

## Open Source Software Development

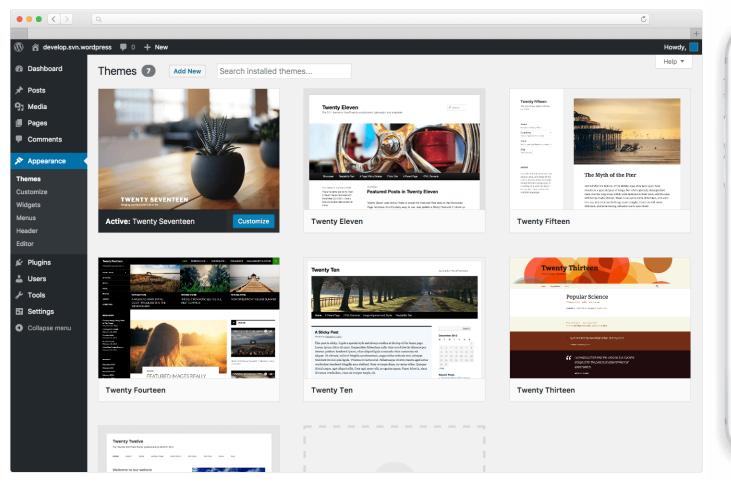
Ung Văn Giàu **Email:** giau.ung@eiu.edu.vn

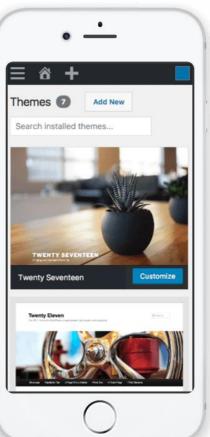




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### WordPress

- WordPress is open source software you can use to create a beautiful website, blog, or app
- Beautiful designs, powerful features, and the freedom to build anything you want
- WordPress is both free and priceless at the same time
- 43% of the web uses WordPress, from hobby blogs to the biggest news sites online (2023)



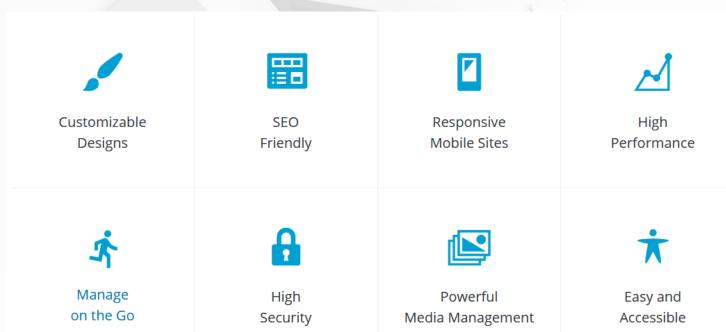






## Powerful Features

### Limitless possibilities. What will you create?



## Powerful Features

Extend WordPress with over 55,000 plugins to help website meet your needs

Add an online store, galleries, mailing lists, forums, analytics, and much more

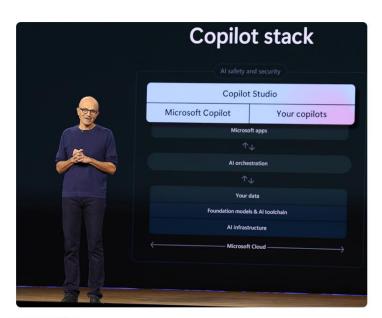
#### Microsoft News



Source Our Company Al Innovation Digital Transformation Diversity & Inclusion Sustainability Work & Life

All Microsoft V Search Q

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#### Company News

WATCH NOW: See Day 1 keynotes, get all the news from Microsoft Ignite



#### AI

With a systems approach to chips, Microsoft aims to tailor everything 'from silicon to service' to meet Al demand



#### Latest News

#### Company News

Save big on Surface, Xbox and more with Black Friday and Cyber Week deals at Microsoft Store



#### Company News

First ever official edible chocolate Xbox Controller and Wonka-inspired console announced



