



SETTING UP THE DEVELOPMENT ENVIRONMENT

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INSTALLING JAVA

- ❖ You should already have the Java JDK 8 installed.
- ❖ If not, you can download the latest JDK from Oracle:
<http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- ❖ The Java JDK 8 is necessary to run and develop on Liferay.
- ❖ If you need to install JDK 8, please complete installation before continuing set-up.

EXERCISE: SETTING ENVIRONMENT VARIABLES ON WINDOWS

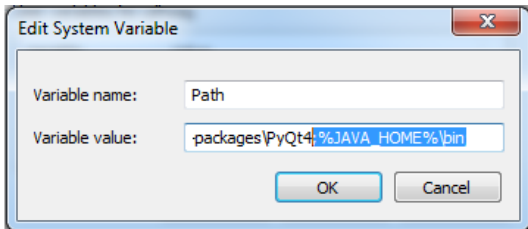
1. **Go to** *Windows*→*Control Panel*→*System*.
2. **Click** on the *Advanced System Settings* link in the left panel.
3. **Click** on the *Advanced* tab in the *System Properties* dialog box.
4. **Click** the *Environment Variables* button.

EXERCISE: FINISHING WINDOWS SET-UP

1. **Click** *New* under *System Variables*.
2. **Type** `JAVA_HOME` in the variable name field.
3. **Type** the install path for the JDK in the variable value field. (e.g.,
`C:\Program Files\Java\jdk8`)
4. **Click** *OK*.

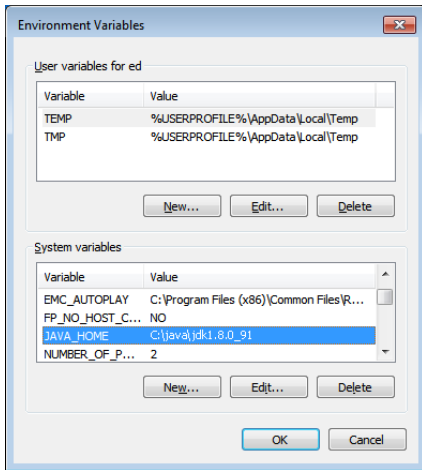
EXERCISE: ADDING TO THE PATH

1. **Find** the variable *Path* under *System Variables*.
2. **Click** *Edit*.
3. **Add** `;%JAVA_HOME%\bin` to the end of *Path*.
4. **Click** *OK*→*OK*→*OK*.



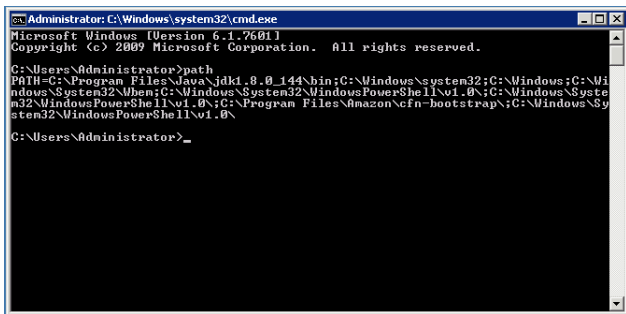
EXERCISE: VERIFYING JAVA_HOME

- ❖ Make sure that *JAVA_HOME* is correct.



EXERCISE: VERIFYING THE PATH ON WINDOWS

1. **Click** *Start*→*Run...*
 2. **Type** *cmd*.
 3. **Press** *Enter*.
 4. **Type** *path*.
- ✓ There should be only one JDK in the path.

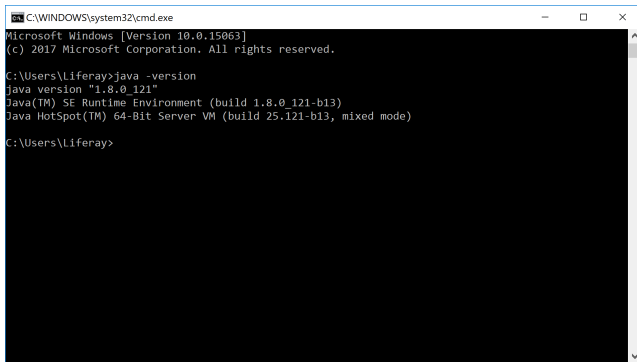


```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>path
PATH=C:\Program Files\Java\jdk1.8.0_144\bin;C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Program Files\Amazon\cfn-bootstrap\;C:\Windows\Sy
C:\Users\Administrator>
```

EXERCISE: VERIFYING THE JAVA VERSION

1. **Click** *Start*→*Run...*
 2. **Type** *cmd*.
 3. **Type** *java -version*.
- ✓ The following message should look similar to this:



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Liferay>java -version
java version "1.8.0_121"
Java(TM) SE Runtime Environment (build 1.8.0_121-b13)
Java HotSpot(TM) 64-Bit Server VM (build 25.121-b13, mixed mode)

C:\Users\Liferay>
```

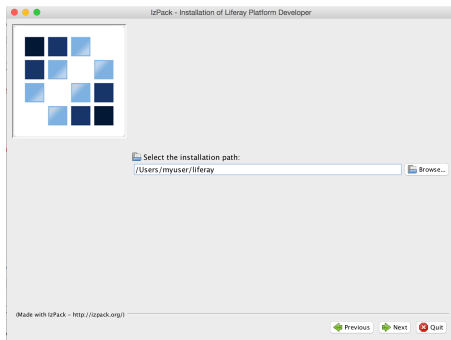

EXERCISE: INSTALLING EXERCISE FILES

- ❖ In your exercise materials, you'll find an installer labeled `lrurel-front-end-developer-installer-[version].jar`.
 - ❖ This installer will install all the hands-on exercise files for the course.
1. **Run** the installer.
 2. **Double-click** the file to run it if you're running Windows.
 3. **Go to** the file in the terminal and run the installer using this command if you're on Linux or Mac:

```
java -jar lrurel-front-end-developer-installer-[version].jar
```

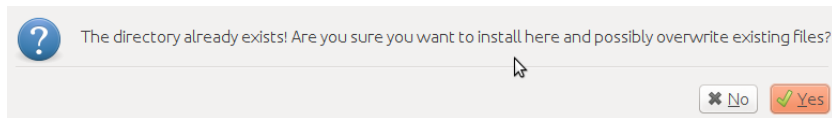
EXERCISE: INSTALLATION PATHS

1. **Click** through the steps to install the exercise files and accept the terms of use.
2. **Click** *I accept the terms of this license agreement.*
3. **Click** *Next.*
4. **Choose** the folder path where we will install our Liferay bundle.
 - ❖ **Mac:** should be `/Users/[your-user]/liferay`
 - ❖ **GNU/Linux:** should be `/home/[your-user]/liferay`
 - ❖ **Windows:** should be `C:\liferay`
5. **Click** *Next.*



EXERCISE: WARNING!

- ❖ A warning will pop up, cautioning us that we may overwrite existing files.
1. **Click** *Yes*.
- ❖ Don't worry; none of the things that we've done so far will be affected.



1. **Click** *Next*→*Next*→*Done*.
- ✓ Now we have our exercise files!

EXERCISE: INSTALLING NODE.JS

1. **Find** the `node-[os]-[version]` installer located in *exercises/front-end-developer-exercises/01-development-environment*.
2. **Run** the installer for your operating system and follow the instructions.
3. **Open** a *Command Prompt/Terminal* window.
4. **Run** `node -v` in your command line to verify your installation once you have installed `node.js` and `npm`.
✓ You should see something similar to the following output:
`v6.x.x`
5. **Run** `npm -version`.
✓ You should see the following output:
`3.x.x`

TROUBLESHOOTING: ADDING NODE.JS TO THE PATH

- ❖ The Node.js installer should add the install path to the PATH environment variable, but some Windows users may still have to manually set the variable.
 - ❖ The PATH variable can be set in the *Advanced System Settings* menu.
1. **Open** Window's *Control Panel*.
 2. **Go to** *System*→*Advanced System Settings*.
 3. **Click** on *Environment Variables*.
 4. **Double-click** on the *Path* system variable to edit.
 5. **Click** *New*.
 6. **Type** in the install path for Node.js.
 - ❖ This is typically installed to *C:/Program Files/nodejs/*
 7. **Click** *OK*.

EXERCISE: INSTALLING DEPENDENCIES

- ❖ Now that we have our npm settings configured, we can install the dependencies for the Liferay Theme Generator.
- ❖ **Note:** When using the *global* option (`-g`) with npm, you need to have Administrator access on Windows, and you need to use `sudo` on UNIX-type systems.

1. **Open** the command line.
 2. **Type** the following command to install the Yeoman and gulp global dependencies:

```
npm install -g yo gulp
```
- ✓ With our dependencies installed, we can move on to our Liferay Theme Generator next.

EXERCISE: INSTALLING THE LIFERAY THEME GENERATOR

1. **Run** the following in the command line to install the generator:
`npm install -g generator-liferay-theme`
2. **Type** `yo` in the command line to see that the generator is installed.
3. **Press** *Enter*.
4. **Type** `Y` or `N` when the initial prompt asks to collect data.
 - This should only appear the first time you run Yeoman.
5. **Press** *Enter*.
 - You should see that *Liferay Theme* is listed underneath the heading *Run a generator*.
6. **Choose** *Get me out of here!* to close the prompt.

TROUBLESHOOTING: A LOCAL INSTALLATION

- ❖ If you don't have admin access, you need to create a directory and install everything locally.

- ❖ **Note:** You need full Administrator privileges over this directory.

1. **Open** the command line.
2. **Go to** the liferay directory created by our installer.
3. **Type** the following command to install the Yeoman and gulp dependencies:

