

## Publishing to Your Remote Website

@author R.L. Martinez, Ph.D.

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### Overview

In this tutorial, we look at the steps to code/build/publish Java web applications. These steps are far less complex than those required to publish with a public Java web application hosting company such as OpenShift or Heroku. Essentially, the steps are as follows:

1. Code the assignment (a.k.a. web application or program) locally in NetBeans using your local WildFly server to run and test.
  2. Verify your assignment meets requirements and passes testing.
  3. Publish your assignment to your student website on lineofcode.com. This is accomplished by uploading you WAR (Web Archive) file to your student directory on lineofcode.com. **NOTE:** It is CRUCIAL to the proper operation of your application that your projects (and therefore WAR files) be named correctly. *Failing this simple step will result in no credit for the assignment.*
  4. Test your assignment on your student website.
  5. Submit your compressed project directory (ZIP file only) to Blackboard. No points for other formats.
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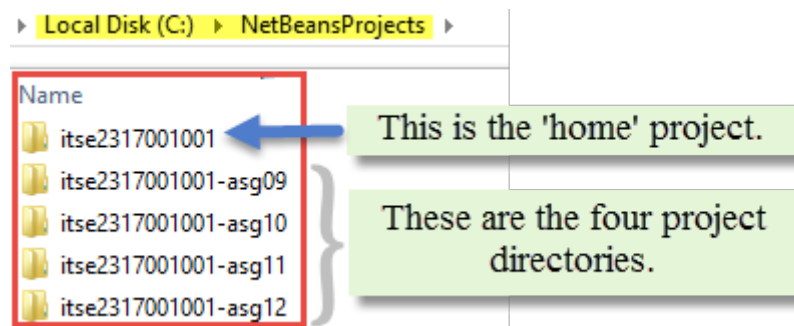
### Naming your Projects/WAR Files

As mentioned previously in a few locations, the correct naming of your projects and therefore WAR files is absolutely critical to the proper operation of your assignments. The WAR files will automatically be assigned the name of the project.

Fortunately, it is very simple. The first project you publish will be named your username as found in Blackboard under Website Credentials. Something like itse2317001001 or inew2338001001. Each of the assignments/**projects** MUST have the following names:

1. itse2317001001-asg09
2. itse2317001001-asg10
3. itse2317001001-asg11
4. itse2317001001-asg12

In the list above, replace itse2317001001 with YOUR username. In File Explorer, the directories will look like this:

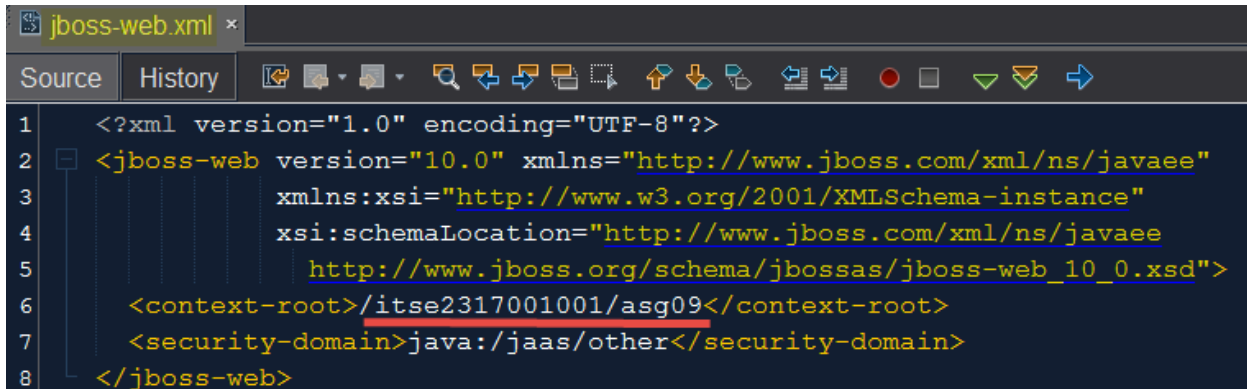


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There is one more relevant change that **MUST** be made. In each of your projects the jboss-web.xml file will be slightly different. Recall, that this file was discussed in the tutorial titled “JDK-WildFly-NetBeans Setup Local”.