#### Company News

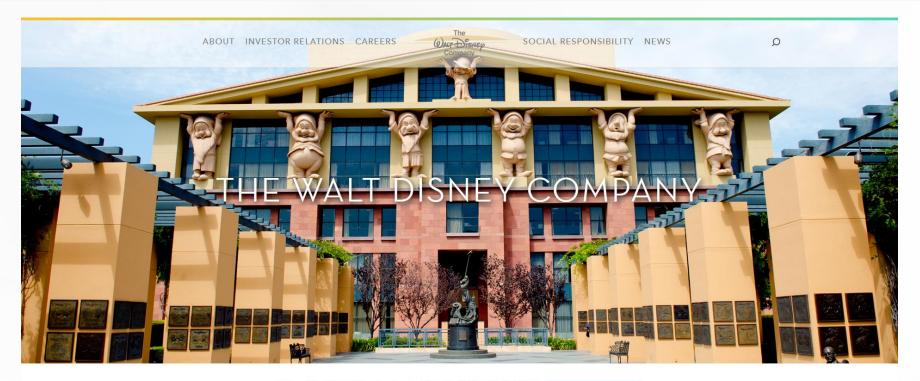
Al-powered Microsoft Edge helps you tackle the holiday season, while preserving the joy of it



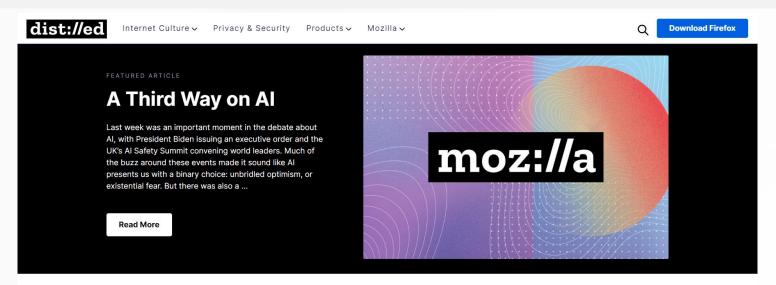
Company News



The Walt Disney Company



The Mozilla Blog

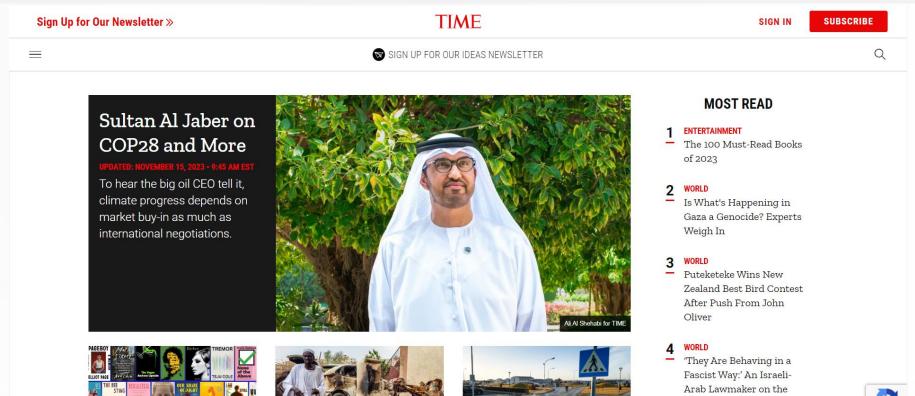




FIREFOX

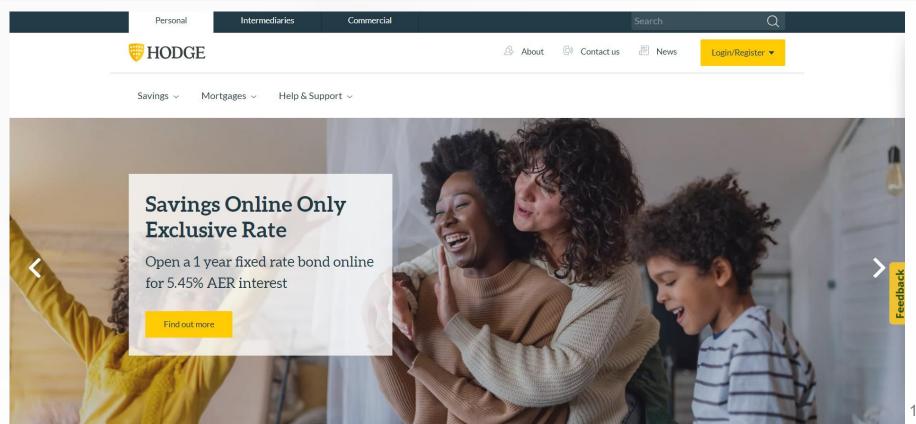
Why we're renaming 'Firefox accounts' to 'Mozilla accounts'

