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# **MARTe2 Users Meeting**

## **OPC Unified Architecture**

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- Integration with OPC UA
  - Server
  - Monitoring
  - Commands (i.e. Messages)
  - Structures
  - Non RT input data source

# Example1 – How to run

- Console #1

```
cd ~/Projects/MARTe2-demos-padova/StartUp
./Main.sh -l RealTimeLoader -s State1 -f ../Configurations/OPCUAServer-
AddressSpace.cfg
```

- Console #2

```
cd ~/Projects/MARTe2-demos-padova/StartUp
./Main.sh -l RealTimeLoader -f ../Configurations/RTApp-OPCUA-1.cfg -m
StateMachine:START
```

- Console #3

```
cd ~/Projects/MARTe2-demos-padova/Other/OPCUAClientEx
./UAWrite MARTE2-DEMO-APP:COMMAND 0 && sleep 1
./UAWrite MARTE2-DEMO-APP:COMMAND 1 && sleep 2
./UAREad MARTE2-DEMO-APP:STATUS && sleep 4
./UAWrite MARTE2-DEMO-APP:COMMAND 0 && sleep 1
./UAREad MARTE2-DEMO-APP:STATUS

#Open the file /tmp/RTApp-OPCUA-1.csv and remove the last line

Octave
>graphics_toolkit('gnuplot');
>load('/tmp/RTApp-OPCUA-1.csv');
>plot(RTApp_OPCUA_1(:,1), RTApp_OPCUA_1(:,2), RTApp_OPCUA_1(:,1), RTApp_OPCUA_1(:,6))
>legend('Reference0', 'Measurement0')
```

# Example2 – How to run



- Console #1

```
cd ~/Projects/MARTe2-demos-padova/StartUp  
./Main.sh -l RealTimeLoader -s State1 -f ../Configurations/OPCUAServer-  
AddressSpace.cfg
```

- Console #2

```
cd ~/Projects/MARTe2-demos-padova/StartUp  
./Main.sh -l RealTimeLoader -f ../Configurations/RTApp-OPCUA-2.cfg -m  
StateMachine:START
```

- Console #3

```
cd ~/Projects/MARTe2-demos-padova/StartUp  
./Main.sh -l RealTimeLoader -s State1 -f ../Configurations/OPCUA-App-Monitor.cfg
```

## Example2 – Learn more

- Try to monitor more signals with OPCUADDataSource
- Use an OPCUADSInput and an OPCUADSOutput to connect a control output to a measurement input



# Example3 – How to run



- Console #1

```
cd ~/Projects/MARTe2-demos-padova/StartUp
./Main.sh -l RealTimeLoader -s State1 -f ../Configurations/OPCUAServer-
AddressSpace.cfg
```

- Console #2

```
cd ~/Projects/MARTe2-demos-padova/StartUp
./Main.sh -l RealTimeLoader -f ../Configurations/RTApp-OPCUA-3.cfg -m
StateMachine:START
```

- Console #3

```
cd ~/Projects/MARTe2-demos-padova/Other/OPCUAClientEx
./UAWrite MARTE2-DEMO-APP:COMMAND 1
Sleep 20
./UAWrite MARTE2-DEMO-APP:COMMAND 0
```

- Console #4

```
cd ~/Projects/MARTe2-demos-padova/StartUp
./Main.sh -l RealTimeLoader -s State2 -f ../Configurations/OPCUA-App-Monitor.cfg
```

## Example3 – Learn more

- In OPCUA-App-Monitor.cfg monitor the structure MARTe2-Demo-App:Signals adding a new GAMDisplay and a new State
- Create a configuration file that allows to proxy from/to EPICSv3 or EPICSv7 to/from OPCUA
  - Note the EPICSv3 db file and the OPCUA Address Space must be updated with any new variables that might be required





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# Thank you for your attention

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