For Assignment 09, the jboss-web.xml **MUST** have the appropriate “context-root” set as follows (with **YOUR** username):

```
<context-root>/itse2317001001/asg09</context-root>
```



```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <jboss-web version="10.0" xmlns="http://www.jboss.com/xml/ns/javaee"
3     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4     xsi:schemaLocation="http://www.jboss.com/xml/ns/javaee
5         http://www.jboss.org/schema/jbossas/jboss-web_10_0.xsd">
6     <context-root>/itse2317001001/asg09</context-root>
7     <security-domain>java:/jaas/other</security-domain>
8 </jboss-web>
```

It **MUST** be set as shown for Assignment 09 (note the /asg09).

```
<context-root>/itse2317001001/asg09</context-root>
```

It **MUST** be set as shown for Assignment 10 (note the /asg10).

```
<context-root>/itse2317001001/asg10</context-root>
```

It **MUST** be set as shown for Assignment 11. (note the /asg11).

```
<context-root>/itse2317001001/asg11</context-root>
```

It **MUST** be set as shown for Assignment 12. (note the /asg12).

```
<context-root>/itse2317001001/asg12</context-root>
```

**Important:** You are only authorized to upload a total of five WAR files to your site with the names: username, username-asg09, username-asg10, username-asg11, username-asg12 – where username is the name assigned for this webdev portion of the course. **DO NOT** upload any WAR other than the five just listed.

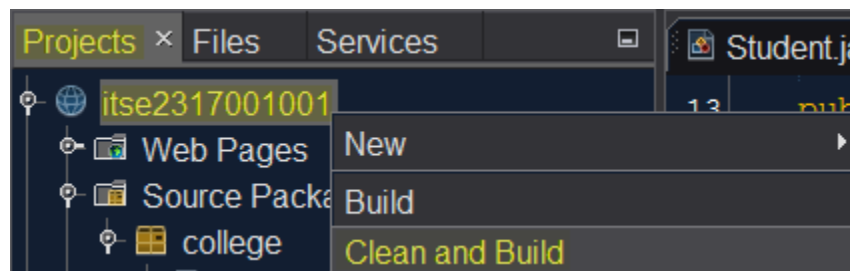
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### Creating the WAR File

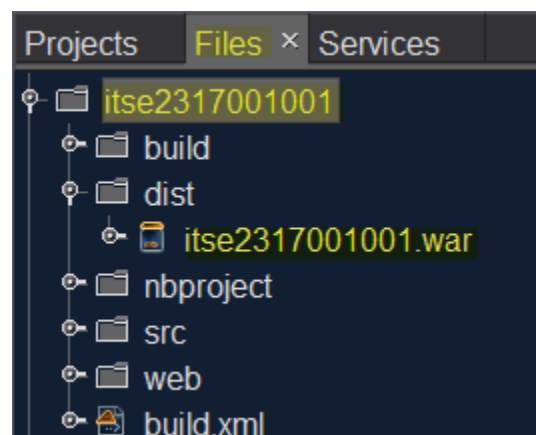
Each time a Java web application project is ‘built’, a WAR file is created in the ‘dist’ (distribution) directory. The WAR file contains all files, in their proper locations, required for a servlet container (Java web server) to host the website. The dist directory is also created if it does not exist (i.e. for the first build).

After verifying that your assignment meets requirements and passes testing, you are ready to upload your latest WAR file to your student website. Uploading your WAR file will publish your web application.

As a final step before uploading, I like to Clean and Build the application. With a successful Clean and Build, NetBeans automatically creates the WAR file. R-click the project and select Clean and Build.

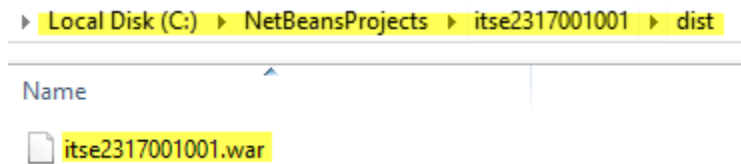


To see the WAR file in NetBeans, select the Files group and expand the dist directory.



