This document provides the steps to install the software required to begin the exercises on a Windows machine. The instructions were written for a Windows 7 Professional machine. Exceptions have been noted for Windows 8 and Windows 10. The sequence is as follows:

1. Install Java JDK 1.9
2. Edit the JAVA\_HOME variable and edit the system PATH
3. Install GIT
4. Install cURL
5. Install node.js
6. Install API Connect
7. Install Docker
8. Install cloudfoundry CLI
9. Install the IBM Container plugin for cloudfoundry

Step 1: Install Java JDK 1.8

1. In a browser, open <https://www.oracle.com>
2. In the list of menu options, hover over **Downloads**.
3. Under Popular Downloads, click **Java for Developers**.
4. Click the download button for **Java Platform (JDK) 8u111** (Note: your minor version may be different)
5. In the section entitled Java SE Development Kit 8u111, click **Accept License Agreement**.
6. Select the .exe file for Windows x64 (jdk-8u111-windows-x64.exe). The file is downloaded to the machine’s Download directory.
7. Run the Windows executable. Navigate to the Download directory. Double click jdk-8u111-windows-x64.exe
8. At the Welcome screen, click **Next.**
9. Accept the features to install. Accept the default install location C:\Program Files\Java\jdk1.8.0\_111\. Click **Next**.
10. Upon successful installation, click **Close**.
11. Verify that the installation was successful. Open a command prompt. Change directories to C:\Program Files\Java\jdk1.8.0\_111\. You should see 6 directories, 6 files, and 2 zip files.

Step 2: Edit the system PATH. Add JAVA\_HOME to the Path by editing an environment variable.

1. Add or modify the JAVA\_HOME environment variable to C:\Program Files\Java\jdk1.8.0\_111
2. Add JAVA\_HOME to the end of the Path system variable.
3. Close the Environment Variables window.
4. Restart the computer.
5. Verify that your installation of Java is recognized. Open a command prompt and type:

java –version

1. You should see information about the Java version, Java runtime, and Java HotSpot.

Step 3: Install GIT

1. Download GIT for Windows from <https://git-scm.com/download/win>
2. Run the executable named Git-2.1.1.0-64-bit.exe
3. Read the GNU General Public License and click **Next**.
4. Accept the installation location. Click **Next**.
5. Accept the default components for installation. Click **Next**.
6. Create a shortcut. Click **Next**.
7. Adjust the PATH environment by selecting the option labeled **Use Git from the Windows Command Prompt**. Click **Next**.
8. Configure the line ending conversions by selecting **Checkout Windows-style, commit Unix-style line endings**. Click **Next**.
9. Select **Use MinTTY** as the terminal emulator with Git Bash. Click **Next**.
10. Keep the default extra options **Enable file system caching** and **Enable Git Credential Manager**. Click **Next**.
11. Do not select any experimental options. Click **Install**.
12. Click **Finish**.
13. Open a command prompt and change to C:\Program Files\Git\bin. Type git –version
14. You should see the response git version 2.11.windows.1

Step 4: Install cURL

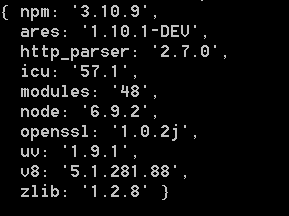
1. Create a folder named: C:\curl
2. Go to <http://curl.haxx.se/download.html> and download the following the zip file for the Win64 version of cURL:

Scroll to the Win64-Generic section. Locate the latest Win64 ia64 zip version with SSL support. Click the version number to start the download.

1. Save the zip file
2. Unzip the downloaded zip file. Move curl.exe to C:\curl
3. Go to <http://curl.haxx.se/docs/caextract.html> and download the digital certificate file named cacert.pem.
4. Move cacert.pem to C:\curl. Rename the file curl-ca-bundle.crt.
5. Add C:\curl to the Windows PATH environment variable so the curl command is available from any location at the command prompt.
6. Verify the installation is complete. Open a command prompt and enter curl <https://www.google.com>. The request returns the html in the command window.

