

### General Reference

RoboRIO Address:	roborio-1418-frc.local
Default Gateway	10.14.18.1
Robot Router SSID:	1418

### Documentation

RobotPy Setup:	<a href="https://robotpy.readthedocs.org">robotpy.readthedocs.org</a>
PyFRC / WPILib:	<a href="https://pyfrc.readthedocs.org">pyfrc.readthedocs.org</a>
PyFRC Extras:	<a href="https://robotpy-wpilib-utilities.readthedocs.org">robotpy-wpilib-utilities.readthedocs.org</a>

### Viewing Network Tables

#### Use

Network Tables are used like a print statement for the robot. We are able to view the values being pushed into network tables from our laptops

#### Pushing Data to Network Tables

Create new table (Usually in robot init)

```
self.sd = NetworkTable.getTable('SmartDashboard')
```

Push value (In robot loop)

```
self.sd.putNumber("Value name", value)
```

#### Viewing Network Tables

- 1) Install robotpy's eclipse plugins
- 2) Connect to the robot's router on your laptop
- 3) Open eclipse and go to WPILib > Run Outline Viewer
- 4) Enter a host of: roborio-1418.local
- 5) Click Start Client

### Python

#### Statements

```
if expression:
    statements
elif expression:
    statements
else:
    statements
```

#### Loops

```
while expression:
    statements
for var in collection:
    statements
for i in range(start, end):
    statements
```

### Git

Pull Changes:	<code>git pull</code>
Add a File:	<code>git add &lt;file name&gt;</code>
Remove File:	<code>git rm &lt;file name&gt;</code>
Move File:	<code>git mv &lt;file name&gt; &lt;new file name/path&gt;</code>
Commit:	<code>git commit -m "&lt;insert comment here&gt;"</code>
Push:	<code>git push &lt;repo/remote&gt; &lt;branchname&gt;</code>
Check Status:	<code>git status</code>

### Command Line / Terminal

Change	<code>cd &lt;folder name&gt;</code>
Folder/Directory:	
List Files:	<code>ls</code>
Delete File:	<code>rm &lt;file name&gt;</code>
Move File:	<code>mv &lt;file name&gt; &lt;new file name/path&gt;</code>
Create Folder:	<code>mkdir &lt;folder name&gt;</code>

### Python Robot Simulator

#### Use

**BEFORE** deploying code to the robot or pushing code to git make sure to test your code in the pyfrc simulator. This makes sure that your code will not crash the robot and can also be helpful when developing code at home away from the robot.

#### Running Simulator

- 1) Navigate to `2016-robot/robot/`
- 2) Run the simulator with `python3 robot.py sim`

### Deploy To Roborio

#### Deploying

- 1) Change your wifi to the robot's wifi 1418
- 2) Navigate to the `2016-robot/robot/` directory in terminal.
- 3) Use command `python3 robot.py deploy` to start deploying.
- 4) Use the robot address `roborio-1418.local` when prompted

#### Tests

If no tests are in the `2016-robot/tests/` directory then you will have to deploy with `--builtin`

#### Troubleshooting

Update pyfrc: `pip3 install --upgrade --user pyfrc`