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In File Explorer (or Finder on a MAC), navigate to the project dist directory to view the latest WAR file. This is the file that will be uploaded to your student website on the lineofcode.com server.

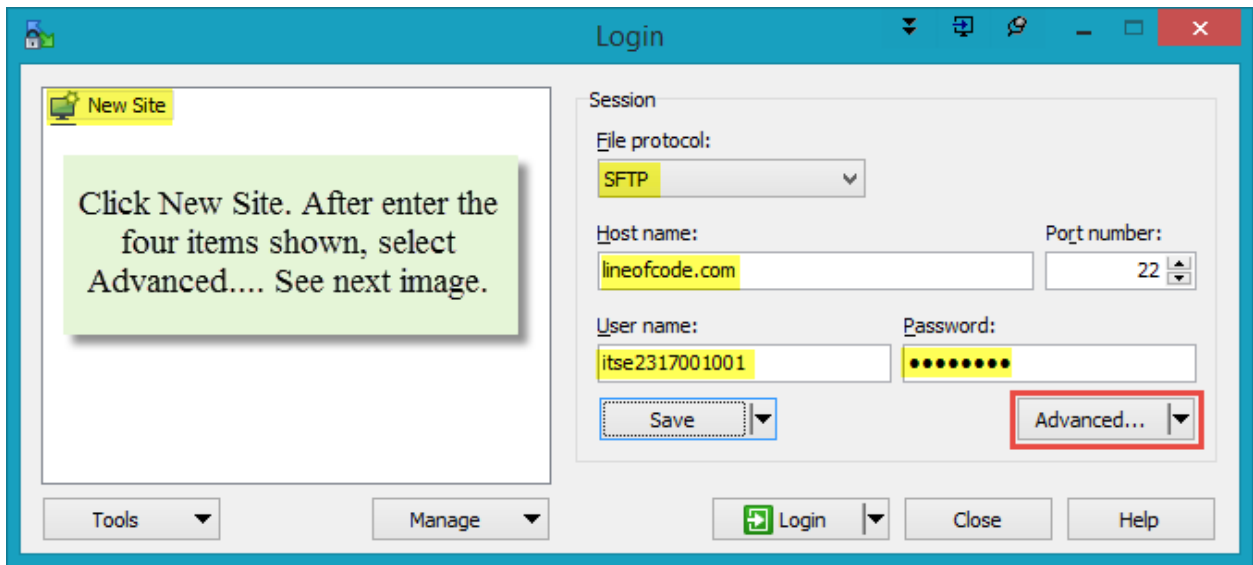


## Uploading/Publishing Your Project

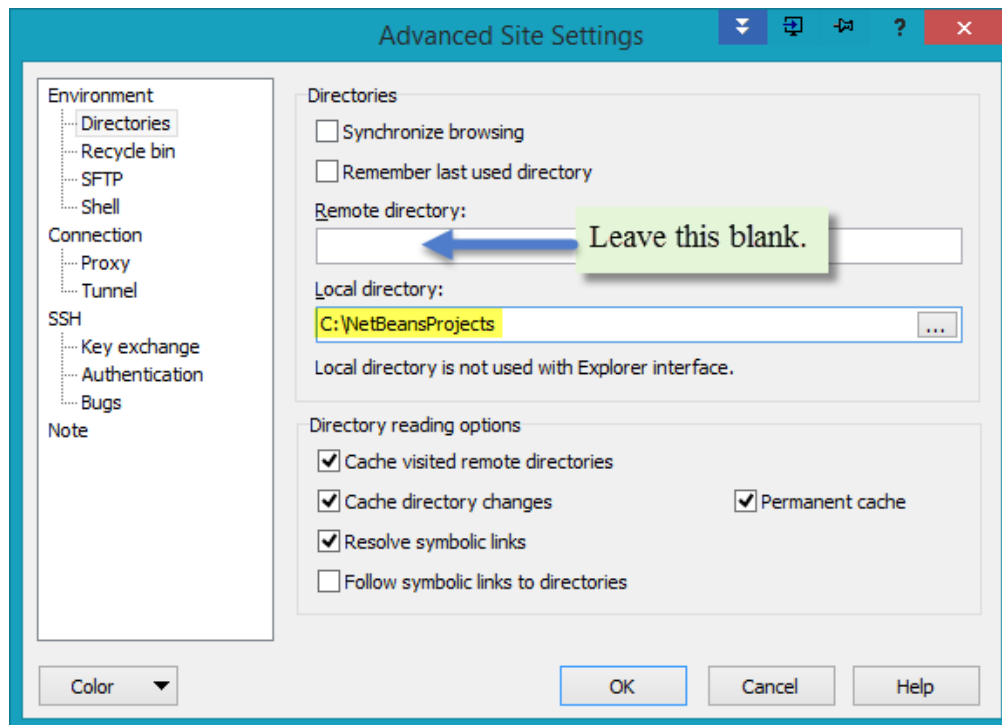
To publish your projects to your student website, you will simply upload the appropriate WAR file to your remote directory. For our purposes, the upload process can best be accomplished with an SSH (Secure Shell) tool like WinSCP or FileZilla. I prefer WinSCP but both tools are relatively easy to use. And, if you become proficient with one, then those skills transfer to the other. WinSCP is Windows only. FileZilla has versions for Windows, Mac, and Linux. So, if you need a non-Windows version, FileZilla is a good choice.

