# ICT171 Assignment 2 Cloud Server Project

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Accessible via: https://learntetun.duckdns.org/ http://3.27.213.22

## Project overview:

This is a cloud-hosted educational website designed to help users learn Tetun, one of the official languages of East Timor. This site is built using WordPress, hosted on an Amazon EC2 Ubuntu instance and is publicly accessible via a DuckDNS domain.

Some features of the website include: A static homepage, several other pages which contain Tetun translations for Numbers and Greetings/Phrases, and quizzes to aid with learning.

## Setup

To begin with my setup, I started by reactivating my EC2 instance and ensured that my webpage was live by reactivating the Apache server.

sudo systemctl status apache2 – ensure the server was still running

To further develop my website, I began installing necessary modules to enable Wordpress for my server. To do this I had to install PHP and MySQL.

Code:

sudo apt install mysql-server -y

sudo mysql_secure_installation

sudo apt install apache2 mysql-server php libapache2-mod-php php-mysql php-cli php-curl php-xml php-mbstring php-zip php-gd unzip curl -y

MySQL installation process:

```
By default, a MySQL installation has an anonymous user,
allowing anyone to log into MySQL without having to have
a user account created for them. This is intended only for
testing, and to make the installation go a bit smoother.
You should remove them before moving into a production
environment.

Remove anonymous users? (Press y|Y for Yes, any other key for No) : y
Success.


Normally, root should only be allowed to connect from
'localhost'. This ensures that someone cannot guess at
the root password from the network.

Disallow root login remotely? (Press y|Y for Yes, any other key for No) : y
Success.

By default, MySQL comes with a database named 'test' that
anyone can access. This is also intended only for testing,
and should be removed before moving into a production
environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No) : y
 - Dropping test database...
Success.

 - Removing privileges on test database...
Success.

Reloading the privilege tables will ensure that all changes
made so far will take effect immediately.

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.

All done!
```

After that, I was then able to create a WordPress database with a user and strong password.

```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
 *
 * @link https://developer.wordpress.org/advanced-administration/wordpress/wp-config/
 *
 * @package WordPress
 */

// ** Database settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define( 'DB_NAME', 'wordpress' );

/** Database username */
define( 'DB_USER', 'wpuser' );

/** Database password */
define( 'DB_PASSWORD', 'strongpassword' );
```

I then Installed WordPress

Code:

cd /tmp

curl -O https://wordpress.org/latest.tar.gz

tar -xzf latest.tar.gz
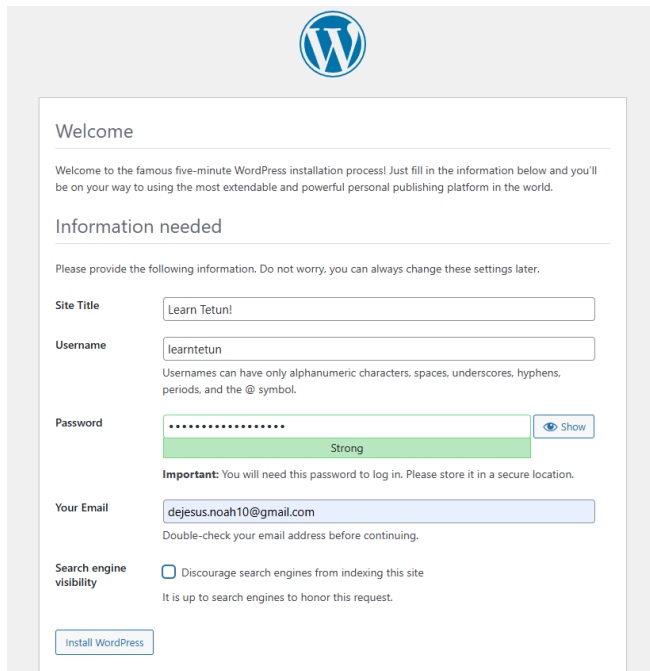
sudo rm -rf /var/www/html/*

sudo cp -r wordpress/* /var/www/html/

sudo chown -R www-data:www-data /var/www/html/

Following the Installation I then configured my webpage on WordPress.

