Using pyrite.cs.iastate.edu

To ensure that everyone can run the tools and work on assignments, they will be made available on pyrite (when possible). This is the COM S server. Since the tools we are using are open source, many will run in multiple environments/operating systems. You are welcome to run these on your own machines. If you run them elsewhere (other than pyrite) please indicate on your assignments, in case there are issues.

Before you can use the COM S server outside of the University network, you will need to use the Iowa State vpn to log into the University network (see: https://vpn.iastate.edu/)

If you have not logged into pyrite before you need to have an "ssh" and "sftp" client. You can download "putty" (https://www.putty.org/) and winscp(https://winscp.net/eng/index.php) for this purpose or some other clients.

Open your sftp client and go to the directory where you have the downloaded file called 'toolname.tar' (replace toolname with whatever I happen to call the file)

- sftp yournetid@pyrite.cs.iastate.edu

change to the desired directory on pyrite (I suggest you make a COMS_417 directory). The command below assumes you have this directory

- cd COMS_417

Transfer the file (assumes you start in the directory with toolname.tar. If not you need the path). Note – I will use a Unix utility 'tar' to package files. I may also zip it (with a .gz extension). Most laptops come with an unarchiving tool which will open this for you. On pyrite you need to 'untar' the files (see instructions)

- put toolname.tar (or tar.gz)

[note – *if you want to bring a tool back to your local machine* use:

- sftp get filename]

Now exit and ssh into pyrite

- ssh yournetid@pyrite.cs.iastate.edu
- cd COMS_417

Unpack the file:

- tar -xvf toolname.tar

or

- tar -xvf toolname.tar.gz

This will create a directory structure for you with the files

toolname/

Concrete Example Workflow for Jacoco Tool:

(assumes you have a COMS_417 directory)

- sftp yournetid@pyrite.cs.iastate.edu
- cd COMS_417
- put jacoco-0.8.7.tar.gz
- ssh yournetid@pyrite.cs.iastate.edu
- cd COMS_417

Unpack the file:

- tar -xvf jacoco-0.8.7.tar.gz

This will create a directory structure for you with the files

Inside of that directory move to the "examples" directory and to the "triangle" example under that:

- cd jacoco-0.8.7.tar.gz
- cd examples/triangle

In the triangle directory is the maven build file (pom.xml) and a src and target directory. In the src directory there are two subdirectories. The main directory contains the Java source files. The test directory has the Junit test files. The program we care about testing is the TriangleType.java program. There is also a Junit test class TriangleTypeTest.java.

To run the commands from class you want to be in the directory with the pom.xml file. From there you can type:

- mvn test
- mvn jacoco:restore-instrumented-classes
- mvn jacoco:report

Before you run again you may want to do a "mvn clean"

If successful, this will result in new directories inside of the target directory and a classes directory in your main directory. The "site" directory has the coverage reports and the "surefire-reports" has the testing results.

There is some information about accessing your files directly (using smb or server)

https://www.cs.iastate.edu/how-access-your-files-cs-file-server

If you can't directly mount the directory (in a GUI) package the 'site' directory using "tar" and sftp it back to your local machine so you can read the reports using html.

- tar -cf reports.tar site
  (where reports.tar is the name you want to give the tar file and site is the name of the directory to compress and tar).

This creates a file called reports.tar

Use sftp and the get command to bring it to your local machine.

- sftp yournetid@pyrite.cs.iastate.edu
- cd COMS_417
- get reports.tar