1. Using integrated upload capabilities in IDEs to publish is convenient. However, it is more common to use dedicated SFTP/SSH clients to publish due to their superior functionality and speed. So, the instructions below introduce the use of the popular program WinSCP for publishing. If you are using a Mac or Linux machine, FileZilla also works well and the steps are essentially the same.
2. Download WinSCP from <http://winscp.net/eng/download.php> . I recommend the full Installation option. Select the Site menu and create a new site with the following settings. Naturally, use your username and password located in Website Credentials in Bb. Select Save As... to assign a name to the configuration and save it. DO NOT save the password if working on a public computer. ONLY save the password if working on your personal machine.

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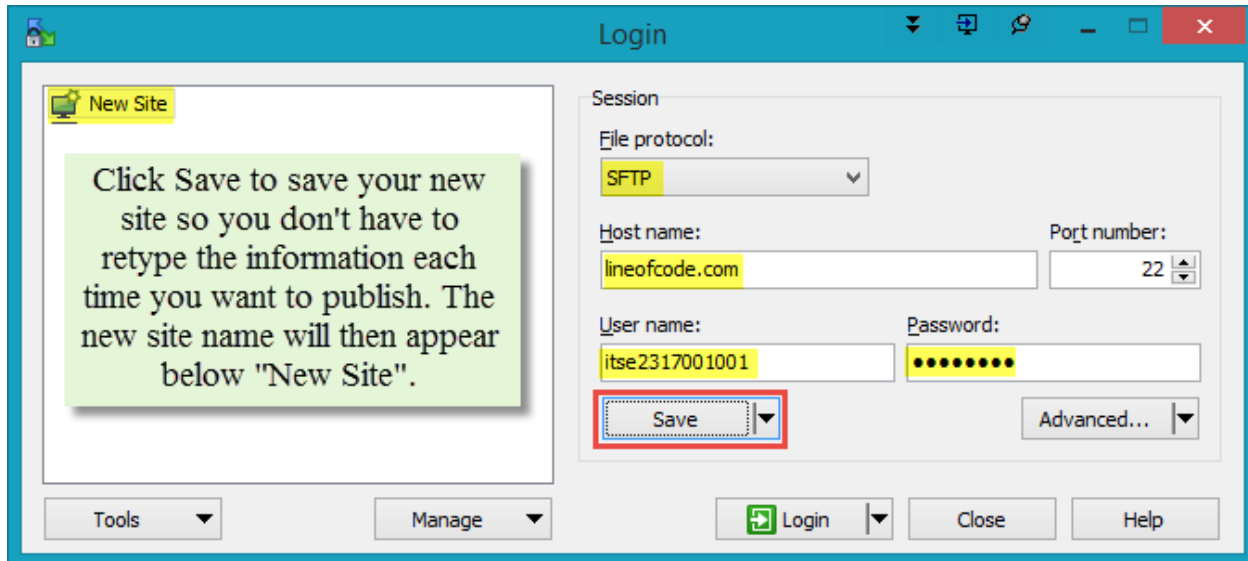


3. You can specify a number of custom settings by selecting the Advanced... button. For instance, it can be particularly helpful to select the default local directory that will be opened when accessing your site. Note that I set the local directory setting to open my itse1311 project location. After setting your local directory, select Ok.

