MARTe2-core - User story #1332

MARTe2-tutorials env. setup

17.11.2022 09:30 - André Neto

Status:	New	**Start date:**	17.11.2022
Priority:	Normal	**Due date:**	
Assignee:		**% Done:**	100%
Category:		**Estimated time:**	0.00 hour
Target version:		**Spent time:**	0.00 hour
Git branch (link):		**SVN commit (link/?p=rev):**	
Git merge to develop (link):			

Description

Write instructions on how to prepare the environment to run the tutorials. These instructions will be released as part of the MARTe2 online help (https://vcis.f4e.europa.eu/marte2-docs/master/html/) which is based on Sphinx

Work:

1. Clone MARTe2 and change to the branch of this user-story
2. Add to the MARTe2 online documentation a section named Tutorials and a subsection named Environment
3. Inside the Environment section add/modify the instructions from the demo that are available here: https://vcis-gitlab.f4e.europa.eu/aneto/MARTe2-demos-padova
    1. Make sure everything works with the current versions of MARTe2
    2. If there are artifacts in the MARTe2-demos-padova moved them to the MARTe2 repository.

Notes:

1. To generate the documentation
    1. cd MY_MARTE_LOC/Docs/User/
    2. make html
2. Open a browser and point to Docs/User/build/html

History

#1 - 17.11.2022 09:30 - André Neto

- Status changed from New to Code: Impl

#2 - 17.11.2022 09:30 - André Neto

- Assignee set to Jose Maria Gomez

#3 - 19.12.2022 11:53 - Jose Maria Gomez

- File training_demo.rst added

Some changes were needed in the instructions to make it run. The new instructions are included in 'training_demo.rst'

NOTE: Since no root access was granted, some commands could not be run - such as the 'yum' or 'iptables'
NOTE: The Sphinx sources are located in
/home/jgomez/MARTe2/Docs/User/source.
The builds are in
/home/jgomez/MARTe2/Docs/User/build/html

```
For building, use the command:
        sphinx-build -b html . /home/jgomez/MARTe2/Docs/User/build
```

#4 - 19.12.2022 11:54 - Jose Maria Gomez

- % Done changed from 0 to 50

#5 - 20.12.2022 13:26 - Jose Maria Gomez

- % Done changed from 50 to 100

- File tutorial.rst added

- File index.rst added

New branch MARTe2 -> 1332_MARTe2_tutorials_env_setup created. Creted folder ./tutorial inside /sources. Files tutorial.rst and index.rst created/modified

NOTE: The command necessary for building sphinx was:
sphinx-build -a -b html . /home/jgomez/MARTe2/Docs/User/build/html

```
If -a was not used, only index.html got updated, but not the other files. So when they were accessed, the fram
e in the left with all the links to the different parts of the tutorial didn't show the newly created "tutoria
l".
```

#6 - 11.04.2023 07:43 - André Neto

Comments for commit 82271f198093d5ef5fc3bbe6a7e5d91784a03e99:

In the tutorial/environment/building.rst page, please:

- Remove the reference to the SDN (as it is only meaningful for environments with CCS)
  - By the way - SDN - is the ITER Synchronous Databus (real-time) Network - https://www.iter.org/doc/www/content/com/Lists/ITER%20Technical%20Reports/Attachments/15/ITR_20_009_Plant_Control_Design_Handbook_v1.pdf
  - Instead, for the demos, we can now use the portable UDPDataSource implementation (https://vcis-gitlab.f4e.europa.eu/aneto/MARTe2-components/-/tree/master/Source/Components/DataSources/UDP)
    - (The SDN is also based on UDP)
- Add a small description and a reference to the MDSplus page https://www.mdsplus.org/index.php/Introduction

Before the EPICS example, let's add and explain some (easier) examples:

- A MARTe application that reads from a LinuxTimer and prints the Counter and the Time to a LoggerDataSource at a fixed frequency of 2 Hz;
- A MARTe application that reads from a LinuxTimer, executes a WaveformSin and prints the value of the sine to a LoggerDataSource at a fixed frequency of 10 Hz;
- A MARTe application that reads from a LinuxTimer, executes a WaveformSin and stores the value of the sine to a FileDataSource;
- A MARTe application that reads from a LinuxTimer, reads the values from a file (using the FileDataSource), use the MathExpressionGAM to modify these values (e.g. by multiplying them by 2) and then stores the values to a FileDataSource;
- A MARTe application with two threads communicating between them using the RealTimeThreadSynchronisation DataSource.
  - The first RealTimeThread is driven by a LinuxTimer running at a frequency of 100 Hz;
  - The second RealTimeThread prints the value of the counter at a sub-frequency of 1 Hz (Samples = 100).
- A MARTe application - driven by a LinuxTimer at 10 Hz - that uses the HistogramGAM to compute statistics about the thread cycle time and outputs to the LoggerDataSource.
- A MARTe application with the same structure of the EPICS application (example 1), but without the EPICS::EPICSCAClient.

#7 - 11.03.2025 13:07 - André Neto

- Status changed from Code: Impl to New

#8 - 11.03.2025 13:08 - André Neto

- Assignee deleted (Jose Maria Gomez)

Files

training_demo.rst	5.09 KB	19.12.2022	Jose Maria Gomez
index.rst	1.36 KB	20.12.2022	Jose Maria Gomez
tutorial.rst	6.02 KB	20.12.2022	Jose Maria Gomez