

Software requirements for unit tests and Git version control

- Anaconda
 - Download link: <https://www.anaconda.com/distribution/#download-section>
- Git
 - git-scm.com/downloads
- Create a GitHub account
 - github.com
- Download modelica-buildings library
 - github.com/lbl-srg/modelica-buildings

Configuration for unit tests

1. Fork lbl-srg/modelica-buildings to your own account
2. Clone modelica-buildings
 - `git clone github.com/account-name/modelica-buildings`
3. Configure git with GitHub account:
 - `git config -- global user.name "account-name"` (without quotation marks)
 - `git config -- global user.email "email-address"` (without quotation marks)
4. Install BuildingsPy
 - `pip install git+https://github.com/lbl-srg/BuildingsPy.git`

Unit tests procedure

1. Develop a block/model in Modelica
2. Create a test model for the block/model in the Validations or Examples package

- Add in the last annotation the following entry

```
annotation (__Dymola_Commands(file="modelica://Buildings/Resources/Scripts/Dymola/Controls/Sources/Examples/DayType.mos"  
    "Simulate and plot"),  
    experiment(StartTime=-1.8144e+06, Tolerance=1e-6, StopTime=1.8144e+06),
```

3. Provide a Dymola script (.mos file) in the following folder to run the test model

- Buildings\Resources\Scripts\Dymola\...\Validations or
- Buildings\Resources\Scripts\Dymola\...\Examples

4. Functions to be included in the mos file

- simulateModel("Buildings.Controls.Sources.Examples.DayType", startTime=-1.8144e+06, tolerance=1e-6, stopTime=1.8144e+06, method="dassl", resultFile="DayType");
- createPlot();

5. Reference

- <https://github.com/lbl-srg/modelica-buildings/wiki/Unit-Tests>

Unit tests procedure

1. Commit to git the following files generated by running unit tests

- Buildings\Resources\ReferenceResults\Dymola
- Resources\Scripts\OpenModelica\compareVars

2. Demo to run unit tests

- `cd modelica-buildings\Buildings`
- `python ..\bin\runUnitTests.py -s Buildings.Controls.Sources`

Git workflow

1. Open an issue on <https://github.com/lbl-srg/modelica-buildings/issues>
 - Describe the issue that you are working on
 - Ask Michael to create a branch on lbl-srg for this issue
2. Create a new branch to commit work
 - `git branch "new-branch-name"` (without quotation marks)
 - `git checkout "new-branch-name"` (without quotation marks)
 - `git add .`
 - `git commit -m "a message to indicate the changes"`
 - `git push origin "new-branch-name"`
 - Go to GitHub to make a pull request for Michael to review
3. References:
 - <https://github.com/lbl-srg/modelica-buildings/wiki/Git-Information>

Git workflow (backup)

1. Configure remote branches

- Check remote origin
 - cd modelica-buildings
 - git status
 - git remote
- Add remote upstream
 - git remote add upstream <https://github.com/lbl-srg/modelica-buildings.git>

2. Manage remote branches

- Track upstream branch
 - git checkout --track upstream/branch-name
- Updating remote branch
 - git pull upstream branch-name
 - git push origin branch-name