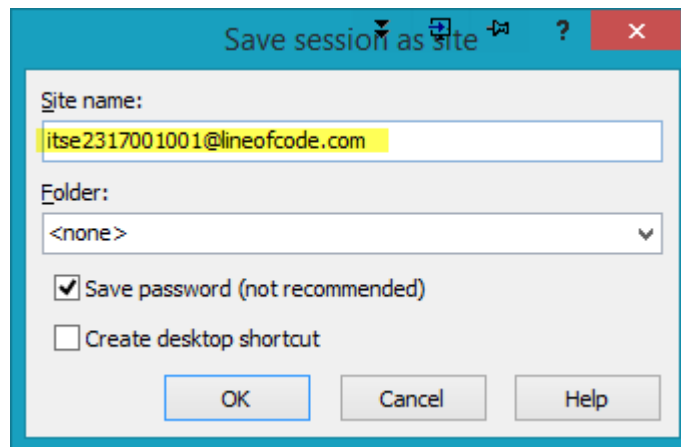


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4. Click Save.



5. The default site name is fine or you can change it. Only save the password on a trusted machine. Click Ok. Click Login when the Save dialog closes and the Login window reappears.

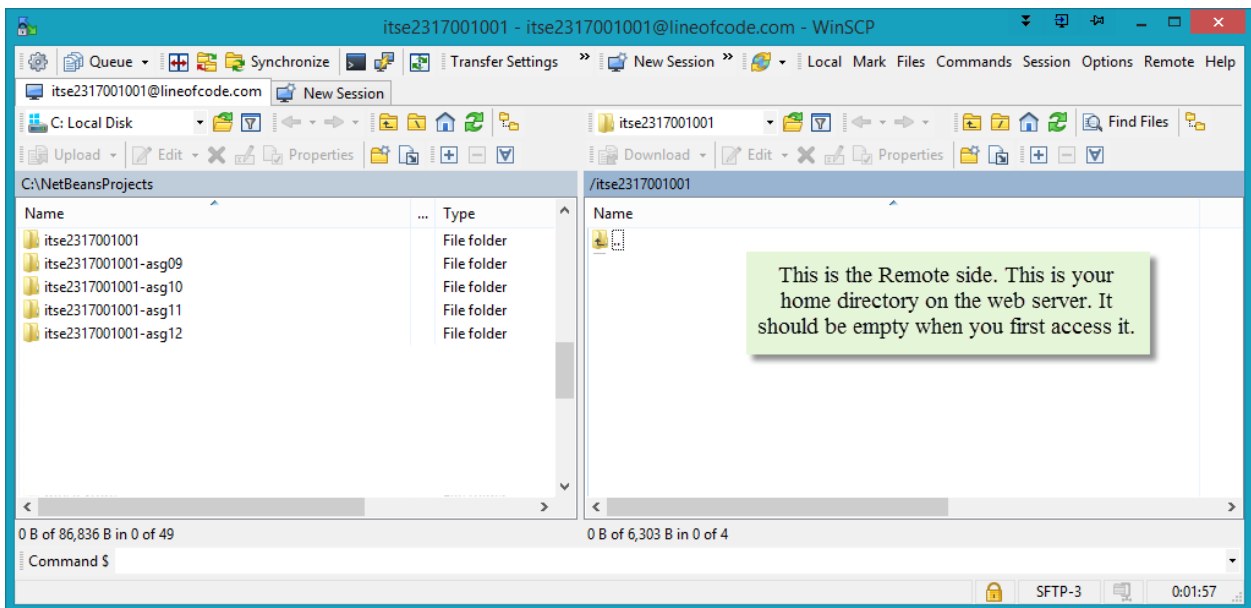



6. When working with an SFTP/SSH client, I strongly encourage you to only sync FROM your local machine TO the remote site. Also, keep **backups** on your local machine and alternative locations such as flash drives and/or cloud storage sites like Google Drive or Microsoft OneDrive. Be a

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responsible professional; backup your work product. I have lost work in the past and it is unpleasant. Learn from my mistakes. Don't be like that me.

