

Suggested Code Layout for Babel Components

Wael R. Elwasif, Boyana Norris
ORNL ANL

Goals

- Introduce “recommended best practices” for code layout of Babel ports and components.
- Not SCARE potential users away with many files (they don't need to worry about).
- Automate (as much as possible) the creation of the Makefiles needed to build ports and components.

Code layout to make life easy(ier)

- Separate Port definition and associated interfaces into a separate package.
- Component class(es) are separated into a separate package.
- `--generate-subdirs`, `--exclude-external`, `-hide-glue`, `--language-subdirs` (new in Babel 0.8.8).
- Scripts to automatically generate makefiles (work in progress)
- Example using MPISetup port follows.

```
babel --server=C++ --repository-path=repository
      -output-directory=mpisetup-comp --exclude-external
      --generate-subdirs -language-subdir --hide-glue CCAMPIImpl
```

```
babel -client=C++ --repository-path=repository
      -output-directory=mpisetup-port --exclude-external
      --generate-subdirs -language-subdir --hide-glue CCAMPI
```

Component Tree

```

mpisetup-comp/:
CCAMPIImpl/

mpisetup-comp/CCAMPIImpl:
c++/

mpisetup-comp/CCAMPIImpl/c++:
babel.make          CommClass_Impl.hh  GroupClass_Impl.cc  MPISetupComponent_Impl.cc
CommClass_Impl.cc  glue/          GroupClass_Impl.hh  MPISetupComponent_Impl.hh

mpisetup-comp/CCAMPIImpl/c++/glue:
babel.make          CCAMPIImpl.hh          CommClass.hh
MPISetupComponent.cc
CCAMPIImpl_CommClass_IOR.c  CCAMPIImpl_IOR.h      CommClass_Skel.cc
MPISetupComponent.hh
CCAMPIImpl_CommClass_IOR.h  CCAMPIImpl_MPISetupComponent_IOR.c  GroupClass.cc
MPISetupComponent_Skel.cc
CCAMPIImpl_GroupClass_IOR.c  CCAMPIImpl_MPISetupComponent_IOR.h  GroupClass.hh
CCAMPIImpl_GroupClass_IOR.h  CommClass.cc          GroupClass_Skel.cc

```

The Port Tree

```
mpisetup-port:
```

```
CCAMPI/
```

```
mpisetup-port/CCAMPI:
```

```
c++/
```

```
mpisetup-port/CCAMPI/c++:
```

```
glue/
```

```
mpisetup-port/CCAMPI/c++/glue:
```

babel.make	CCAMPI_Group_IOR.c	CCAMPI_IOR.h	Comm.cc	Group.hh
CCAMPI_Comm_IOR.c	CCAMPI_Group_IOR.h	CCAMPI_MPISetupPort_IOR.c	Comm.hh	
MPISetupPort.cc				
CCAMPI_Comm_IOR.h	CCAMPI.hh	CCAMPI_MPISetupPort_IOR.h	Group.cc	
MPISetupPort.hh				