

Usage of 3rd party code

Class:

Makefile.specific

```
1
2 # Additional compiler flags
3 COMPILER_FLAGS +=
4 LINKER_FLAGS +=
5 # Additional headers (Custom.h Specific.h ...) which need to be installed
6 EXTRA_HEADERS +=
7
8
9
```



Deploy-Unit:

Makefile.specific

Makefile.specific

```
1
2 # Additional libs and flags which are common to the Realtime and Server part
3 COMPILER_FLAGS +=
4 LINKER_FLAGS +=
5
6 # Additional libs and flags which are specific to the Realtime part
7 COMPILER_RT_FLAGS +=
8 LINKER_RT_FLAGS +=
9
10 # Additional libs and flags which are specific to the Server part
11 COMPILER_SERVER_FLAGS +=
12 LINKER_SERVER_FLAGS +=
13
14 # Additional headers (Custom.h Specific.h ...) which need to be released
15 EXTRA_HEADERS +=
16
```



DummyDevice.h

```
1 #ifndef DUMMYDEVICE_H_
2 #define DUMMYDEVICE_H_
3
4 #include <string>
5 #include <stdint.h>
6
7 namespace dummyDevice
8 {
9
10
11 int32_t getDeviceHandle(std::string address);
12
13 void initialize(int32_t deviceHandle);
14
15 double measureVoltage(int32_t deviceHandle);
16
17 void setVoltage(int32_t deviceHandle, double voltage);
18
19 void setMaxVoltage(int32_t deviceHandle, double voltage);
20
21 void setMinVoltage(int32_t deviceHandle, double voltage);
22
23 }
24
25
26
27 #endif /* DUMMYDEVICE_H_ */
28
```

```
/home/bel/schwinn/lnx/Software/DummyDevice/lib libDummyDevice.a
                               /include DummyDevice.h
                               /src
```



```
Makefile.specific  Makefile.specific
1
2 DUMMY_DEVICE_HOME = /home/bel/schwinn/lrx/Software/DummyDevice
3
4 # Additional compiler flags
5 COMPILER_FLAGS += -I$(DUMMY_DEVICE_HOME)/include
6 LINKER_FLAGS +=
7 # Additional headers (Custom.h Specific.h ...) which need to be installed
8 EXTRA_HEADERS +=
9
```

```
10
11
Makefile.specific  Makefile.specific
1
2 DUMMY_DEVICE_HOME = /home/bel/schwinn/lrx/Software/DummyDevice
3
4 # Additional libs and flags which are common to the Realtime and Server part
5 COMPILER_FLAGS += -I$(DUMMY_DEVICE_HOME)/include
6 LINKER_FLAGS += -L$(DUMMY_DEVICE_HOME)/lib -lDummyDevice
7
8 # Additional libs and flags which are specific to the Realtime part
9 COMPILER_RT_FLAGS +=
10 LINKER_RT_FLAGS +=
11
12 # Additional libs and flags which are specific to the Server part
13 COMPILER_SERVER_FLAGS +=
14 LINKER_SERVER_FLAGS +=
15
16 # Additional headers (Custom.h Specific.h ...) which need to be released
17 EXTRA_HEADERS +=
18
```

```
DUMMY_DEVICE_HOME = /common/home/bel/schwinn/lrx/Software/DummyDevice
COMPILER_FLAGS += -I$(DUMMY_DEVICE_HOME)/include
LINKER_FLAGS += -L$(DUMMY_DEVICE_HOME)/lib -lDummyDevice
```



```
#include <DummyDevice.h>
```

```
void MeasVoltage::execute(fesa::RTEvent* pEvt)
{
    std::vector<Device*>::iterator device;
    for (device = deviceCol_.begin(); device != deviceCol_.end(); device++)
    {
        double measVoltage;
        try
        {
            //int32_t hwDeviceHandle = dummyDevice::getDeviceHandle((*device)->HardwareDeviceName.get()->hostName);
            int32_t hwDeviceHandle = dummyDevice::getDeviceHandle("myDeviceAdress");
            measVoltage = dummyDevice::measureVoltage(hwDeviceHandle);
            (*device)->measVoltage.set(measVoltage,pEvt->getMultiplexingContext());
        }
        catch(std::string ex)
        {
            std::cout << "An error happened in the device: " << ex << std::endl;
            return;
        }

        std::cout << "Voltage measured successfully! Voltage: " << measVoltage << std::endl;
    }
}
```