 I first configured my account details:



Custom domain

In order to register a custom domain I used DuckDNS to point my EC2's public IP address. DuckDNS is free to use and is available via: https://duckdns.org/



SSL setup

To configure my SSL Certificate I used Certbot.
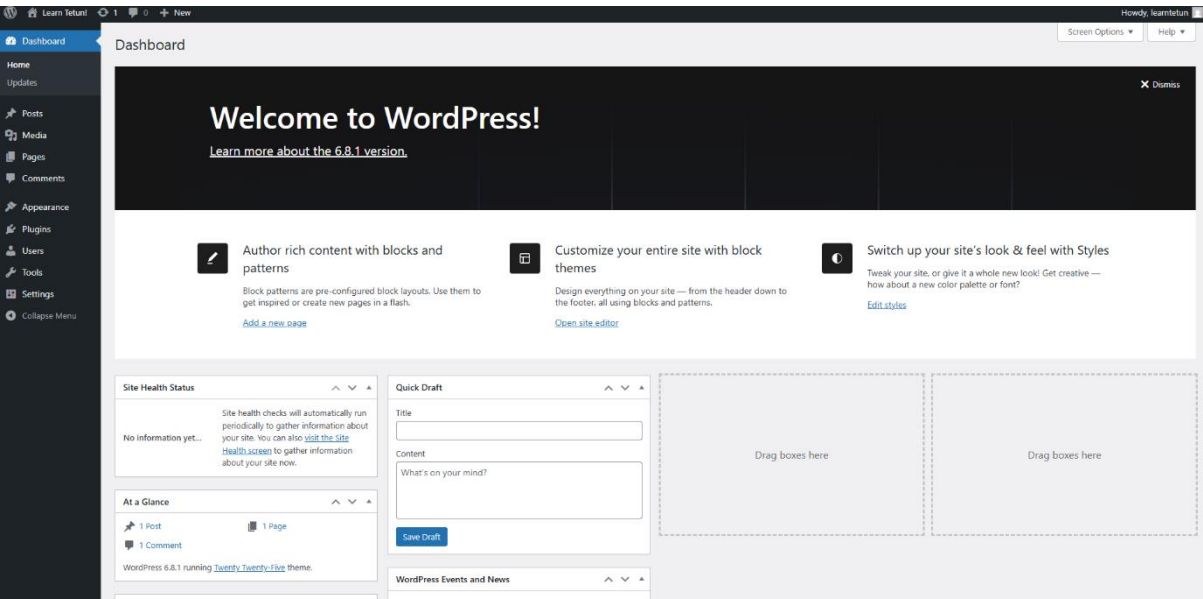
sudo apt install certbot python3-certbot-apache -y

