
CFDEM
project
CFDEM
coupling
LIGGGHTS
DCS
Computing GmbH
CFDEM
coupling

githubAccess_public

Description:

This routine describes how to setup a github account and pull repositories of the CFDEMproject. After setting some environment variables LIGGGHTS and CFDEMcoupling can be compiled

Procedure:

Basically the following steps have to be performed:

- *git clone* the desired repository
- update your repositories by *git pull*
- set environment variables
- compile LIGGGHTS and CFDEMcoupling
- run your own cases

***git clone* the desired repository:**

If not already done, open a terminal and create a directory for LIGGGHTS in $HOME:

```
cd

mkdir LIGGGHTS

cd LIGGGHTS
```

To clone the public LIGGGHTS repository, open a terminal and execute:

git clone git://github.com/CFDEMproject/LIGGGHTS-PUBLIC.git LIGGGHTS-PUBLIC

If not already done, open a terminal and create a directory for CFDEMcoupling in $HOME:

```
cd

mkdir CFDEM

cd CFDEM
```

Make sure that OpenFOAM(R)-2.1.x is already set up correctly!

To clone the public CFDEMcoupling repository, open a terminal and execute:

git clone git://github.com/CFDEMproject/CFDEMcoupling-PUBLIC.git CFDEMcoupling-PUBLIC-$WM_PROJECT_VERSION

Troubles? See Troubleshooting section below.

Update your repositories by *git pull*:

To get the latest version, open a terminal, go to the location of your local installation and type: *Warning: git stash will remove your changes in $HOME/CFDEM/CFDEMcoupling-PUBLIC-$WM_PROJECT_VERSION !*

```
cd $HOME/CFDEM/CFDEMcoupling-PUBLIC-$WM_PROJECT_VERSION
git stash
git pull
```

Set Environment Variables:

Now you need to set some environment variables in ~/.bashrc (if you use c-shell, manipulate ~/.cshrc accordingly). Open ~/.bashrc

```
gedit ~/.bashrc &
```

add the lines (you find them also in .../cfdemParticle/etc/bashrc and cshrc respectively):

```
#=============================================#
#- source cfdem env vars
export CFDEM_VERSION=PUBLIC
export CFDEM_PROJECT_DIR=$HOME/CFDEM/CFDEMcoupling-$CFDEM_VERSION-$WM_PROJECT_VERSION
export CFDEM_SRC_DIR=$CFDEM_PROJECT_DIR/src/lagrangian/cfdemParticle
export CFDEM_SOLVER_DIR=$CFDEM_PROJECT_DIR/applications/solvers
export CFDEM_DOC_DIR=$CFDEM_PROJECT_DIR/doc
export CFDEM_UT_DIR=$CFDEM_PROJECT_DIR/applications/utilities
export CFDEM_TUT_DIR=$CFDEM_PROJECT_DIR/tutorials
export CFDEM_PROJECT_USER_DIR=$HOME/CFDEM/$LOGNAME-$CFDEM_VERSION-$WM_PROJECT_VERSION
export CFDEM_bashrc=$CFDEM_SRC_DIR/etc/bashrc
export CFDEM_LIGGGHTS_SRC_DIR=$HOME/LIGGGHTS/LIGGGHTS-PUBLIC/src
export CFDEM_LIGGGHTS_MAKEFILE_NAME=fedora_fpic
export CFDEM_LPP_DIR=$HOME/LIGGGHTS/mylpp/src
export CFDEM_PIZZA_DIR=$HOME/LIGGGHTS/PIZZA/gran_pizza_17Aug10/src
. $CFDEM_bashrc
#=============================================#
```

Save the ~/.bashrc, open a new terminal and test the settings. The commands:

```
$CFDEM_PROJECT_DIR
$CFDEM_SRC_DIR
$CFDEM_LIGGGHTS_SRC_DIR
```

should give "...: is a directory" otherwise something went wrong and the environment variables in ~/bashrc are not set correctly.

To specify the paths of pizza, please check the settings in $CFDEM_SRC_DIR/etc/bashrc.

If $CFDEM_SRC_DIR is set correctly, you can type

```
cfdemSysTest
```

to get some information if the paths are set correctly.

Compile LIGGGHTS and CFDEMcoupling:

If above settings were done correctly, you can compile LIGGGHTS by typing:

```
git clone git://github.com/CFDEMproject/CFDEMcoupling-PUBLIC.git CFDEMcoupling-PUBLIC-$WM_PROJECT_VERSION
```

```
cfdemCompLIG
```

and you can then compile CFDEMcoupling by typing:

```
cfdemCompCFDEM
```

You can run the tutorial cases by executing .../etc/testTutorial.sh through the alias *cfdemTestTUT*. Alternatively you can run each tutorial using the *Allrun.sh* scripts in the tutorial directories.

In case questions concerning the installation arise, please feel free to contact our forum at www.cfdem.com.

Run Your Own Cases:

If you want to run your own cases, please do so in $CFDEM_PROJECT_USER_DIR/run which is automatically being generated. E.g. copy one of the tutorial cases there, adapt it to your needs. Changes in $CFDEM_TUT_DIR will be lost after every *git stash*!

Additional Installations:

Optionally you can install lpp which will help you convert the DEM (dump) data to VTK format. For standard CFD-DEM runs this will not be necessary. To get the DEM postporcessing tool "lpp" you need python-numpy package installed:

```
sudo apt-get install python-numpy
```

You can pull the latest version of lpp with:

```
cd $HOME/LIGGGHTS
```

```
git clone git://cfdem.git.sourceforge.net/gitroot/cfdem/lpp mylpp
```

Troubleshooting:

- toubles with git clone?

a) The git protocol will not work if your computer is behind a firewall which blocks the relevant TCP port, you can use alternatively (write command in one line):

git clone https://user@github.com/CFDEMproject/CFDEMcoupling-PUBLIC.git CFDEMcoupling-PUBLIC-$WM_PROJECT_VERSION

b) If you face the error: "error: SSL certificate problem, verify that the CA cert is OK. Details: error:14090086:SSL routines:SSL3_GET_SERVER_CERTIFICATE:certificate verify failed while accessing https://github.com/...",

please use: env GIT_SSL_NO_VERIFY=true git clone https://github...

(see http://stackoverflow.com/questions/3777075/https-github-access)

c) If you face the error: "Agent admitted failure to sign using the key. Permission denied (publickey).", after ssh -T git@github.com

please type: "ssh-add"

(see: https://help.github.com/articles/error-agent-admitted-failure-to-sign)