Quick crash-course: The OnDemandEventSource

| | |
|--|----------------------------------|
| ▼ e actions | (set-server-action*, get-server |
| ▶ e rt-action | ((description*), (triggered-eve |
| ▶ e get-server-action | ((description*), (disabling-alar |
| ▼ e set-server-action | ((description*), (disabling-ala |
| a implementation | default |
| a name | SetRandomNumberMax |
| ▼ e triggered-event-source | |
| a on-demand-event-source-ref | MyOnDemandSource |
| a automatic | true |
| ▶ e get-server-action | ((description*), (disabling-alar |
| ▼ e events | (sources?, logical-events?) |
| ▼ e sources | (timing-event-source, timer-ev |
| ▶ e timing-event-source | (description*) |
| ▶ e timer-event-source | (description*) |
| ▼ e on-demand-event-source | (description*) |
| a name | MyOnDemandSource |
| ▶ e logical-events | (logical-event+) |

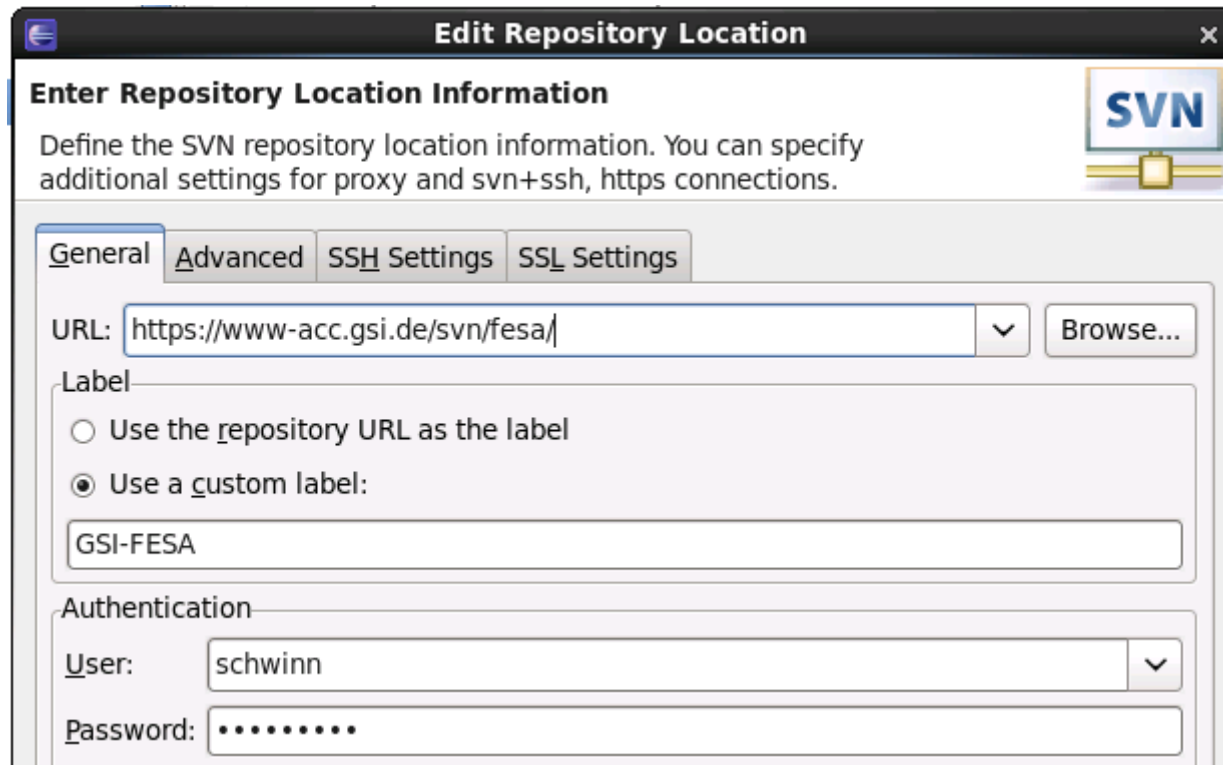
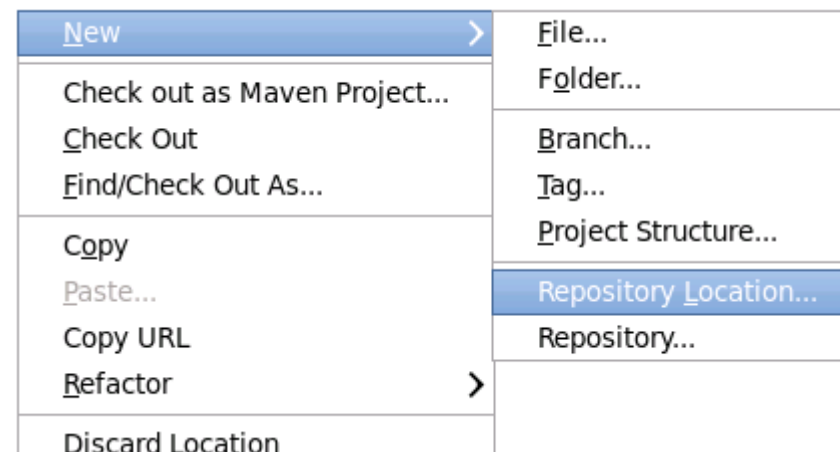
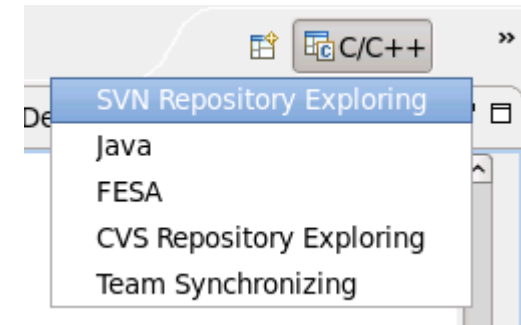
Mission