sudo certbot --apache -d learntetun.duckdns.org

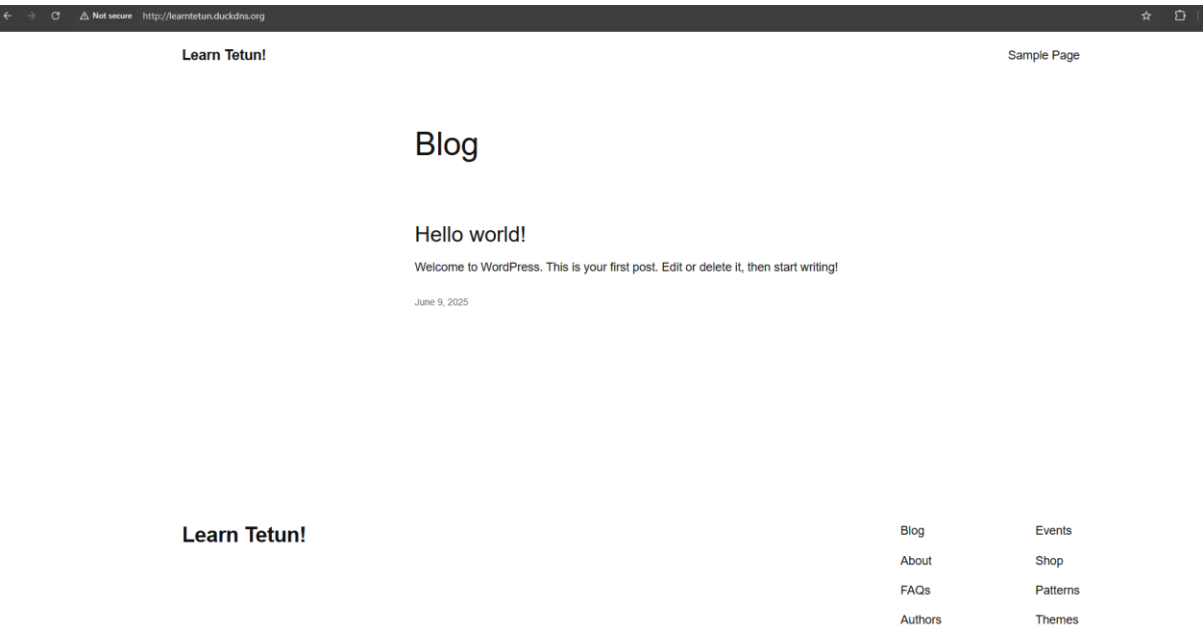After inputting these commands, my SSL certificate was setup and now all traffic will be redirected to HTTPS when prompted.

Once all of this was setup I was able to begin the creation of my webpage.
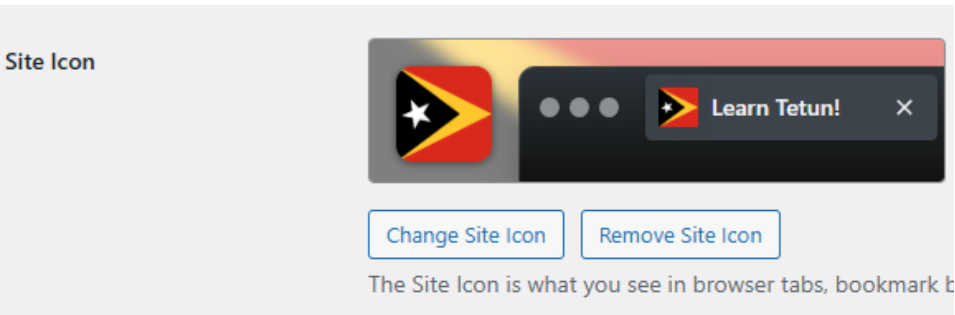
WordPress dashboard:



Before applying a template, my webpage looked like this:



I used the theme "Twenty Twenty-Five" as a starting point for my page. And then added an icon for the site, using the East Timor flag:
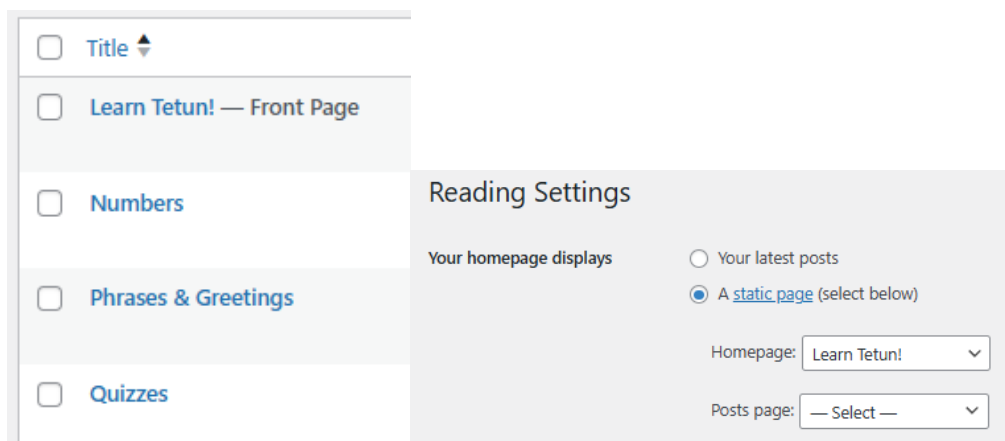
To set a background for the site, I used the "Simple Custom CSS" plugin to paste the following code:

Simple Custom CSS

```
1  .wp-site-blocks {
2    position: relative;
3    z-index: 1;
4  }
5
6  .wp-site-blocks::before {
7    content: "";
8    position: absolute;
9    top: 0; left: 0; right: 0; bottom: 0;
10   background-color: rgba(0, 0, 0, 0.4);
11   z-index: -1;
12 }
13
14 .wp-site-blocks {
15   background-image: url('https://learntetun.duckdns.org/wp-content/uploads/2025/06/Flag_of_East_Timor.svg-1.png');
16   background-size: cover;
17   background-repeat: no-repeat;
18   background-attachment: fixed;
19   background-position: center;
20 }
21
22 .wp-site-blocks {
23   padding-top: 0 !important;
24   margin-top: 0 !important;
25 }
26
27 .wp-block-template-part {
28   margin-top: 0 !important;
29   padding-top: 0 !important;
30   height: auto !important;
31 }
32
33 header.wp-block-template-part:empty {
34   display: none !important;
35 }
36
37
38
```

This changed the background to an image of the flag of East Timor, also applying a slight tint which allows the webpage text to be more visible.

I created a static webpage which acts as a homepage for the website, along with pages for "Numbers", "Phrases", "Quizzes". These additional pages provide Tetun translations for numbers and common phrases, while the quizzes are there to test user's learning.

| | Title ⬍ |
|---|---|
| ☐ | Learn Tetun! — Front Page |
| ☐ | Numbers |
| ☐ | Phrases & Greetings |
| ☐ | Quizzes |

Reading Settings

Your homepage displays     ◯ Your latest posts
                           ◉ A static page (select below)

Homepage:  Learn Tetun! ▾

Posts page:  — Select — ▾

After customizing the individual pages to my website, I ended up with a webpage looking like this:
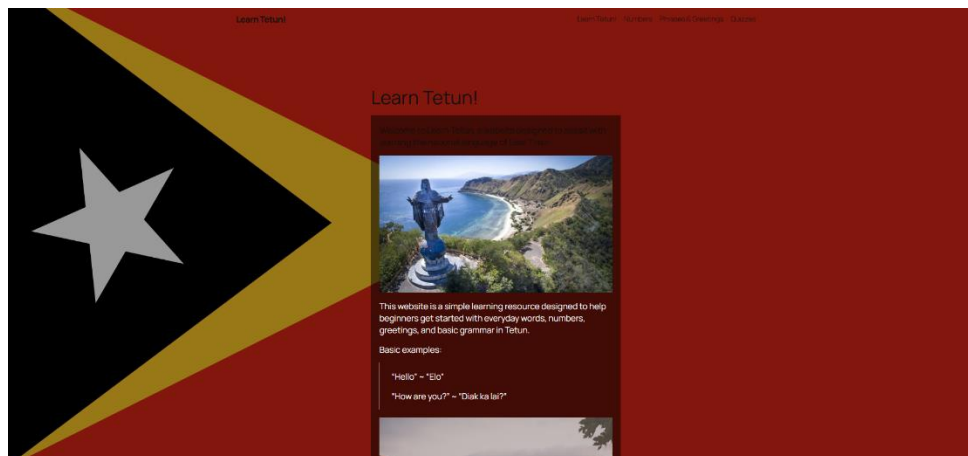
To create the "Quizzes" component of my website, I downloaded the plugin "Quiz Maker", which allowed me to create various questions, which could then be added to separate quizzes and then pasted onto the page.

After some tidying up, my webpage was completed.