4 - Creating a database and manually installing an application

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Disclaimer: Use Softaculous when you can

We encourage people to use Softaculous to install software that's available through Softaculous. Softaculous packages are already modified to be compatible with cPanel when necessary, and automatic patching is available as well. However, some things aren't available in Softaculous, and if you're moving an existing CMS-based site from elsewhere, you'll need to install it manually (with the possibility of registering it in Softaculous to receive automatic patching).

cPanel-specific adjustments

Some of the things you'll need to consider during manual installation of a software package:

- **Root is not available.** Any installation script that needs root will need to be modified to work without it.
- **Everything will need to be installed within your home directory and its subdirectories.** Any installation script that tries to install outside your home directory will need to be modified to work within it.
- **Some SCP and SFTP packages don't always apply the correct permissions to every file when copying unzipped files from one system to another.** In some cases, additional scripts have been written to correct permissions after the files are copied up. In others, zipping the bundle before moving it and unzipping on the other side can help.
- **Some things like ASP.net are simply not available.** cPanel runs on a Linux platform. Anything that requires Microsoft-specific technology is not going to be available on cPanel.

Search Google for package name plus cPanel

You may wish to search for the name of the package you want to install and add the word cPanel to your search. Someone may have modified the package for cPanel compatibility already.

Using WordPress as an example for workshop purposes

WordPress is offered by Softaculous. But for the purposes of training, WordPress is also commonly used and fairly simple to manually install. The elements involved in manually installing WordPress are likely to be common to other applications and other content management systems, including creating databases to manage site content.

Databases and cPanel

You may need to create a database for reasons unrelated to content management systems. The steps you use here will also apply to other cPanel-created databases as well.

Databases on cPanel aren't entirely like databases on other Linux systems. Some of the differences to be aware of:

- **Don't use the command line to make permissions-related changes.**
  While many database commands will be the same whether the database is running on cPanel or on another system, cPanel's permissions management is complex and you'll need to use the browser or an API to make database permissions changes in coordination with cPanel.
- **You won't have root access and won't be able to install anything outside your home directory.**
  cPanel isolates people's accounts from each other.
Create a database

Activity: Creating a database

We'll be using the MySQL Databases tool to create a database that we can use for WordPress in the next activity. However, these steps would be common to creating other databases as well.

1. In your cPanel dashboard, under the Databases headline, choose MySQL Database Wizard.

2. In **Step 1**, choose the end of your database name – for example, *workshopdb*.
   - Your account name will always be the beginning of the database name, so the entire name will resemble *youraccount_name_workshopdb*.

3. In **Step 2**, you'll set up a database user identity who will log in to the database.
   1. Create the end of the database user name - for example, *workshopuser*.
   2. Create a password that rates "Very Strong" in the assessment tool, and note it down. You'll need this password again soon.
      1. **Do NOT use your NetID password** or a password you've used in another location.
   3. Click Create User.

4. In **Step 3**, check the All Privileges checkbox, then click Next Step.
Now that you've created the database, let's take a look around.

In the dashboard, under Databases, choose PHPMyAdmin. (PHPMyAdmin is for MySQL and MariaDB databases. If you create a PostgreSQL database for another project, you can use PHPPgAdmin.)

There won't be anything in your new database yet, but there's a lot of data in the existing information_schema database. Don't change anything in the information_schema! However, you can take a look around at the interface.

Next, we'll be doing the manual installation of WordPress.

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5. **Step 4 - Complete the Task** should indicate a successful database creation. Choose Return to My SQL Databases and your database will be displayed there.

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**Activity: Manual WordPress installation (20 min)**

Let's imagine that you can't use Softaculous because you want to move an existing WordPress installation from a customized departmental WordPress site to cPanel and then update it. (We're not going to actually do this because external attendees can't have a PIE site, but it's a reasonable use case for manual installation.)

In the "moving from a custom installation to cPanel" use case, the first step would be exporting your original site.

**Use this installer instead**

We're going to grab a custom version we've made for the workshop from https://uofi.box.com/v/itpf-wordpress-installer in order to be able to first install it and then update it.

**Do the manual installation**

Next, we'll want instructions for the particular package we want to manually install. In this case, searching for the phrase "manual WordPress install on cPanel" will bring you a list of results including this one:

https://codex.wordpress.org/Using_cPanel

You've already taken care of steps 1 through three of this process. Begin with "Editing the WordPress configuration file" and continue with the installation.

**Note: Don't update WordPress just yet.** We'll be addressing manual updates in section 5.
Next: Manual updates and imports to Softaculous

5 - Manual updates and imports to Softaculous