Compiling JEDI components on Hera

Note: This page is superseded and will be removed. See https://jointcenterforsatellitedataassimilation-jedi-docs.readthedocs-hosted.com/en/latest/developer/jedi_environment/modules.html#hera for up-to-date instructions for Hera.

Instruction for cloning, building and running the JEDI components (OOPS, UFO, FV3, SOCA bundles) on Hera

If this is the first time building JEDI follow the initialization steps at the bottom of this page before continuing.

INTEL 19

Load the modules:

```
$> module purge
$> module use -a /scratch1/NCEPDEV/da/Daniel.Holdaway/opt/modulefiles/
$> module load apps/jedi/intel-19.0.5.281
```

This will load the Intel compiler suite (currently only v19.0.5.281 is supported)

See what modules are loaded:

```
$> module list
```

Assume *comp_name* can be oops, ufo-bundle, fv3-bundle or soca-bundle

Clone the JEDI component.

```
$> git clone https://github.com/jcsda/comp_name
```

change directory into the cloned component:

```
$> cd comp_name
```

Create a build directory and cd into it:

```
$> mkdir build
$> cd build
```

Build the components of the bundle, create executables and test them:

```
$> ecbuild --build=release -DMPIEXEC=$MPIEXEC ../
$> make -j12
$> ctest
```

Release can be exchanged with 'debug' or 'bit' for different levels of optimization.

GNU

GNU compilers are not currently supported on Hera

INITIALIZATION

1. Several JEDI repositories use Git LFS (large file store) to manage large files and needs to be initialized. It installs several Git hooks for managing these files. The initialization is a one-time setup and can be done as follows:

   ```
   $> git lfs install
   ```

2. Github will ask for authentication each time a protected repository is cloned. All JEDI repositories are currently protected. The user can "cache" the login credentials to prevent github from asking for login credentials for a acceptable period of time (3600 secs) as follows:

   ```
   $> git config –global credential.helper “cache –timeout=3600”
   ```

Related articles

- Compiling JEDI components on Hera
- Building ufo-bundle with ODB support
- GNSSRO UFO Hackathon, August 21-27, 2018
- Running HOFX tests on the gnssro branch
- Running gcov coverage analysis and profiling tool