Step 5: Install node.js

1. Go to <https://nodejs.org/en/>
2. There are two versions listed. Download the recommend version.
3. Start the Windows installer package for node-v6.9.2-x64.msi. Click **Run**.
4. At the Welcome window, click **Next**.
5. Accept the end-user license agreement. Click **Next**.
6. Accept the destination folder. Click **Next**.
7. Accept any custom setup options. Click **Next**.
8. Click **Install**.
9. Click **Finish** when notified the installation was successful.
10. Verify the installation. At a command prompt, enter npm version
11. You should see a JSON object like the following:



Step 6: Install API Connect

Use npm to install API Connect.

1. Open a command prompt. Type npm install -g apiconnect. This installation takes several minutes to complete. You can ignore any warnings about deprecated packages.

Step 7: Install Docker

**For Windows 10**

Install Docker for Windows. Follow [https://docs.docker.com/docker-for-windows](https://docs.docker.com/docker-for-windows%20%20%20)  for specific directions.

If you have 64 bit Windows 7 or higher, follow these directions to install Docker with Toolbox.

1. You must have virtualization enabled on your machine. This is not an issue if you are running Windows 10. However, if you are running Windows 7 or Windows 8, you must read and follow one set of these directions.

**Windows 8 or 8.1**

Choose Start > Task Manager. Navigate to the Performance tab. Under CPU, you should see Virtualization: Enabled.

If virtualization is not enabled, then follow the manufacturers documentation. The steps to configure BIOS settings are specific to the hardware you have. It varies from one hardware manufacturer to another, and, even different models from the same manufacturer can have different steps. Refer to the documentation or website for your hardware make and model. Or, you can check on the Intel website for guidance from Intel about their VT-x product technology.

**Windows 7**

You should check your system’s BIOS to see if hardware virtualization is enabled. If it is not enabled, enable it through the BIOS.

You must run the Microsoft Hardware-Assisted Virtualization Detection Tool which can be found at <https://www.microsoft.com/en-us/download/details.aspx?id=592>

* 1. Download the MHAVDT. Be sure to select havdetectiontool.exe and the user guide.
  2. Run the detection tool by clicking **havdetectiontool.exe**
  3. Accept the license agreement. Click **Next**.
  4. You should see a message **This computer is configured with hardware-assisted virtualization**.
  5. Select **No, I don’t want to send data.** Click **OK**.

1. Follow <https://docs.docker.com/engine/installation/windows/> and scroll down to the Docker Toolbox section.
2. Click the link for Docker Toolbox <https://www.docker.com/products/docker-toolbox>
3. Click **Download** (be sure to click the Windows option, not the Apple option)
4. Scroll down and find the Downloads section. Click the latest DockerToolbox-1.12.3.exe version.
5. Open the exe and save the file
6. Run the DockerToolbox-1.12.3.exe
7. At the Welcome screen, click **Next**. You can clear the checkbox to help improve Docker Toolbox.
8. Accept the default destination folder. Click **Next**.
9. Accept the list of components. Click **Next**.
10. Accept the additional tasks (shortcut, add docker binaries to PATH, and upgrade Boot2Docker VM). Click **Next**.
11. Review settings and click **Install**.
12. Clear the checkbox to view shortcuts. Click **Finish**.
13. Verify your docker installation.
    1. From the Start Menu, navigate to All Programs > Docker.
    2. Click **Docker Quickstart Terminal**
    3. There a number preliminary steps and downloads that must happen. Wait for a message indicating the interactive shell can start and the $ prompt is available.
    4. Type docker run hello-world.
    5. You should see a response starting Hello from Docker!

Step 8: Install cloudfoundry CLI

1. Open a browser to <https://github.com/cloudfoundry/cli/releases>
2. Click the link for Windows 64 bit
3. Select the option to save the installer file cf-cli-installer\_6.22.2\_winx64.zip. Click **OK**.
4. Extract the installer zip file.
5. Click cf\_installer.exe to begin the installation.
6. Select **Only for me** as the installation option. Click **Next**.
7. Accept the default destination location. Click **Next**.
8. Verify settings and click **Install**.
9. Click **Finish**.
10. Verify installation. Open a command prompt. Enter cf -v You should see the version number of the CLI.

Step 9: Install the IBM Container plugin for cloudfoundry

1. Use cloudfoundry to install the container plugin

cf install-plugin <https://static-ice.ng.bluemix.net/ibm-containers-windows_x64.exe>

1. Type **y** when asked to install the plugin.
2. Type **y** if warned about binaries.
3. You should receive a message that **Plugin IBM-Containers v0.8.964 successfully installed**.

This completes the setup of your computer.