```
npm install yo gulp
```

4. **Run** the following command to install the generator:

```
npm install generator-liferay-theme
```

- ✓ Now you'll be able to use the Liferay Theme Generator in this local directory.

TROUBLESHOOTING: NPM PERMISSIONS

- ❖ In some cases, there may be permission issues when using npm packages.
- ❖ There are three options for addressing possible issues:
 1. Change the permission to npm's default directory
 2. Change npm's default directory to another directory
 3. Use a package manager that takes care of the permissions for you
- ❖ You can find more details here:
<https://docs.npmjs.com/getting-started/fixing-npm-permissions>

LIFERAY-TOMCAT BUNDLE

- ❖ The Liferay-Tomcat bundle contains everything that is needed to run Liferay. No need to worry about additional set-up or configuration.
- ❖ A bundle of Liferay Digital Experience Platform (bundled with Tomcat for JDK 8) can be found in the provided materials.
- ❖ The file looks like this:
`liferay-dxp-digital-enterprise-[version].zip`

EXERCISE: CREATING THE BUNDLE DIRECTORY STRUCTURE

1. **Create** the following directory structure:
 - Windows: `C:\liferay\bundles`
 - Mac/Linux: `[user-home]/liferay/bundles`
2. **Expand** the file `liferay-dxp-digital-enterprise-[version].zip` in the bundles directory.
 - **NOTE:** Windows's built-in archive tool can take a long time to extract large .zip files. We recommend using a third-party tool, like 7-Zip or WinZip.

EXERCISE: LIFERAY-TOMCAT BUNDLE

1. **Go to** Tomcat's bin directory.

- Windows: **Go to** `C:\liferay\bundles\liferay-dxp-digital-enterprise-[version]\tomcat-[version]\bin` using the file manager.
- Mac/Linux: **Go to** `[user-home]/liferay/bundles/liferay-dxp-digital-enterprise-[version]/tomcat-[version]/bin` in a *Terminal* window.

EXERCISE: STARTING TOMCAT

1. **Start** Tomcat.

- Windows: **Double-click** on `startup.bat`.
 - You can also go to the command window, type `catalina run`, and press *Enter*.
- Mac/Linux: **Run** the `./catalina.sh run` command in the *Terminal*.
 - **NOTE:** You'll need to make `.sh` files executable. Just type `chmod a+x *.sh` into the *Terminal*, from the Tomcat `bin` directory.

TIP FOR MAC USERS

- ❖ If you're not comfortable navigating and running commands through the *Terminal*, you can rename the `startup.sh` file in the `bin/` folder to `startup.command`.
- ❖ This will make the file runnable, so you can just double-click on it in *Finder* and start Liferay.
- ❖ You can do the same thing to `shutdown.sh`, so you can easily start and stop Liferay.
- ❖ **NOTE:** If you do this, you won't be able to see console messages from Liferay. Liferay will run "hidden", but will otherwise function the same.

CHECKPOINT!

- ✓ You should see output as below in your console when Liferay starts successfully:

```
06-May-2016 17:10:40.105 INFO [main] org.apache.coyote.AbstractProtocol.start
Starting ProtocolHandler ["http-nio-8080"]
06-May-2016 17:10:40.118 INFO [main] org.apache.coyote.AbstractProtocol.start
Starting ProtocolHandler ["ajp-nio-8009"]
06-May-2016 17:10:40.118 INFO [main] org.apache.catalina.startup.Catalina.start
Server startup in 92782 ms
```

EXERCISE: DEPLOYING THE ACTIVATION KEY

- ❖ Once the server starts up, Liferay will open our default browser to the Basic Configuration screen.
 - ❖ Before going through the basic configuration, we must add the license key to Liferay; otherwise, we'll hit an error message.
 - ❖ A directory named `deploy/` is created when we run Liferay.
1. **Copy** the `activation-key-developement-[version].xml` file that you received.
 2. **Paste** the file into the `liferay-dxp-digital-enterprise-[version]/deploy` folder.
 - ❖ You should see that the license is registered by looking for License registered for Portal Development in the Terminal/Console.
 - ❖ Once confirmed, we are able to proceed with our Basic Configuration without any errors.

EXERCISE: SETTING EVERYTHING UP

1. **Type** *S.P.A.C.E.* for the *Portal Name*.
2. **Uncheck** the *Add Sample Data* box.
3. **Type** the first name *Space*, the last name *Admin*, and the email address *space.admin@spaceprogram.liferay.com* for the Administrator User.
4. **Click** the *Finish Configuration* button to use the default HSQL database.



Liferay DXP

Basic Configuration

Portal

Portal Name

S.P.A.C.E.

For example, Liferay.

Default Language English (United States)

☐ Add Sample Data

Administrator User

First Name

Space

Last Name

Admin

Email 

space.admin@spaceprogram.liferay.com

Database

Default Database (Hypersonic)

This database is useful for development and demo'ing purposes, but it is not recommended for production use. (Change)

EXERCISE: READING THE TERMS OF USE

1. **Click** *I Agree* after you have read the *Terms of Use*.



Terms of Use

Welcome to our site. We maintain this web site as a service to our members. By using our site, you are agreeing to comply with and be bound by the following terms of use. Please review the following terms carefully. If you do not agree to these terms, you should not use this site.

1. Acceptance of Agreement.

You agree to the terms and conditions outlined in this Terms of Use Agreement ("Agreement") with respect to our site (the "Site"). This Agreement constitutes the entire and only agreement between us and you, and supersedes all prior or contemporaneous agreements, representations, warranties and understandings with respect to the Site, the content, products or services provided by or through the Site, and the subject matter of this Agreement. This Agreement may be amended at any time by us from time to time without specific notice to you. The latest Agreement will be posted on the Site, and you should review this Agreement prior to using the Site.

2. Copyright.

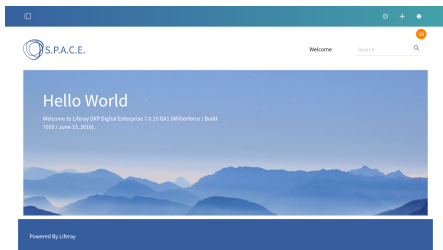
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3. Service Marks.

EXERCISE: FINISHING SET-UP

❖ Before you can start using Liferay, you have a couple more things to do:

1. **Type** a new password (we typically set it to test).
 2. **Click** *Save*.
 3. **Choose** a password reminder query.
 4. **Click** *Save*.
- ✓ Now you're ready to go.



WHAT HAPPENED BEHIND THE SCENES: LIFERAY HOME

- ❖ `LIFERAY_HOME` is the primary location for any custom Liferay properties or configuration files.
- ❖ In a production environment, this will almost always be configured to a specific location that is solely being used for configuration files.
- ❖ For our purposes in this class, we'll just be using the default location, which is in your `liferay-dxp-digital-enterprise-[version]` folder, one level in the directory structure above where the application server is located.

WHAT HAPPENED BEHIND THE SCENES

- ❖ Liferay created a file called `portal-setup-wizard.properties` in `LIFERAY_HOME` to store the basic configuration properties.
- ❖ There are two ways to override properties: through Liferay's Control Panel or by creating a file called `portal-ext.properties` in `LIFERAY_HOME`.
- ❖ The properties defined in `portal-ext.properties` override properties in the `portal.properties` file located in `LIFERAY_HOME/tomcat-[version]/webapps/ROOT/WEB-INF/lib/portal-impl.jar`.
- ❖ Liferay reads the `portal.properties` file first, then the `portal-ext.properties` file, and finally the `portal-setup-wizard.properties` file.

EXERCISE: BRACKETS

- ❖ For this course, we will be using the Brackets text editor.
- ❖ We'll need to install Brackets to use some snippets for later development.
- 1. **Go to** the *exercises/front-end-developer-exercises/01-development-environment/brackets*.
- 2. **Double-click** the installer for your operating system.
- 3. **Click** through the installation steps.
- ✓ Now we have Brackets installed! We will use this later for development snippets.
- ❖ You can find more details at the Brackets website: <http://brackets.io/>

LIFERAY DEVELOPER NETWORK

- ❖ For more information on many of the topics we'll cover in this course, as well as resources for Liferay development and system administration, you can visit the Liferay Developer Network at dev.liferay.com.
- ❖ The Liferay Developer Network is home to the official documentation and user guide, tutorials, **Learning Paths** for developing on Liferay, and community-contributed resources like the Liferaypedia.



DISCOVER

Build your web site, collaborate with your colleagues, manage your content, and more.



DEVELOP

Build applications that run inside Liferay, extend the features provided out of the box with Liferay's APIs.



DISTRIBUTE

Let the world know about your app by publishing it in Liferay's marketplace.



PARTICIPATE

Become a part of Liferay's community, meet other Liferay users, and get involved in the open source project.

Notes: