Synapse API Manual

Updated: 7/25/16

Synapse API Manual

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Synapse API Manual Table of Contents

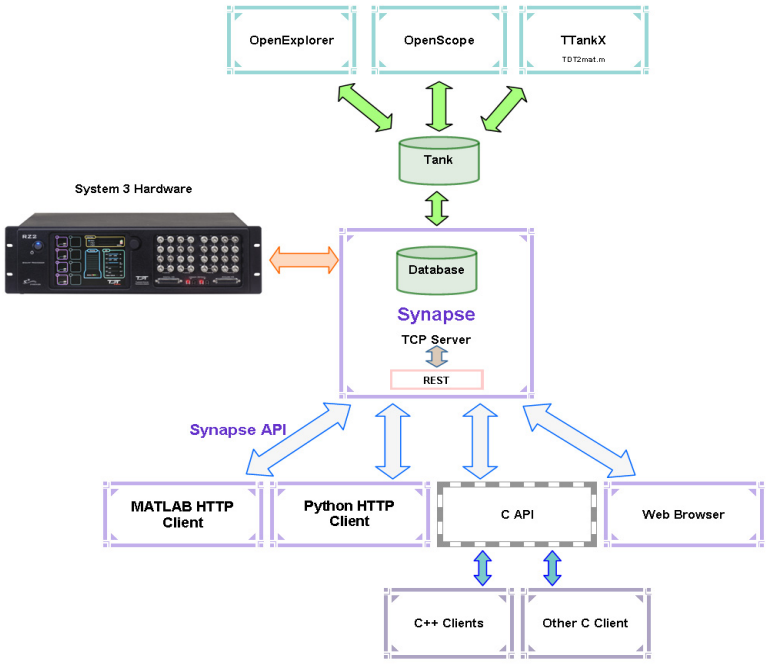
Synapse API Overview

Synapse API is a series of methods that can be used to develop Synapse companion applications using Matlab, Python, C++ or any language that can load a C library or make HTTP requests. It provides access to System 3 real-time processing devices during an experiment, and lets you control Synapse remotely, mimicking many behaviors a user would perform.

Client applications developed using Synapse API can:

- Control the system mode
- Set tank and block names
- Set subject, user, and experiment, and add entries to the Synapse database
- Read and write gizmo parameters at runtime, including user gizmos
- Issue triggers and retrieve system status

Synapse API is a RESTful interface between a built-in TCP server and user development tools. Client applications can connect to Synapse through direct HTTP requests or through a provided C API wrapper.



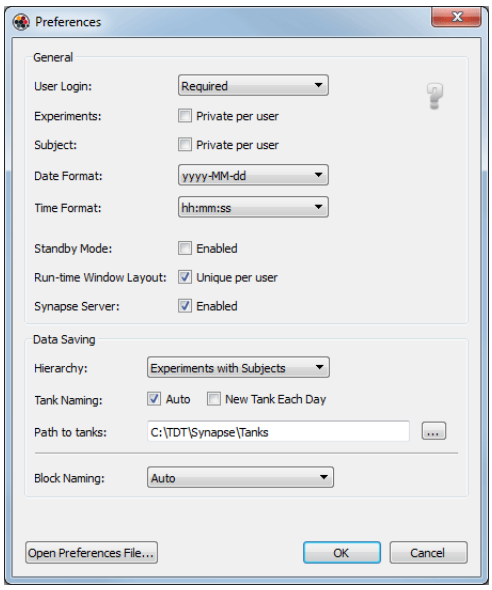
Synapse and Synapse API Functional Diagram

Synapse also uses TDT's TTank data server and data format which provides compatibility with many of the TDT OpenEx client applications, such as OpenExplorer and OpenScope, and includes direct data import into Matlab with TDT2mat.m.

Using Synapse API Tools in Synapse

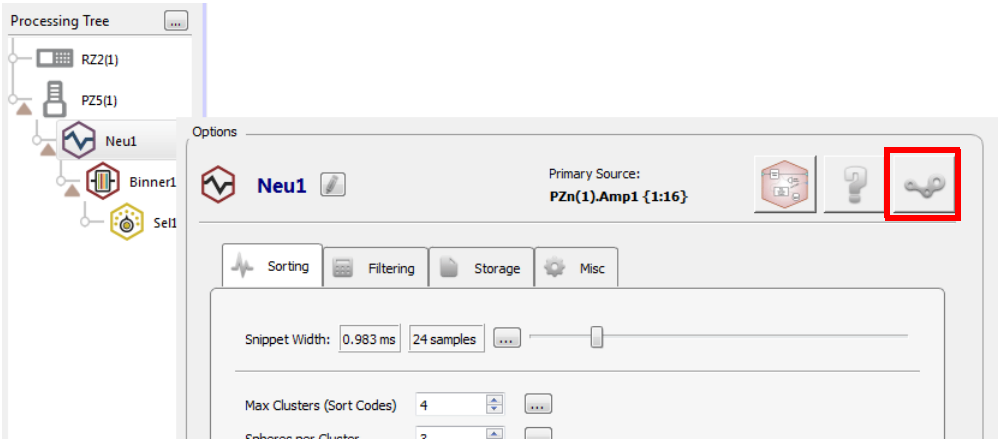
To enable Synapse API tools in the Synapse user interface, you must modify the Synapse preferences to start the built-in TCP Server.