- ① Build a FESA-class in order to control an instance of a “DummyDevice”
- ① Keep all device-interaction on the RT-side
- ① Measure the Voltage of “DummyDevice” once a second.
- ① Allow clients to display the measured data, to set a voltage and to set min/max limits
- ① Use an OnDemandEventSource in order to trigger RT-Actions by Set-Server-Actions
- ① Use a custom-server-action to throw an exception if the set-value is out of range
- ① Hint: You have to initialize the hw-device before usage! Best place for that is the RTDeviceClass

On any problems: fesa-support@gsi.de

SVN - Usage

A screenshot of the 'Edit Repository Location' dialog box in an IDE. The dialog has a title bar with a close button. Below the title bar is a section titled 'Enter Repository Location Information' with a description: 'Define the SVN repository location information. You can specify additional settings for proxy and svn+ssh, https connections.' There are four tabs: 'General' (selected), 'Advanced', 'SSH Settings', and 'SSL Settings'. In the 'General' tab, the 'URL' field contains 'https://www-acc.gsi.de/svn/fesa/' and has a 'Browse...' button. Below the URL is a 'Label' section with two radio buttons: 'Use the repository URL as the label' (unselected) and 'Use a custom label:' (selected). A text field below the radio buttons contains 'GSI-FESA'. At the bottom is an 'Authentication' section with a 'User' field containing 'schwinn' and a 'Password' field with masked characters (dots).

SVN - Usage



<https://www-acc.gsi.de/viewvc/view/fesa/device/>

- ▼ GSI-FESA
 - ▷ cmw 4502
 - ▼ device 4770
 - ▼ class 4878
 - ▷ ATestClass 4471
 - ▷ Biorem 3612
 - ▷ DcMagnet 4398
 - ▷ DummyDevice 4879
 - ▷ FCT_prj 1924
 - ▷ VHQ203M 4647
 - ▷ deploy-unit 4880
 - ▷ driver 4889

- ▼ DummyDevice 4879
 - ▼ trunk 4888
 - ▷ DummyDevice 4888
 - ▷ branches 4878
 - ▷ tags 4878
 - ▷ FCT_prj 1924
 - ▷ HV_prj 2001

- New
- Check out as Maven Project...
- Check Out
- Find/Check Out As...

- Team
- Compare With
- Restore from Local History...
- FESA

- | | | | |
|-------------------------------|-----------|-----------------------------|------------|
| Refresh | F5 | Synchronize with Repository | Ctrl+Alt+S |
| Index | | Commit... | Ctrl+Alt+C |
| Make Targets | | Update | Ctrl+Alt+U |
| Resource Configurations | | Update to Revision... | Ctrl+Alt+D |
| Validate | | Create Patch... | Ctrl+Alt+P |
| Team | | Apply Patch... | |
| Compare With | | Revert... | |
| Replace With | | Add to Version Control... | |
| Restore from Local History... | | Add to svn:ignore... | |
| Run C/C++ Code Analysis | | Edit Conflicts | |
| Properties | Alt+Enter | Edit Tree Conflicts | |



Thank you for your listening !!