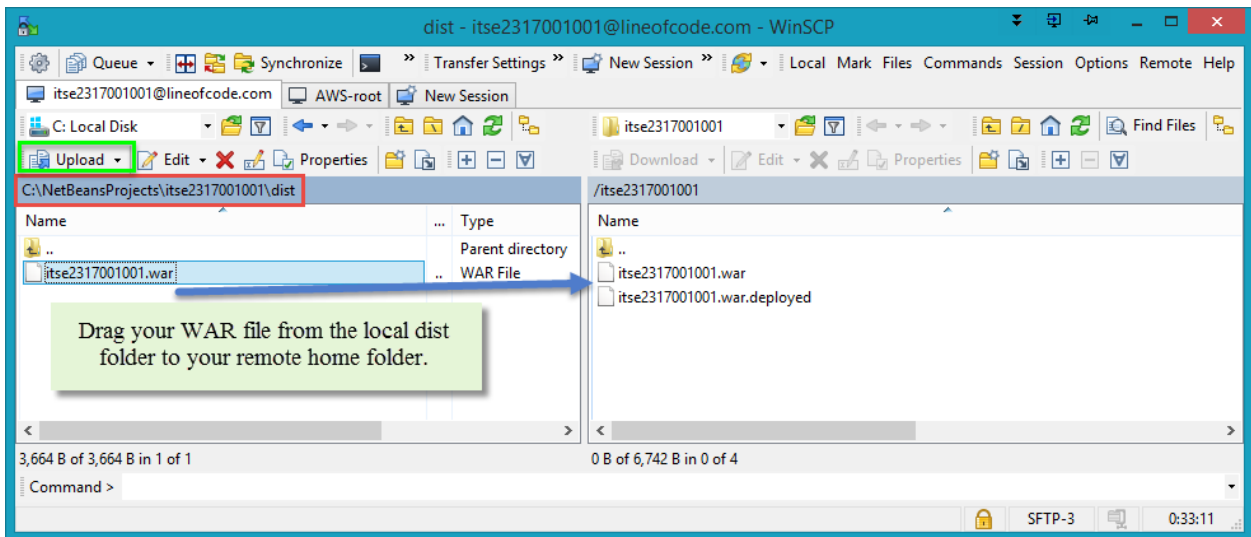
- WinSCP is open in the next window. The local file system is shown on the left and the remote system is on the right.



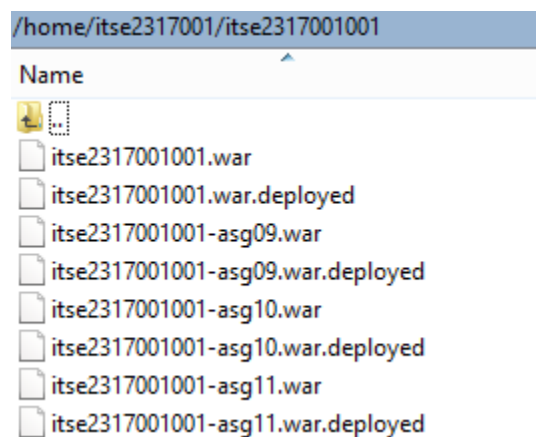
- On the left, double-click itse2317001001 to open that directory and then double-click dist to open it. Drag the file itse2317001001.war from the local side on the left to the remote side on the right. You can also select the file and then click Upload in the green box. In less than one minute, the file itse2317001001.war.deployed will be automatically created by the deployment scanner. Need to refresh  the remote view on the right to see if the deployed file is created.