1. In Synapse, click **Menu** and **Preferences**.



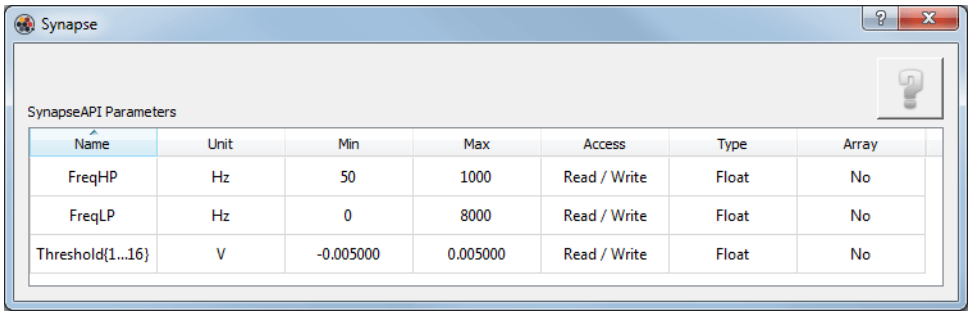
2. Click the **Synapse Server Enabled** check box.
3. Click **OK**.
4. Close the file and restart Synapse.

Select a gizmo or hardware item in the Processing Tree, and if that item supports the API you will see an API button, pictured below, on the upper right corner of the Options page for that item.



PCA Spike Sporting Gizmo Options with Synapse API Tools Enabled

Clicking the API button displays the parameters available for the selected gizmo or hardware object.

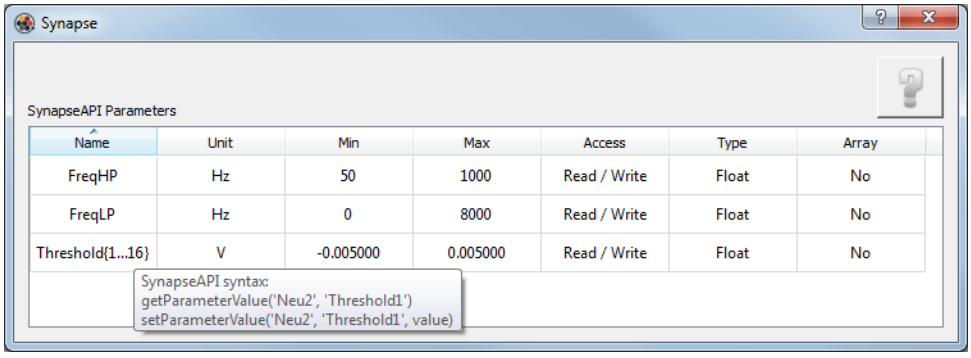


PCA Spike Sorting API Dialog

Each row describes the specified parameter with bounded values; including Min and Max values, the type of access allowed through the API, and the data type. The size of the parameter is also displayed if it contains more than one value. For example, you will see the size displayed for the Channel Mapper gizmo API, or User gizmos that define arrays.

The API dialog table is for information purposes only and does not allow you to modify the parameters. Most built-in gizmos have default values that can't be changed. The exception is any gizmo that supports a Parameter Table, and any User gizmo.

You can click the column headers to reorder the rows, or hover over the Name cell to view the syntax you would use in Python or Matlab to get and set (if allowed) the value of the parameter.



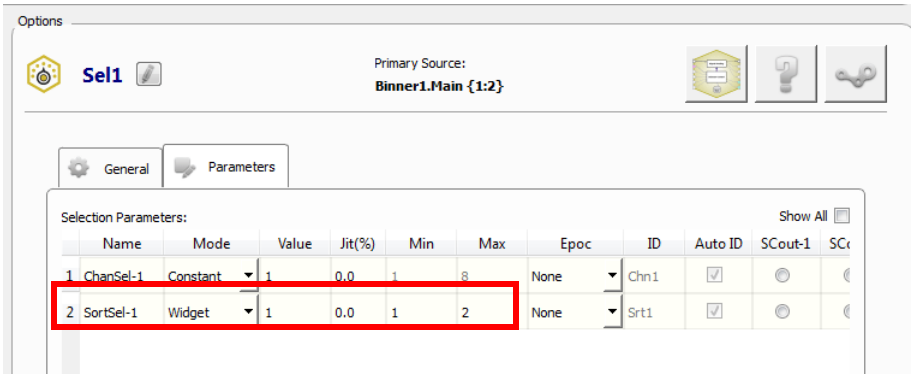
PCA Spike Sorting API Dialog with the Syntax Tooltip Displayed

Parameters that have one entry per channel will condense into a single row for easier viewing. For example, the Threshold parameter of PCA Spike Sorting shown in the table above is actually 8 unique parameters, one for each channel in this example, called 'Threshold1', 'Threshold2', and so on up to 'Threshold8'. You can't get/set all of the Thresholds at once, but instead you make separate calls to get/set each one individually.

The parameters available for Synapse API access may be controlled during runtime only. For example, the table above displays the parameters available for the PCA Spike Sorting: high-pass and low-pass filter frequency and the spike detection threshold. When using Synapse API to set these values, you will see the widgets update in the Synapse runtime interface with the new values and these changes will also be logged into the Synapse database.

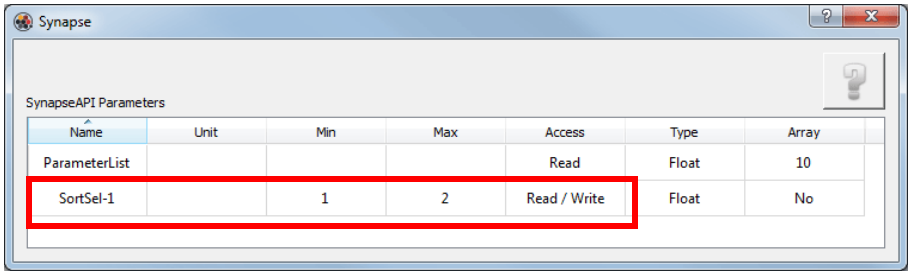
When accessing parameters defined in a bounded Parameters table, the desired parameter must be set to Widget Mode (runtime widget enabled), or else the parameter will not be available as a Synapse API parameter and cannot be modified

at runtime. Below, the SortSel-1 parameter of the Sel1 Selector gizmo is set to Widget Mode.



Selector Options Parameter Table with SortSel-1 Set to Widget Mode

In this mode it then becomes a valid Synapse API parameter, and the API dialog shows the same Min/Max values defined in the Parameter Table.



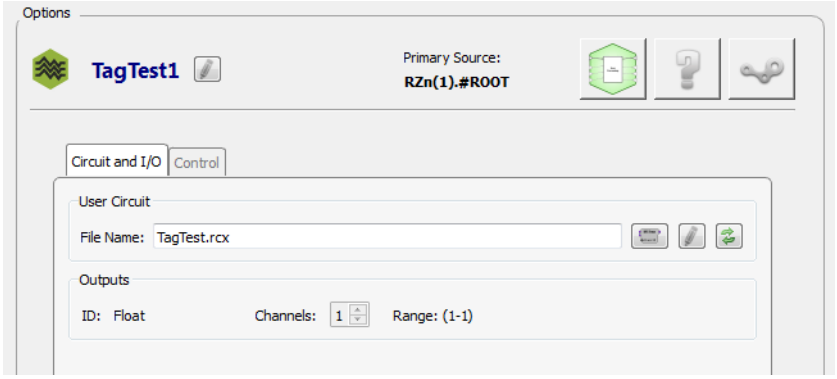
Selector Gizmo API Dialog After SortSel-1 Set to Widget Mode

Using Synapse API Tools With User Gizmos

Any parameter in a User gizmo that is defined by a matching parameter tag and gizmoControl macro pair is also accessible with Synapse API and will appear in the API dialog.

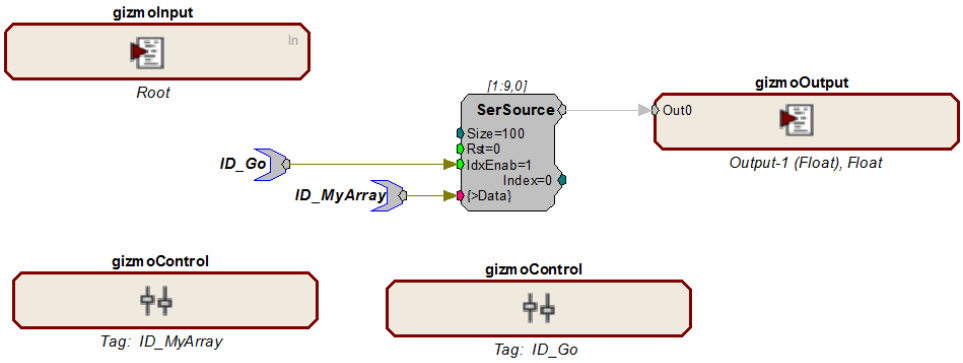
Note: See the User Gizmos section of the Synapse Manual for information on building and using User gizmos.

The example below shows the TagTest gizmo, which is available in the TDT > SignalGenerators category of Custom gizmos. This gizmo outputs an array of numbers controlled by the parameter called 'MyArray' and turns the output on and off using a parameter called 'Go'. Add the TagTest gizmo to your experiment, followed by a Stream Data Storage gizmo, to follow along with the example below.



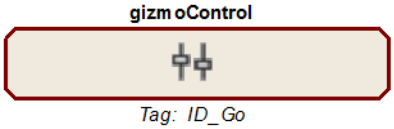
TagTest1 User Gizmo Setup

The RPvdsEx circuit used to implement the gizmo（TagTest.rcx）contains four gizmo builder macros: gizmoInput, gizmoOutput, and two gizmoControls. The gizmoControl macros create the parameter specifications for this custom gizmo.



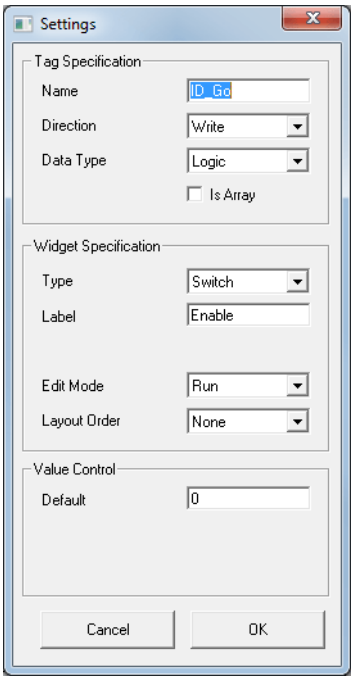
Example User Gizmo RPvdsEx Circuit with Logic and Array Controls

The first gizmoControl macro（ID_Go）turns the array test output on and off. By attaching the TagTest gizmo to a Stream Data Storage gizmo you can verify this at runtime.



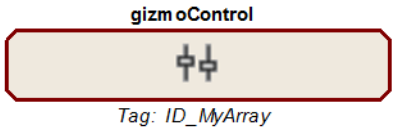
gizmoControl Macro

In the macro settings for ID_Go, the parameter tag is defined as a logic value, and the runtime interface is a switch widget.



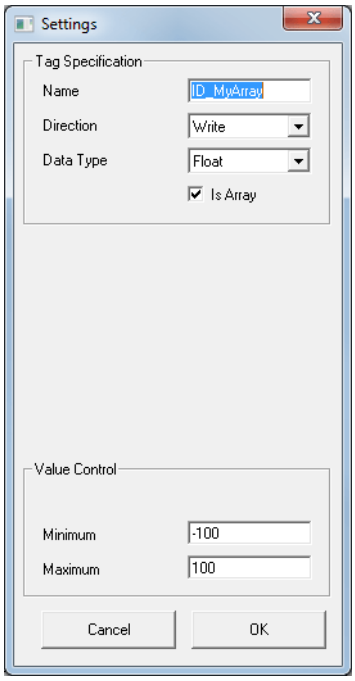
gizmoControl Macro Settings for 'Go' parameter

The circuit also includes a gizmoControl to define an array of values that can be written to dynamically and are sent as output when the test is running.



gizmoControl Macro

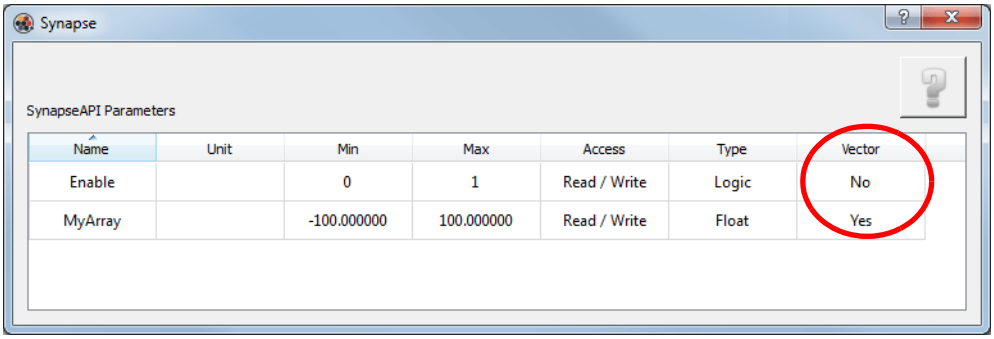
In the macro settings, the parameter tag is defined and the 'Is Array' checkbox is selected.



gizmoControl Macro Settings for 'MyArray' parameter

The bounds (Minimum and Maximum) for the parameter are applied to each element in the array whenever the API is writing the array values.

Because this user gizmo includes gizmoControl macros, the API button  is shown in the Options area and the Synapse API Dialog can be displayed.



TagTest Synapse API Parameters

Notice that the 'MyArray' parameter is recognized as an Array. For User gizmos, the size of any parameter array can only be determined programmatically at runtime, or by manually examining the circuit. You can call getParameterSize while in a runtime mode to retrieve the actual parameter size.

Here is example Matlab code for interacting with the user gizmo parameters.

```
% create Synapse API connection
syn = SynapseAPI('localhost');

% switch into a runtime mode (Preview in this case)
if syn.getMode() < 1, syn.setMode(2), end

GIZMO = 'TagTest1';

% get all info on the 'MyArray' parameter
PARAMETER = 'MyArray';
info = syn.getParameterInfo(GIZMO, PARAMETER)

% get the array size (should be 100)
sz = syn.getParameterSize(GIZMO, PARAMETER)

% write values 1 to 50 in first half of buffer
result = syn.setParameterValues(GIZMO, PARAMETER, 1:50, 50)

% read all values from buffer
syn.getParameterValues(GIZMO, PARAMETER, sz)

% get all info on the 'Go' parameter
PARAMETER = 'Go';
info = syn.getParameterInfo(GIZMO, PARAMETER)

% flip the switch
result = syn.setParameterValue(GIZMO, PARAMETER, 1)

% check the value
value = syn.getParameterValue(GIZMO, PARAMETER);
fprintf('value = %d\n', value);

% also verify visually that the switch slipped in the run
% time interface. This state change will be logged just
% like any other variable change and saved with the runtime
% state.
```

Synapse API Methods

Mode Control and System Status

SynapseAPI

Description: Creates an instance of Synapse API and connects to the Synapse server through port 24414. By default it connects to Synapse running on your local machine (localhost), but can optionally connect to Synapse running on a remote machine.

Prototype:
```
syn = SynapseAPI()
```

MATLAB Sample Code: This code sample opens a connection to the Synapse server. If the mode is Record (3) the routine is run.

```
% connect to local Synapse

syn = SynapseAPI(); % equivalent to
SynapseAPI('localhost')

% or connect to a remote server on your
network

syn = SynapseAPI('10.1.0.55');

% show the current system mode

syn.getModeStr();
```

Python Sample Code:
```
# connect to local Synapse

syn = SynapseAPI(); # equivalent to
SynapseAPI('localhost')

# or connect to a remote server on your
network

syn = SynapseAPI('10.1.0.55');
```

getMode

Description: Returns the current system mode of Synapse as an integer. This call can be used in conjunction with setMode to control the operational mode of your entire system. The Synapse modes — including Idle, Standby, Preview, and Record — are described in the Synapse Manual.

Prototype:
```
iMode = getMode()
```

Returns: 0 (Idle), 1 (Standby), 2 (Preview), 3 (Record)

MATLAB Sample Code: This code sample opens a connection to the Synapse server. If the mode is Record (3) the routine runs.

```
syn = SynapseAPI();
if syn.getMode() == 3
   %Start Routine
end
```

Python Sample Code: This code sample opens a connection to the Synapse server. If the mode is Record (3) the routine runs.

```
syn = SynapseAPI()
if syn.getMode() == 3:
   #Start Routine
```

getModeStr

Description: Returns the current system mode of Synapse as a string. See description of getMode.

Prototype: `sMode = getModeStr()`

Returns: 'Idle', 'Standby', 'Preview', 'Record'

MATLAB Sample Code: This code sample opens a connection to the Synapse server. If the mode is 'Record' the routine is executed.

```
syn = SynapseAPI();
if syn.getModeStr() == 'Record'
   %Start Routine
end
```

Python Sample Code: This code sample opens a connection to the Synapse server. If the mode is 'Record' the routine is executed.

```
syn = SynapseAPI();
if syn.getModeStr() == 'Record':
   #Start Routine
```

setMode

Description: Sets the system mode of Synapse. The possible modes include: Idle, Standby, Preview, and Record.

Prototype: `bSuccess = setMode(iNewMode)`

Arguments: 0 (Idle), 1 (Standby), 2 (Preview), 3 (Record)

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This code sample opens a connection to the Synapse server. If the Synapse mode is not Record mode (3), setMode places Synapse in Record mode.

```
syn = SynapseAPI();
if syn.getMode() ~= 3
   syn.setMode(3)
end
```

Python Sample Code: This code sample opens a connection to the Synapse server. If the Synapse mode is not Record mode (3), setMode places Synapse in Record mode.

```
syn = SynapseAPI();
if syn.getMode() != 3:
   syn.setMode(3)
```

setModeStr

Description: Sets the system mode of Synapse. The possible modes include: Idle, Standby, Preview, and Record.

Prototype: `bSuccess = setMode(sNewMode)`

Arguments: 'Idle', 'Standby', 'Preview', 'Record'

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This code sample opens a connection to the Synapse server. If the Synapse mode is not 'Record' mode, setModeStr places the Synapse in 'Record' mode.

```
syn = SynapseAPI();
if strcmp(syn.getModeStr(),'Record') ~= 1
   syn.setModeStr('Record')
end
```

Python Sample Code: This code sample opens a connection to the Synapse server. If the Synapse mode is not 'Record' mode, setModeStr places the Synapse in 'Record' mode.

```
syn = SynapseAPI();
if syn.getModeStr() != 'Record':
   syn.setModeStr('Record')
```

getSystemStatus

Description: Returns a structure containing system state information. This same information is found in the lower left corner of the Synapse main window.

Prototype: `tStatus = getSystemStatus()`

Returns:

errorCount	number of errors
recordSecs	number of seconds recorded
rateMBps	data rate as Mb per second
sysLoad	IO load %
uiLoad	UI load %

MATLAB Sample Code: This example starts a recording, waits 5 seconds, then retrieves system status information.

```
syn.setMode(3)
pause(5)
tStatus = syn.getSystemStatus()
```

Python Sample Code: This example starts a recording, waits 5 seconds, then retrieves system status information.

```
syn.setMode(3)
time.sleep(5)
tStatus = syn.getSystemStatus()
```

getSamplingRates

Description: Returns a structure containing the sampling rates for each device in the Processing Tree.

Prototype:
```
tSamplingRates = getSamplingRates()
```

MATLAB Sample Code: This example retrieves the device sampling rate for an RZ6 processor.

```
result = syn.getSamplingRates();
sf = result.RZ6_1
```

Python Sample Code:

```
result = syn.getSamplingRates()
sf = result['RZ6(1)']
```

Gizmos and Parameters

getGizmoNames

Description: Returns a cell array of all gizmos in the running experiment. This can be used with parameterNames and get and set parameter methods to change parameters in runtime.

Prototype:
```
cGizmos = getGizmoNames()
```

MATLAB Sample Code:

```
gizmo_names = syn.getGizmoNames()
if numel(gizmo_names) < 1
   error('no gizmos found')
end
```

Python Sample Code:

```
gizmo_names = syn.getGizmoNames()
if len(gizmo_names) < 1:
   error('no gizmos found')
```

getParameterNames

Description: Returns a cell array of parameters for the specified gizmo. This can be used with getGizmoNames and get/set parameter methods to change parameters in runtime.

Prototype:
```
sParameters = getParameterNames(sGizmo)
```

MATLAB Sample Code:

```
for i = 1:numel(gizmo_names)
   gizmo = gizmo_names{i}
   params = syn.getParameterNames(gizmo);
end
```

Python Sample Code:

```
for gizmo in (gizmo_names)):
params = syn.getParameterNames(gizmo)
```

getParameterInfo

Description: Returns a structure containing parameter information. **Note:** the same information is displayed in a table in the Synapse designtime interface when you click the API button on the gizmo options tab.

Prototype: `tParameterInfo = getParameterInfo(sGizmo, sParameter)`

Returns:

Name	name of the parameter
Unit	the units label for this parameter
Min	the minimum allowed value for this parameter
Max	the maximum allowed value for this parameter
Type	the parameters data type. 'Float', 'Int', 'Logic'
Array	During designtime: If the parameter is an array of known size, this field contains the number of elements in this parameter. If the size is unknown (for example, User gizmo tag arrays), this field contains 'Yes'. Otherwise it contains 'No' for any scalar parameters. During runtime: this field will always contain the size of the parameter if it is an array (>1), or 'No' if it is not.

getParameterSize

Description: Returns the size of the specified parameter from the specified gizmo. This can be used with getGizmoNames and getParameterNames.

Prototype: `dValue = getParameterSize(sGizmo, sParameter)`

getParameterValue

Description: Returns the value of the specified parameter from the specified gizmo. This can be used with getGizmoNames and getParameterNames.

Prototype: `dValue = getParameterValue(sGizmo, sParameter)`

MATLAB Sample Code: This example retrieves a General Purpose Filter high pass frequency.

```
syn.setMode(2)
```

```
val = syn.getParameterValue('Filt1',
'HighPassFreq')
```

Python Sample Code: This example retrieves a General Purpose Filter high pass frequency, then increments it by 1.

```
syn.setMode(2)

val = syn.getParameterValue('Filt1',
'HighPassFreq')
```

setParameterValue

Description: Sets the value of the specified parameter. This can be used with getGizmoNames and getParameterNames. When setting a parameter value, the value is bounded by the min/max values of the parameter. See getParameterInfo.

Prototype:

```
bSuccess = setParameterValue(sGizmo,
sParameter, dValue)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This example retrieves a General Purpose Filter high pass frequency, then increments it by 1.

```
val = syn.getParameterValue('Filt1',
'HighPassFreq')

syn.setParameterValue('Filt1',
'HighPassFreq', val + 1)

val = syn.getParameterValue('Filt1',
'HighPassFreq')
```

Python Sample Code: This example retrieves a General Purpose Filter high pass frequency, then increments it by 1.

```
val = syn.getParameterValue('Filt1',
'HighPassFreq')

syn.setParameterValue('Filt1',
'HighPassFreq', val + 1)

val = syn.getParameterValue('Filt1',
'HighPassFreq')
```

getParameterValues

Description: Returns the values of the specified parameter array.

Prototype:

```
fValues = getParameterValues(sGizmo,
sParameter, count=-1, offset=0)
```

MATLAB Sample Code: This example retrieves the channel map array.

```
currMap = syn.getParameterValues('Map1',
'ChanMap')
```

Python Sample Code: This example retrieves the channel map array.

```
currMap = syn.getParameterValues('Map1',
'ChanMap')
```

setParameterValues

Description: Sets the values of the specified parameter array. When setting a parameter array, all values are bounded by the min/max values of the parameter. See getParameterInfo.

Prototype:
```
bSuccess = setParameterValues(sGizmo, sParameter, values, offset=0)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This example sets the channel map array.

```
currMap = syn.getParameterValues('Map1', 'ChanMap')

defaultMap = 1:numel(currMap);

syn.setParameterValues('Map1', 'ChanMap', defaultMap);
```

Python Sample Code: This example sets the channel map array.

```
currMap = syn.getParameterValues('Map1', 'ChanMap')

defaultMap = 1:len(currMap)

syn.setParameterValues('Map1', 'ChanMap', defaultMap)
```

Lab Management

getKnownExperiments

getKnownSubjects

getKnownUsers

getKnownTanks

getKnownBlocks

Description: Returns a cell array of known experiments, subjects, users, tanks, blocks.

Prototype:
```
cExperiments = getKnownExperiments()

cSubjects = getKnownSubjects()

cUsers = getKnownUsers()

cTanks = getKnownTanks()

cBlocks = getKnownBlocks()
```

MATLAB Sample Code:

```
result = syn.getKnownExperiments()
if numel(result) < 1
   error('no experiments found')
end
```

```
result = syn.getKnownSubjects()
if numel(result) < 1
   error('no subjects found')
end
result = syn.getKnownUsers()
if numel(result) < 1
   error('no users found')
end
```

Python Sample Code:

```
result = syn.getKnownExperiments()
if len(result) < 1:
   error('no experiments found')
result = syn.getKnownSubjects()
if len(result) < 1:
   error('no subjects found')
result = syn.getKnownUsers()
if len(result) < 1:
   error('no users found')
```

getCurrentExperiment

getCurrentSubject

getCurrentUser

getCurrentTank

getCurrentBlock

Description: Returns the name of the current experiment, subject, user, tank path, block name.

Prototype:

```
sExperiment = getCurrentExperiment()
sSubject = getCurrentSubject()
sUser = getCurrentUser()
sTank = getCurrentTank()
sBlock = getCurrentBlock()
```

MATLAB Sample Code:

```
currUser = syn.getCurrentUser()
```

```
currExperiment =
syn.getCurrentExperiment()

currSubject = syn.getCurrentSubject()

currTank = syn.getCurrentTank()

currBlock = syn.getCurrentBlock()
```

Python Sample Code:

```
currUser = syn.getCurrentUser()

currExperiment =
syn.getCurrentExperiment()

currSubject = syn.getCurrentSubject()

currTank = syn.getCurrentTank()

currBlock = syn.getCurrentBlock()
```

createSubject

Description: Creates a subject with the given name, description, and icon. Allowed icons are 'mouse', 'rat', 'monkey', 'marmoset', 'human', 'bat', 'owl', 'bird', 'ferret', 'gerbil', 'guinea-pig', 'rabbit', 'pig', 'cat', 'dog', 'fish', 'dolphin', 'snake', 'shark', 'duck', 'cow', 'goat', 'horse'.

Prototype:

```
bSuccess = createSubject(sName, sDesc,
sIcon)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This example creates a new subject, and sets it as the current subject before recording.

```
nextSubj = 'ABC123';

syn.createSubject(nextSub, 'Control',
'mouse')

syn.setCurrentSubject(nextSub)

syn.setMode(3)
```

Python Sample Code: This example creates a new subject, and sets it as the current subject before recording.

```
nextSub = 'ABC123';

syn.createSubject(nextSub, 'Control',
'mouse')

syn.setCurrentSubject(nextSub)

syn.setMode(3)
```

createTank

Description: Creates a tank at the given path.

Prototype:

```
bSuccess = createTank(sTankPath)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This example creates a new tank, sets it as the current tank, and starts recording.

```
nextTank = 'C:\TDT\NEXTTANK'
syn.createTank(nextTank)
syn.setCurrentTank(nextTank)
syn.setMode(3)
```

Python Sample Code: This example creates a new tank, sets it as the current tank, and starts recording.

```
nextTank = 'C:\TDT\NEXTTANK'
syn.createTank(nextTank)
syn.setCurrentTank(nextTank)
syn.setMode(3)
```

setCurrentExperiment

setCurrentSubject

setCurrentUser

Description: In designtime, change the currently selected experiment, subject, user.

Prototype:

```
bSuccess = setCurrentExperiment(sExperiment)
bSuccess = setCurrentSubject(sSubject)
bSuccess = setCurrentSubject(sSubject, sPassword)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code:

```
result = syn.knownExperiments()
syn.setCurrentExperiment(result{1})

result = syn.knownSubjects()
syn.setCurrentSubject(result{1})

result = syn.knownUsers()
syn.setCurrentUser(result{1})
```

Python Sample Code:

```
result = syn.knownExperiments()
syn.setCurrentExperiment(result[0])

result = syn.knownSubjects()
syn.setCurrentSubject(result[0])

result = syn.knownUsers()
```

```
syn.setCurrentUser(result[0])
```

setCurrentTank

Description: Switches to the specified tank. Note that the 'Auto Tank Naming' option in the Preferences menu must be disabled for this to succeed.

Prototype:
```
bSuccess = setCurrentTank(sTank)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This example sets the tank name before the next recording.

```
syn.setMode(0)
nextTank = 'C:\TDT\SYNTANK';
syn.setCurrentTank(nextTank)
syn.setMode(3)
```

Python Sample Code: This example sets the tank name before the next recording.

```
syn.setMode(0)
nextTank = 'C:\TDT\SYNTANK';
syn.setCurrentTank(nextTank)
syn.setMode(3)
```

setCurrentBlock

Description: Switches to the specified block. Note that the 'Block Naming' option in the Preferences menu must be set to 'Prompt' for this to succeed.

Prototype:
```
bSuccess = setCurrentBlock(sBlock)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code: This example sets the block name before the next recording.

```
syn.setMode(0)
nextBlock = 'MyBlockName';
syn.setCurrentBlock(nextBlock)
syn.setMode(3)
syn.currentBlock()
```

Python Sample Code: This example sets the block name before the next recording.

```
syn.setMode(0)
nextBlock = 'MyBlockName';
syn.setCurrentBlock(nextBlock)
syn.setMode(3)
```

appendSubjectMemo

appendExperimentMemo

appendUserMemo

Description: Adds a database entry linked to this specified subject, experiment, user, just as if the user typed it in the Logs dialog for each of these items.

Prototype:

```
bSuccess = appendSubjectMemo(sSubject, sMemo)
bSuccess = appendUserMemo(sUser, sMemo)
bSuccess = appendExperimentMemo(sExperiment, sMemo)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code:

```
currSubject = syn.currentSubject()
syn.appendSubjectMemo(currSubject, 'Subject memo from Matlab')
currUser = syn.currentUser()
syn.appendUserMemo(currUser, 'User memo from Matlab')
currExperiment = syn.currentExperiment()
syn.appendExperimentMemo(currExperiment, 'Experiment memo from Matlab 1')
```

Python Sample Code:

```
currSubject = syn.currentSubject()
syn.appendSubjectMemo(currSubject, 'Subject memo from Python')
currUser = syn.currentUser()
syn.appendUserMemo(currUser, 'User memo from Python')
currExperiment = syn.currentExperiment()
syn.appendExperimentMemo(currExperiment, 'Experiment memo from Python')
```

Persistence

getPersistModes

Description: Returns a cell array of the allowed persistence modes settable from the API. Currently this is 'Last', 'Best', and 'Fresh'.

Prototype:

```
cModes = getPersistModes()
```

getPersistMode

Description: Returns the current persistence mode ('Last', 'Best', 'Fresh', or 'User').

Prototype:
```
sMode = getPersistMode()
```

setPersistMode

Description: Sets the current persistence mode ('Last', 'Best', or 'Fresh'). Synapse must be in Idle mode.

Prototype:
```
bSuccess = setPersistMode(sMode)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code:
```
syn.setPersistMode('Fresh')
syn.setModeStr('Preview')
```

Python Sample Code:
```
syn.setPersistMode('Fresh')
syn.setModeStr('Preview')
```

Miscellaneous Utilities

issueTrigger

Description: Fires the named software trigger to all devices. Used only by User gizmos that contain a TrgIn component.

Prototype:
```
bSuccess = issueTrigger(iTriggerId)
```

Returns: 0 (fails), 1 (succeeds)

MATLAB Sample Code:
```
syn.issueTrigger(1)
```

Python Sample Code:
```
syn.issueTrigger(1)
```

getError

Description: Returns the previous error (if any) generated by a failure of one of the Synapse API functions.

Prototype:
```
sError = getError()
```