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# Pre-Requistes

## General

The following page has everything needed for getting started with your website development environment, <https://developer.ibm.com/mobilefirstplatform/documentation/getting-started-hybrid-development-6-3/>. What the rest of the chapter will be touching on will refer to items contained with-in this tutorial.

## Eclipse

The development environment of choice for developing IBM worklight applications is Eclipse. Aside from having Eclipse installed you will also have to download the Eclipse plugin “MobileFirst Platform Foundation” from the Eclipse marketplace. This information, and instructions on how to do it can be found at, <https://developer.ibm.com/mobilefirstplatform/documentation/getting-started-6-3/setting-up-your-development-environment/setting-mobilefirst-development-environment/>.

## MySQL

The current application was created using MySQL, so you will also need to install this if you are going to be testing applications locally. You should also download MySQL workbench in order to interact with the MySQL server installation. Both can be found at, <http://dev.mysql.com/downloads/>.

# Hello World

You must go over the two tutorials under the Hello World title at this location, <https://developer.ibm.com/mobilefirstplatform/documentation/getting-started-hybrid-development-6-3/>. If that is not done, the rest of this installation guide will not make sense or be confusing.

# Deployment

## WAR

The .wlapp and .adapter contain the main javascript, image, css and html code (among others) for the application. The WAR contains the main website application settings. This includes the worklight.properties file, among others. If you change anything other than the aforementioned files you will need to redeploy the WAR file.

In order to redeploy the war file you need to get it from \bin folder in your local directory on your local development machine and upload it to the VM. I accomplished this by using FileZilla and connecting to ses-dev.cis.fiu.edu and logging in as ftpuser/country. The initial directory the user is in, is /home/ftpuser, you can drop it there. If there is already a file in place simply delete it first and put this one in.

Once you have accomplished this you will need to access the desktop of the VM. I accomplished this by using UltraVNC and connecting to jaguar.cs.fiu.edu:5902 with password ribbit5. You should see a list of users on the Ubuntu desktop once you login, if you don’t see yourself you will need to contact the professor to have someone add you in the backend.

Once logged in, you will need to open up a terminal and navigate to the following path, /opt/IBM/Worklight/shortcuts. Once there you can start the server configuration tool by running the following command, sudo ./configuration-tool.sh.

Once the application pops up, on the left hand side you should see, ECOSustainabilityEfforts, open that up by clicking on the arrow. You will now see two folders under it, “Runtime environments” and “Log files”. “Log files” are simply logs of actions you have performed, like redeploying the war files for instance. Open up “Runtime environments”, and now click on “ECOSustainabilityEfforts Project” under it. Now, in the menu, click on “Runtimes”, menu option, and select “Replace Runtime WAR File…”. It will ask you to choose existing configuration and runtime, which should already be correctly select as “ECOSustainabilityEfforts” and “ECOSustainabilityEfforts” Project, so hit “OK”.

Now in the window that pops up in the right hand pane, what you need to be concerned about is the “Worklight project WAR file:”, that should be pointing to the file you uploaded. After that, simply hit “Update War”. On the console at the bottom you will see something to the effect of “Redploying War” and then “WAR successfully deployed…” and you are done.

## Worklightconsole

The worklightconsole is where you deploy your application after you have built it. On your local computer the path should be something like <http://localhost:10080/worklightconsole> and Admin/Admin being the appropriate user. But, for remote destinations, like the current one we use, the path would be <http://ses-dev.cis.fiu.edu:9080> with demo/demo being the appropriate user. Keep in mind, for your local development environment, you would not need to deploy it in that manner because when you do “Run As -> Run on Worklight Development Server”, it automatically deploys it for you.

Once you login, you should see applications deployed to it, of which you can either delete or update. My preferred method is to delete the existing application first, then, at the top, click “Browse” and navigate to your local \bin repository under the project name. Once there you will either choose the worklight project to be deployed, <worklight project name>.wlapp, or the adapter to be deployed, <adapter name>.adapter, and click, “submit”.

Once you have deployed your project you can easily clear your cache and reload the page. If you are making merely aesthetic changes, this is not required as worklight serves the pages directly from the local store, so any changes (by clearing cache and reloading) would be reflected without redeploying the entire application in this manner.

## Adapters

### Locally

To deploy an application, you need to click “Run As -> Run on Worklight Development Server”. Then wait till you see, “Adapter build and deploy finish.”, and it is deployed.

### Remotely

To deploy an adapter, you “Run As -> Deploy Worklight Adapter” and wait till you see the message “Adapter build and deploy finish.”. Logon to the worklight console and deploy the appropriate <AdapterName>.adapter file.

## Application

### Locally

To deploy an application, you need to click “Run As -> Run on Worklight Development Server”. Then wait till you see, “Application 'ECOSustainabilityEfforts' deployed successfully with all environments” and it is deployed.

### Remotely

To deploy an application, you need to click “Run As -> Build Settings and Deploy Target...”. In the window that comes up you need to check off, “Build the application to work with a different Worklight server”. Then, for server type, “<http://ses-dev.cis.fiu.edu:9080>”, and for Context Path type, “/worklight” and hit, “OK”. Lastly, click, “Run As -> Build All Environments”, and wait till you see, “Application 'ECOSustainabilityEfforts' with all environments build finished.”. Logon to the worklight console and deploy the appropriate <worklight project name>.wlapp file.

# Administration

## Start/Stop the Application

There maybe times where you need to restart the application on the server-side. This can easily be accomplished by navigating to /opt/IBM/IBM WebSphere/Liberty/bin and running, “Sudo ./server stop ECOSustinabilityEfforts”, waiting a few, and then doing “Sudo ./server start ECOSustainabilityEfforts”.

# Troubleshooting

## Calling adapter returns page not found

Most likely this is due to the fact you didn’t set the Server or Context Path correctly. See section Deployment, application, remotely for further details.

## Already Connected SQL Exception

This is a bug that discovered late in the development cycle which we had no time to resolve. The work around is to restart the application, see section Administration, Start/Stop the Application.