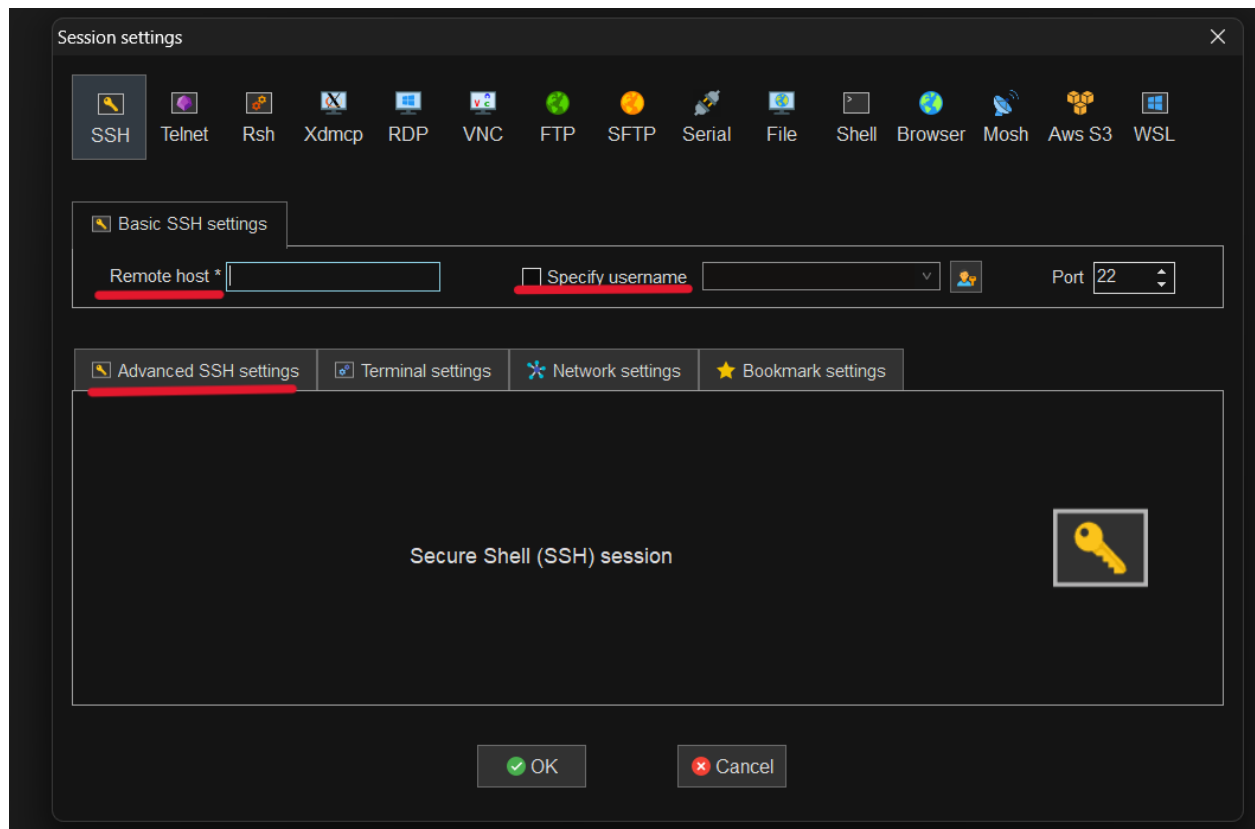
Elastic IP addresses (3)

[Actions](#) [Allocate Elastic IP address](#)

<input type="checkbox"/>	Name	Allocated IPv4 addr...	Type	Allocation ID	
<input type="checkbox"/>	-	13.50.169.225	Public IP	eipalloc-0f60c26f00c0d9ecf	-
<input type="checkbox"/>	-	16.170.178.127	Public IP	eipalloc-05c68e7b51249190e	-
<input type="checkbox"/>	-	51.20.11.128	Public IP	eipalloc-0fcdbe229962537f8	-

- NOW TO CONNECT INSTANCE WITH SSH I AM USING AN SSH CLIENT NAMED AS MOBA XTREM-

3. CLICK ON SSH AND TYPE UR STATIC IP ADDRESS IN REMOTE HOST AND THE SPEICFY USERNAME IS UBUNTU AND THEN GO THE ADVANCED SSH SETTINGS AND USE THE PRIVATE KEY TO LOG IN-



4. Install Apache server on Ubuntu

```
sudo apt install apache2
```

5. Install php runtime and php mysql connector

```
sudo apt install php libapache2-mod-php php-mysql
```

6. Install MySQL server

```
sudo apt install mysql-server
```

7. Login to MySQL server

```
sudo mysql -u root
```

8. Change authentication plugin to mysql_native_password

```
ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'Testpassword@123';
```

9. Create a new database user for wordpress

```
CREATE USER 'wp_user'@localhost IDENTIFIED BY 'Testpassword@123';
```

10. Create a database for wordpress

```
CREATE DATABASE wp;
```

11. Grant all privileges on the database 'wp' to the newly created user

```
GRANT ALL PRIVILEGES ON wp.* TO 'wp_user'@localhost;
```