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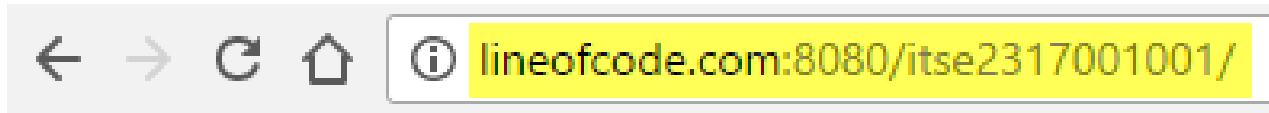


9. You can upload content from local to remote two ways: by dragging and dropping and by selecting the item and clicking Upload. Upload index.html from your local site to your remote site. After you complete Program-01, you will upload that folder from the local site to the remote site. Click the Upload button on the local (left) side to upload the contents of your web project created in Aptana. There are many other features in WinSCP that are not required for this course. Feel free to explore.
10. After uploading your home .war and .war files for projects 9 through 12, your home remote directory should look like the following:

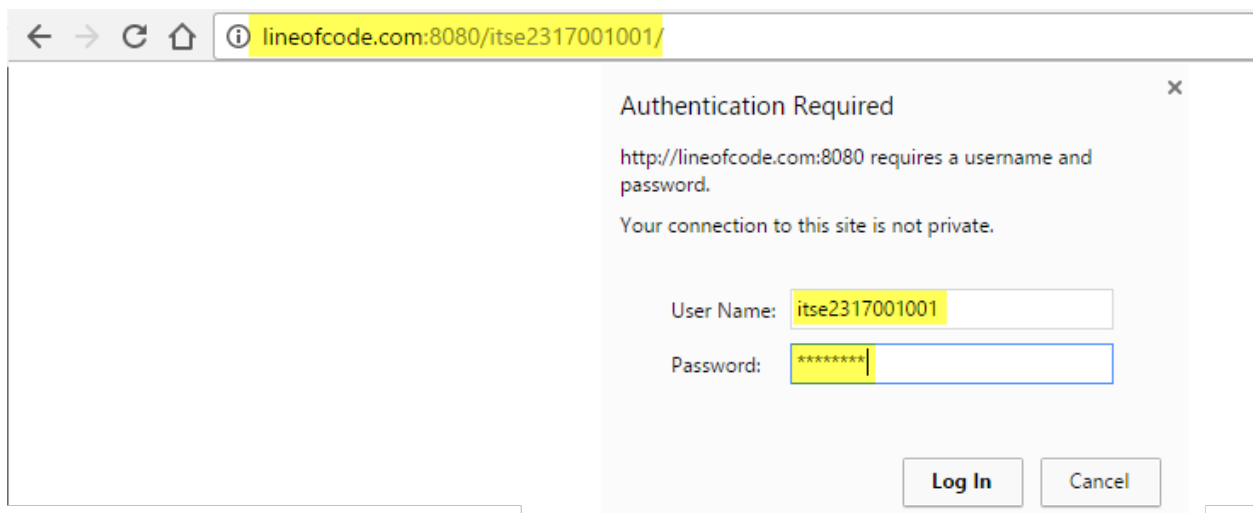


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11. After uploading your WAR file, confirm HTTP connectivity by opening a browser and navigating to your site:



12. Enter your HTTP username and password in the Authentication Required dialog.




13. You should see the web application that you just uploaded to your folder as shown in the next image.

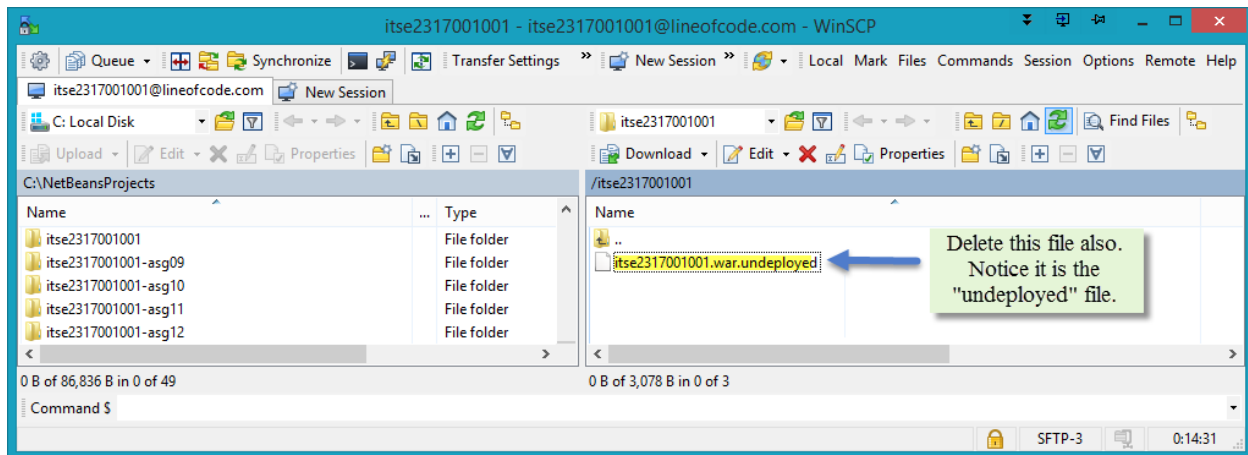
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14. To replace a web application you have previously published, do the following:

- a. Delete the WAR file by either R-clicking | Delete or selecting the WAR file and then click .
- b. The war.deployed file extension will change to war.undeployed after you have removed primary .war file. After the extension changes to war.undeployed, delete that file also.
- c. After deleting the primary .war file and then the .war.undeployed, you are ready to redeploy the web application by uploading the new WAR file just like you did in the steps above.

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Congratulations! You have successfully setup your website for the course. A few points to keep in mind...

- After you have coded each program, simply Transfer the WAR file to your site like was shown above. TESTTESTTESTTEST!
- Each WAR file contains all files the web applicatin requires to operate successfully such as images and CSS folders.
- Your professor will confirm assignment functionality on your website by clicking the Assignment 09 – Assignment 12 links. If it does not operate successfully and meet requirements for you, it will not pass verification testing for grading purposes.
- Have fun and enjoy the process of advancing your Java webdev skills.

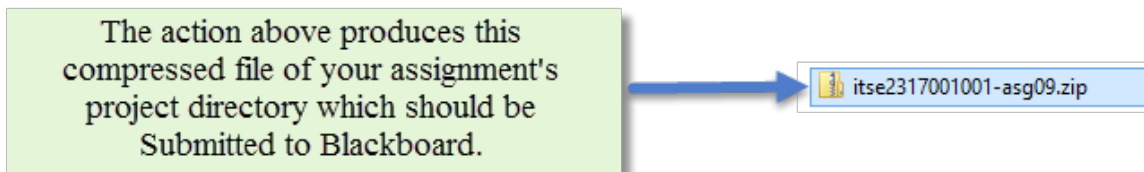
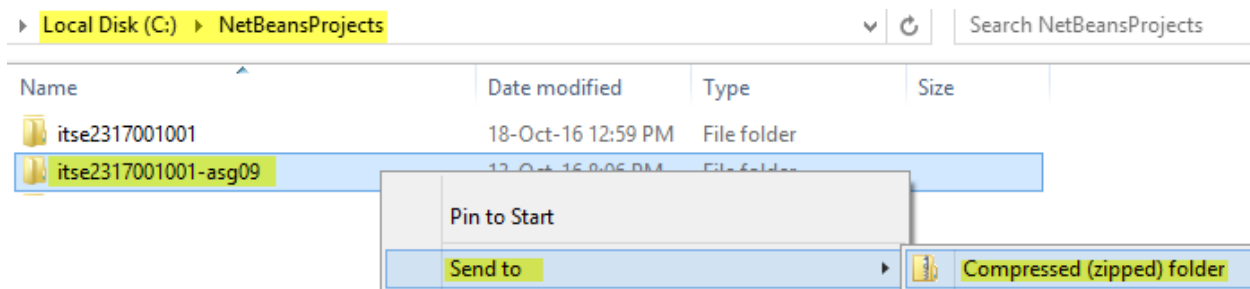
## **Publishing to Your Remote Website**

## Publishing to Your Remote Website

### Compressing and Submitting Your Project Directory

After publishing and testing your assignment on your student website, you are ready to upload the compressed project directory to Blackboard.

In File Explorer, navigate to the location where you store your project directories. To produce the ZIP file, R-click the project folder | Send to | Compressed (zipped) folder. That action will produce a ZIP file like shown. That is the file you want to submit to Blackboard at the appropriate link. Contact your professor if you have questions about this step.



You are now ready to code your projects username-asg09 through username-asg12. Good luck with your efforts and enjoy the process. Java web development is challenging but the rewards are worth the commitment.