Time Magazine



Stifling of Anti-War Voices

Hodge Bank



Meta Newsroom

Meta

Shop v

Our technologies v

About us 🗸

Build with us v

Support v

Q

#### Meta

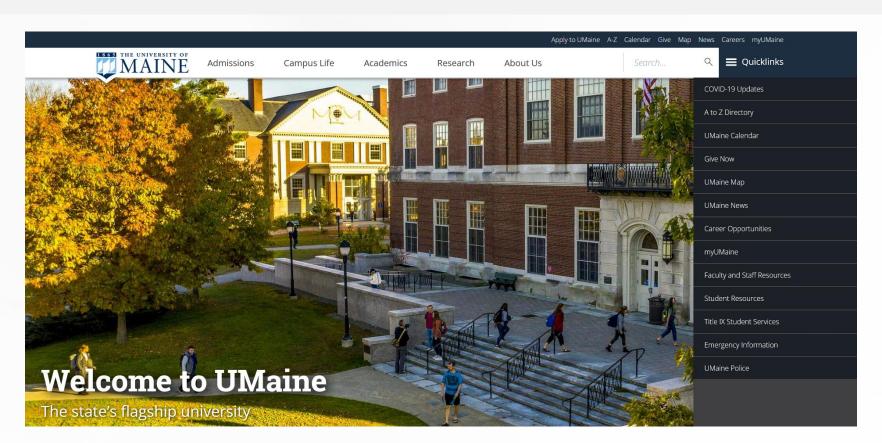
### Introducing New AI Experiences Across Our Family of Apps and Devices

A conversational assistant you can use across our apps, new tools to easily edit your images, Al characters played by Tom Brady, Kendall Jenner, Snoop Dogg and lots more.

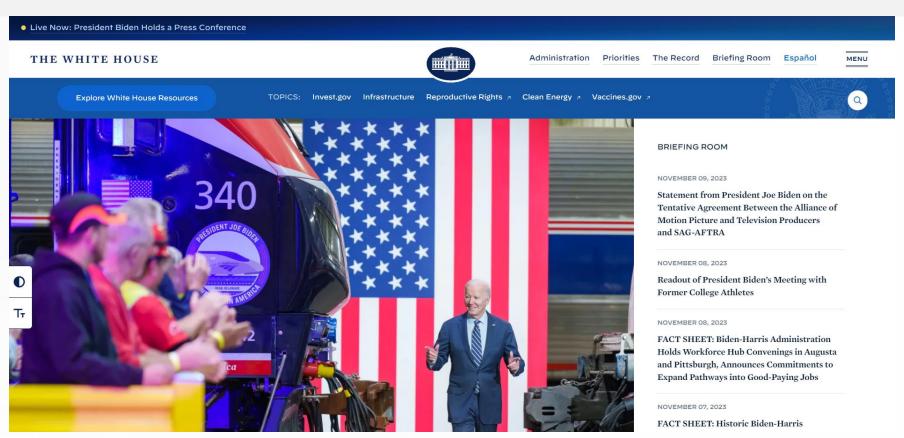
September 27, 2023



The University of Maine



The White House



## Requirements

#### Recommend

- PHP version 8.1 or greater
- MySQL version 8.0 OR MariaDB version 10.5 or greater
- HTTPS support
- Either Apache or Nginx as the most robust options for running WordPress, but neither is required



- 1. Download and unzip the WordPress package
- 2. Create a database, as well as a MySQL (or MariaDB) user who has all privileges for accessing and modifying it
- 3. (Optional) **Find and rename wp-config-sample.php** to **wp-config.php**, then edit the file and add database information

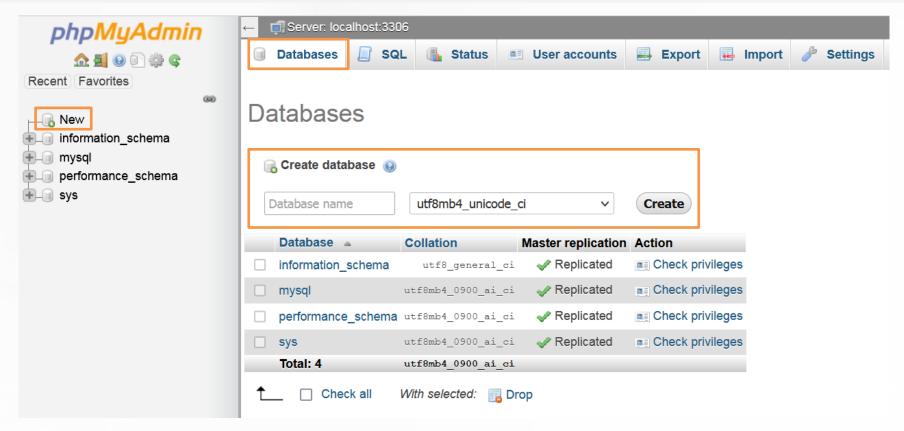
**Note:** This step is optional, and you can skip it as the install program will create the wp-config.php file for you

- 4. Upload the WordPress files to the desired location on web server
  - If want to integrate WordPress into the root of domain (e.g., http://example.com/),
     move or upload all contents of the unzipped WordPress directory (excluding the
     WordPress directory itself) into the root directory of web server
  - If want to have your WordPress installation in its own subdirectory on website (e.g., http://example.com/blog/), create the subdirectory (blog) on server and upload the contents of the unzipped WordPress package to the directory via FTP

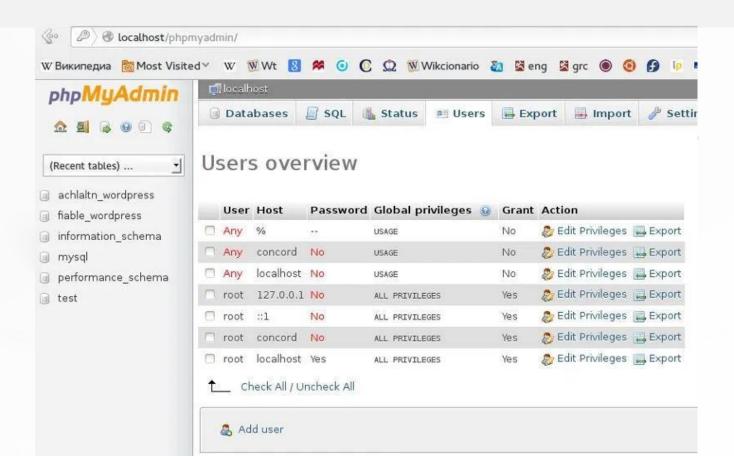
**Note:** If your FTP client has an option to **convert file names to lower case**, make sure it's disabled

- 5. Run the WordPress installation script by accessing the URL in a web browser
  - If you installed WordPress in the root directory, you should visit: http://example.com/
  - If you installed WordPress in its own subdirectory called blog, for example, you should visit: http://example.com/blog/

## Step 2: Create the Database and a User



## Step 2: Create the Database and a User



## Step 3: Set up wp-config.php

- One of the most important files in WordPress installation is the wp-config.php file
- To change the wp-config.php file, you will need this information:
  - Database Name Database Name used by WordPress
  - Database Username Username used to access Database
  - Database Password Password used by Username to access Database
  - Database Host The hostname of your Database Server. A port number may be needed as well

# Step 3: Set up wp-config.php

```
// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define ( 'DB NAME', 'database name here' );
/** MySQL database username */
define( 'DB USER', 'username here');
/** MySQL database password */
define ( 'DB PASSWORD', 'password here' );
/** MySQL hostname */
define( 'DB HOST', 'localhost' );
```

## MySQL Alternate Port

If host uses an alternate port number for database, you'll need to change the DB\_HOST value to reflect the alternate port provided

For localhost:

```
define( 'DB_HOST', '127.0.0.1:3307' );
```

or in some cases:

```
define( 'DB_HOST', 'localhost:3307' );
```

For specified server:

```
define( 'DB_HOST', 'mysql.example.com:3307' );
```

Replace 3307 with whatever port number your host gives you.

## Database character set

- **DB\_CHARSET** was made available to allow designation of the database character set to be used when defining the MySQL database tables
- The default value of utf8 (Unicode UTF-8) is almost always the best option.
   UTF-8 supports any language

```
define( 'DB_CHARSET', 'utf8' );
```

### Database collation

- DB\_COLLATE was made available to allow designation of the database collation (i.e., the sort order of the character set).
- In most cases, this value should be left blank (null) so the database collation will be automatically assigned by MySQL based on the database character set specified by DB\_CHARSET

```
define( 'DB_COLLATE', '' );
```

# Security Keys

- You don't have to remember the keys, just make them long, random and complicated
  - or better yet, use the online generator

- You can change these at any point in time to invalidate all existing cookies.
   This does mean that all users will have to login again
- A secret key makes site harder to successfully attack by adding random elements to the password
- A salt is used to further enhance the security of the generated result

# Security Keys

- The four keys are required for the enhanced security
- The four salts are recommended, but are not required, because WordPress will generate salts for you if none are provided
- Online generator Link: <a href="https://api.wordpress.org/secret-key/1.1/salt/">https://api.wordpress.org/secret-key/1.1/salt/</a>