FOR EXIT PRESS CTRL+X

WORDPRESS SETUP PROCESS

12. Download wordpress IN tmp directory

```
cd /tmp  
wget https://wordpress.org/latest.tar.gz
```

13. Unzip

```
tar -xvf latest.tar.gz
```

14. Move wordpress folder to apache document root

```
sudo mv wordpress/ /var/www/html
```

15. Command to restart/reload apache server

```
sudo systemctl reload apache2
```

16. Now type public address followed by /wordpress, then it will display a wordpress welcome page



Welcome to WordPress. Before getting started, you will need to know the following items.


1. Database name
2. Database username
3. Database password
4. Database host
5. Table prefix (if you want to run more than one WordPress in a single database)

This information is being used to create a `wp-config.php` file. **If for any reason this automatic file creation does not work, do not worry. All this does is fill in the database information to a configuration file. You may also simply open `wp-config-sample.php` in a text editor, fill in your information, and save it as `wp-config.php`.** Need more help? [Read the support article on wp-config.php.](#)

In all likelihood, these items were supplied to you by your web host. If you do not have this information, then you will need to contact them before you can continue. If you are ready...

Let's go!

17. Then fill in the database details and click submit



Below you should enter your database connection details. If you are not sure about these, contact your host.

Database Name
The name of the database you want to use with WordPress.

Username
Your database username.


Password [Hide](#)
Your database password.

Database Host
You should be able to get this info from your web host, if localhost does not work.

Table Prefix
If you want to run multiple WordPress installations in a single database, change this.

18. Now after pressing the submission, it shows us UNABLE TO WRITE TO WP-CONFIG.PHP FILE

19. And below there is an instruction to create the wp-config.php file manually and paste the following text into it.



Unable to write to wp-config.php file.

You can create the wp-config.php file manually and paste the following text into it.

Configuration rules for wp-config.php:

```
<?php
/**
 * The base configuration for WordPress
 *
 * The wp-config.php creation script uses this file during the installation.
 * You don't have to use the website, you can copy this file to "wp-config.php"
 * and fill in the values.
 *
 * This file contains the following configurations:
 *
 * * Database settings
 * * Secret keys
 * * Database table prefix
 * * ABSPATH
 */
```

After you've done that, click "Run the installation".

[Run the installation](#)

20. Now move directory and create and edit the file named as 'wp-config.php'

```
cd /var/www/html/wordpress
```

```
nano wp-config.php
```


21. Code that we pasted in wp-config.php

```
GNU nano 7.2 wp-config.php *
* a unique prefix. Only numbers, letters, and underscores please!
*
* At the installation time, database tables are created with the specified prefix.
* Changing this value after WordPress is installed will make your site think
* it has not been installed.
*
* @link https://developer.wordpress.org/advanced-administration/wordpress/wp-config/#table-prefix
*/
$table_prefix = 'wp_';

/**
 * For developers: WordPress debugging mode.
 *
 * Change this to true to enable the display of notices during development.
 * It is strongly recommended that plugin and theme developers use WP_DEBUG
 * in their development environments.
 *
 * For information on other constants that can be used for debugging,
 * visit the documentation.
 *
 * @link https://developer.wordpress.org/advanced-administration/debug/debug-wordpress/
*/
define( 'WP_DEBUG', false );


/* Add any custom values between this line and the "stop editing" line. */

/* That's all, stop editing! Happy publishing. */

/** Absolute path to the WordPress directory. */
if ( ! defined( 'ABSPATH' ) ) {
    define( 'ABSPATH', __DIR__ . '/' );
}

/** Sets up WordPress vars and included files. */
require_once ABSPATH . 'wp-settings.php';
```

22. Fill in the information



Welcome

Welcome to the famous five-minute WordPress installation process! Just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world.

Information needed

Please provide the following information. Do not worry, you can always change these settings later.

Site Title

Username
Username can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.

Password [Show](#)
Very weak
Important: You will need this password to log in. Please store it in a secure location.


Confirm Password ☒ Confirm use of weak password

Your Email
Double-check your email address before continuing.

Search engine visibility ☐ Discourage search engines from indexing this site
It is up to search engines to honor this request.

[Install WordPress](#)

23. login



Username or Email Address

Password

☐ Remember Me

Lost your password?

