How to Run Cycles Competition Code

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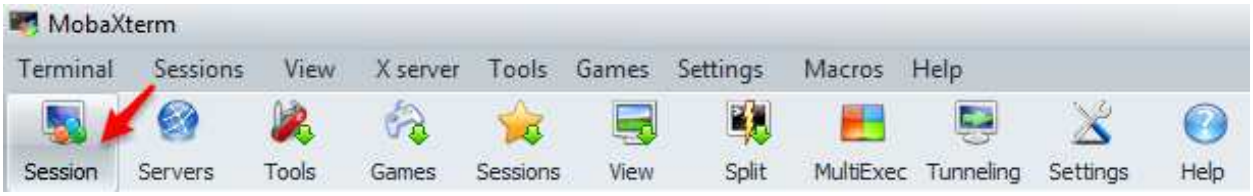
1 From your Windows PC

1.1 Create input files for the Cycles C version

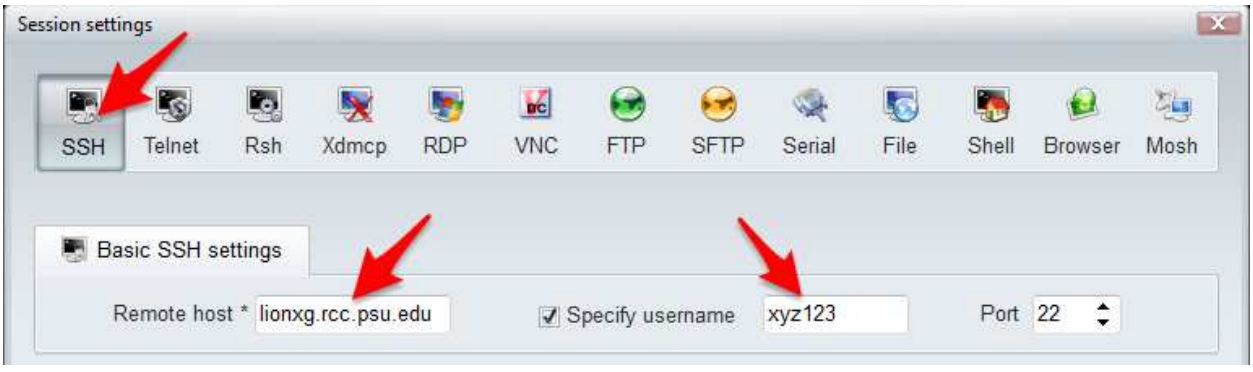
Currently, we should use the Cycles Visual Basic code to create input files for the Cycles C version. To do that, please follow the instruction on `https://gist.github.com/shiyuning`. Copy and paste the VB conversion code into MainClass.vb and WeatherClass.vb, and Run Cycles VB. You can find the corresponding .ctrl, .crop, .soil, .operation, and .weather files in your VB excel file folder.

1.2 Transfer input files to Linux system

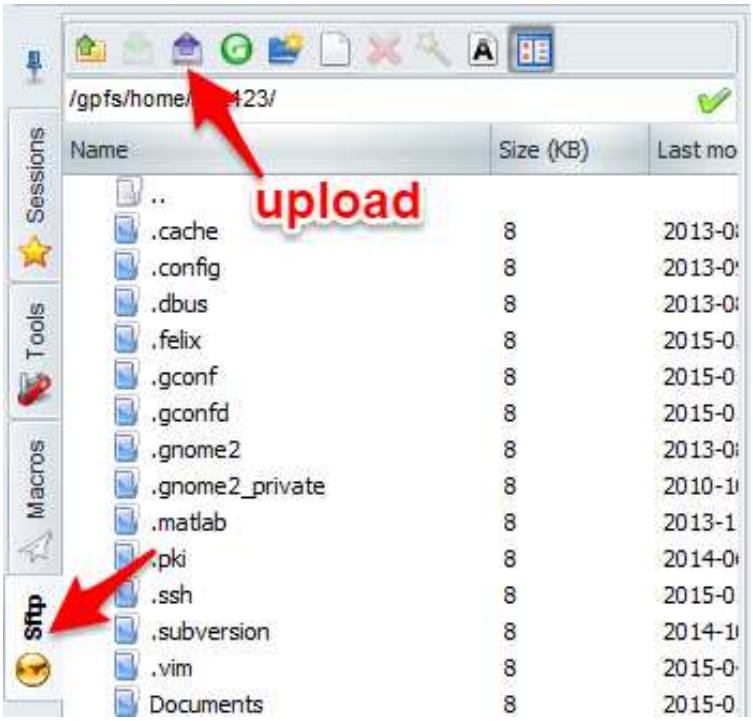
Download and install MobaXterm from `http://mobaxterm.mobatek.net/download-home-edition.html`. Alternatively, you can also use SSH Secure Shell, provided by Penn State ITS (`https://downloads.its.psu.edu/c`
Open MobaXterm on your computer, and click on the Session button.



In the new window, choose SSH session type. The remote host is the Linux machine you are connecting to (e.g., lionxg.rcc.psu.edu). You can specify your username, e.g., your Penn State ID if you are using the LionX system. Click OK to connect.



Once you are connected, you can use the SFTP browser to transfer files between your PC and the Linux machine.



2 On your Linux machine

Cycles is distributed on GitHub (`https://github.com/PSUmodeling/Cycles`). Before downloading the code, you need to configure your Linux machine, following the instruction (`https://help.github.com/arti`
You only need to do the configuration once. When you can connect to GitHub from your Linux machine, you can download the code. In the directory where you want to install Cycles, type the following command:

git clone git@github.com:PSUmodeling/Cycles.git

You can also find the clone URL on the GitHub page.

A Cycles directory should appear in your current directory. Go into the Cycles directory (cd Cycles). There are two branches for the Cycles project: the master branch, which has the same functionalities as the VB version, and the competition branch, which can simulate the competition between multiple crops when planted together. The master branch is the default. If you want to use the competition code, do:

git checkout competition

Alternatively, you can also go to the GitHub page, choose the competition branch, download the competition.zip file to your PC, and upload it to your Linux machine. To install Cycles, type "make" and Cycles will be compiled and installed.

The input files you converted from your windows machine should be put into the "input" directory. To run Cycles for a specific project, do:

./Cycles NAME_OF_PROJECT

Cycles will gointo the input folder to look for the NAME_OF_PROJECT.ctrl, and determine the input files from there. Output files are stored in the "output" directory. You can download them onto your PC and use Excel to analyze and plot.