### table\_prefix

- The value placed in the front of database tables
- Typically, this is changed if you are installing multiple WordPress blogs in the same database, as is done with the multisite feature
- \$table\_prefix = 'blog123\_';

- Moving wp-content folder
  - Set WP\_CONTENT\_DIR to the full local path of this directory (no trailing slash)
     define('WP\_CONTENT\_DIR', dirname(\_\_FILE\_\_) . '/blog/wp-content');
  - Set WP\_CONTENT\_URL to the full URL of this directory (no trailing slash)
     define('WP\_CONTENT\_URL', 'http://example/blog/wp-content');

- Moving plugin folder
  - Set WP\_PLUGIN\_DIR to the full local path of this directory (no trailing slash)
     define('WP\_PLUGIN\_DIR', dirname(\_\_FILE\_\_) . '/blog/wp-content/plugins');
  - Set WP\_PLUGIN\_URL to the full URI of this directory (no trailing slash)
     define('WP\_PLUGIN\_URL', 'http://example/blog/wp-content/plugins');

- Moving uploads folder
  - Set UPLOADS to: define('UPLOADS', 'blog/wp-content/uploads');
  - This path can not be absolute. It is always relative to ABSPATH, therefore does not require a leading slash.

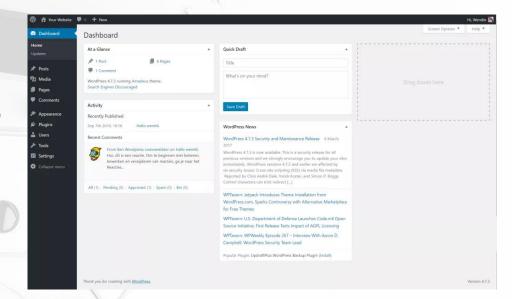


# **Basic Usage**

## First Steps with WordPress

#### Log In

Visit the administration login page by placing **wp-admin** after domain name (e.g., https://mydomain.com/wp-admin)



**Dashboard** (Administration Screen)

## First Steps with WordPress

#### Administration Screens

- On the left side is the main navigation menu containing the administrative functions you can perform.
- Move mouse down the list and the sub-menus will "fly out"
- The various menu items are as follows:

✓ Dashboard
✓ Appearance

✓ Posts ✓ Plugins

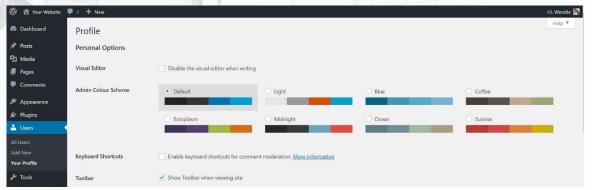
✓ Media
✓ Users

✓ Pages ✓ Tools

✓ Comments ✓ Setting

#### User screen

- Click on the Users tab: All Users Screen shows a list of all users; from here you can add or change existing users and authors accounts.
- In the navigation menu, click on the Your Profile menu
  - This is where you will enter information about you, the author and administrator of the site.
  - Fill in the information and click Update Profile when done



#### Change the Look

- The Appearance, Themes Screen allows you to change the look of site using different
   Themes
- Themes are **presentation styles** that completely change the look of site. Designed by developers and users, there are hundreds of themes available for you to choose from.

- In Appearance Screen, you will see a list of currently installed themes
- To quickly change the theme, simply click on the **Activate** button under one of the themes listed, then click on site name in the top toolbar to see how it looks

#### Create Categories

- Posts are usually stored in Categories and/or Tags so you can keep related topics together.
- In the Posts > Categories tab, in the Add New Category area, fill in the information about category

#### Write Posts

- Posts are entries that display in reverse order on home page and/or blog page
- To write a post:
  - √ Log in to Dashboard
  - √ Click the 'Posts' tab.
  - ✓ Click the 'Add New' sub-tab
  - ✓ Start filling in the blanks: enter post title in the upper field, and enter post body
    content in the main post editing box below it
  - ✓ As needed, select a category, add tags, and make other selections from the sections below the post.
  - ✓ When you are ready, click Publish