[← Go to code with me](#)

CHANGING THE SUB PATH

24. CHANGING APACHE CONFIGURATION

```
cd /etc/apache2/sites-available/
```

```
ls
```

```
ubuntu@ip-172-31-33-59:/var/www/html$ cd /etc/apache2/sites-available
ubuntu@ip-172-31-33-59:/etc/apache2/sites-available$ ls
000-default.conf  default-ssl.conf
ubuntu@ip-172-31-33-59:/etc/apache2/sites-available$ sudo nano 000-default.conf
ubuntu@ip-172-31-33-59:/etc/apache2/sites-available$ sudo systemctl restart apache2
```

```
GNU nano 7.2                                000-default.conf
<VirtualHost *:80>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
#ServerName www.example.com

ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/wordpress

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

ServerName travel-madhav.online
ServerAlias www.travel-madhav.online

ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined
```

RESTART APACH SERVER.

```
sudo systemctl restart apache2
```

← → ↻ ⚠ Not secure 51.20.11.128

LINKING WITH DNS

25. CREATE HOSTED ZONE USING ROUTER53 AND THEN CREATE A RECORD OF A TYPE

Records (4) [Info](#) [Delete record](#) [Import zone file](#) [Create record](#)

Automatic mode is the current search behavior optimized for best filter results. [To change modes go to settings.](#)

Filter records by property or value

<input type="checkbox"/>	Record name	Type	Routin...	Differ...	Alias	Value/Route traffic to	TTL (s...	Health ...	E
<input type="checkbox"/>	travel-madhav.online	A	Simple	-	No	51.20.11.128	300	-	-
<input type="checkbox"/>	www.travel-madhav.online	CNAME	Simple	-	No	travel-madhav.online	300	-	-
<input type="checkbox"/>	travel-madhav.online	NS	Simple	-	No	ns-1571.awsdns-04.co.uk. ns-146.awsdns-18.com. ns-859.awsdns-43.net. ns-1121.awsdns-12.org.	172800	-	-
<input type="checkbox"/>	travel-madhav.online	SOA	Simple	-	No	ns-1571.awsdns-04.co.uk. a...	900	-	-

COPY THE ROUTE TRAFFIC TO YOUR NAMERSERVER FOR DNS AND CHANGE NAMESERVER ON GODADDY(OR WHERE U HAVE BOUGHT THE DNS).

Edit nameservers

Choose nameservers for **travel-madhav.online**

☐ GoDaddy Nameservers (recommended)

☒ I'll use my own nameservers

ns-1571.awsdns-04.co.uk



ns-146.awsdns-18.com



ns-859.awsdns-43.net



ns-1121.awsdns-12.org



[+ Add Nameserver](#)

Save

Cancel

SSL/TLS DOCUMENTATION

ENABLING HTTPS WITH CETRABOT ON UBUNTU 20.04 USING APACHE

26. INSTALLING CETRABOT

```
sudo apt-get update
sudo apt install certbot python3-certbot-apache
```

27. RUN CETRABOT WITH APACHE PLUGIN TO ATTAIN AND INSTALL SSL CERTIFICATE

```
sudo certbot --apache
```

```
ubuntu@ip-172-31-33-59:~$ sudo certbot --apache
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Enter email address (used for urgent renewal and security notices)
(Enter 'c' to cancel): madhavamaharia@gmail.com

-----
Please read the Terms of Service at
https://letsencrypt.org/documents/LE-SA-v1.5-February-24-2025.pdf. You must
agree in order to register with the ACME server. Do you agree?
-----
(Y)es/(N)o: Y

-----
Would you be willing, once your first certificate is successfully issued, to
share your email address with the Electronic Frontier Foundation, a founding
partner of the Let's Encrypt project and the non-profit organization that
develops Certbot? We'd like to send you email about our work encrypting the web,
EFF news, campaigns, and ways to support digital freedom.
-----
(Y)es/(N)o: Y
Account registered.
```

```
(Y)es/(N)o: Y
Account registered.

Which names would you like to activate HTTPS for?
We recommend selecting either all domains, or all domains in a VirtualHost/server block.
-----
1: travel-madhav.online
2: www.travel-madhav.online
-----
Select the appropriate numbers separated by commas and/or spaces, or leave input
blank to select all options shown (Enter 'c' to cancel):
Requesting a certificate for travel-madhav.online and www.travel-madhav.online

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/travel-madhav.online/fullchain.pem
Key is saved at: /etc/letsencrypt/live/travel-madhav.online/privkey.pem
This certificate expires on 2025-07-07.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

Deploying certificate
Successfully deployed certificate for travel-madhav.online to /etc/apache2/sites-available/000-default-le-ssl.conf
Successfully deployed certificate for www.travel-madhav.online to /etc/apache2/sites-available/000-default-le-ssl.conf
Congratulations! You have successfully enabled HTTPS on https://travel-madhav.online and https://www.travel-madhav.online

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
ubuntu@ip-172-31-33-59:~$
```


REFERENCE

The commands and steps used for deploying a WordPress website on an AWS EC2 instance were guided by Swaroop (2022), who provides a comprehensive Gist detailing the necessary configuration and deployment commands.

Swaroop, T. (2022, June 22). *Commands for deploying WordPress website on AWS EC2*. Gist. <https://gist.github.com/teja156/8c35a05f43635da4cbd06b47c0d91e93>

Video explanation

https://drive.google.com/file/d/1x8Awugs7gpk6PXjozEqtJwhxHEDcPf_9/view?usp=drive_link