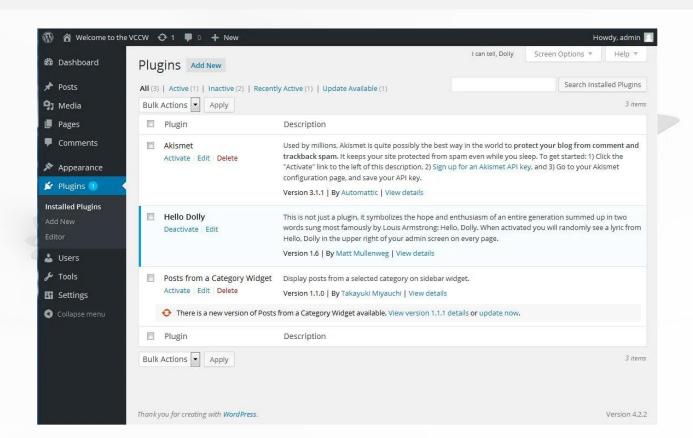
#### Write a Page

- Pages are for non-chronological content: pages like "About" or "Contact" would be common examples
- To create a new Page, log in to WordPress with sufficient admin privileges to create new pages. Select the Pages > Add New option to begin writing a new Page

#### Media library screen

- · Media consists of the images, video, recordings, and files that you upload and use in blog
- Media is typically uploaded and inserted into the content when writing a Post or writing a Page
- Visit the Media add new screen to install new media by clicking the Add New link at the top of this screen or Select Media > Add New from the left side menu

 The Media Library Screen allows you to edit, view, and delete Media previously uploaded to blog



#### Use Plugins

- Plugins also known as add-ons or extensions
- They are software scripts that add functions and events to website
- Plugins are designed by volunteer contributors and enthusiasts who like challenges and problem solving.
- They are usually fairly simple to install through the WordPress Admin Plugin
   Screen, just follow the instructions provided by the plugin author



#### **Basic Administration**

# Roles and Capabilities

 WordPress uses a concept of Roles, designed to give the site owner the ability to control what users can and cannot do within the site

- A site owner can manage the user access to such tasks as
  - writing and editing posts, creating Pages,
  - · creating categories,
  - moderating comments,
  - managing plugins, managing themes, and managing other users,

by assigning a specific role to each of the users

#### Roles and Capabilities

- WordPress has six pre-defined roles:
  - Super Admin,
  - Administrator,
  - Editor,
  - Author,
  - Contributor
  - and Subscriber.

Each role is allowed to perform a set of tasks called Capabilities

# Roles and Capabilities

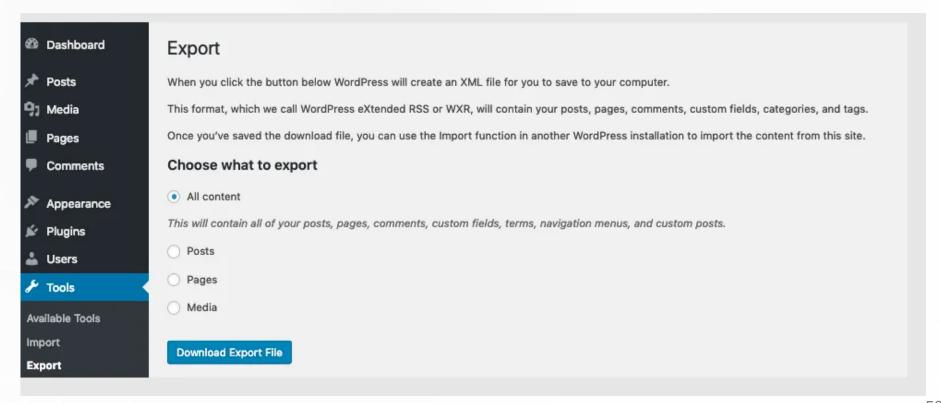
- Roles and Capabilities:
  - Administrator (slug: 'administrator') somebody who has access to all the administration features within a single site
  - Editor (slug: 'editor') somebody who can publish and manage posts including the posts of other users
  - Author (slug: 'author') somebody who can publish and manage their own posts
  - Contributor (slug: 'contributor') somebody who can write and manage their own posts but cannot publish them
  - Subscriber (slug: 'subscriber') somebody who can only manage their profile

# **Tools Export Screen**

- Tools → Export
- Exporting WordPress data (posts, pages, custom post types, comments, custom fields, categories, tags, custom taxonomies, and users) is sometimes necessary and useful.
- If you are moving to a new host or just want a backup of site data, then Exporting your site is the answer.

Once the export file is created, that file can be used for import by the Tools Import
 Screen

### **Tools Export Screen**





#### References

#### **Getting Started with WordPress**

https://codex.wordpress.org/Getting\_Started\_with\_WordPress