WITSML 2.1 / ETP 1.2 Simulator

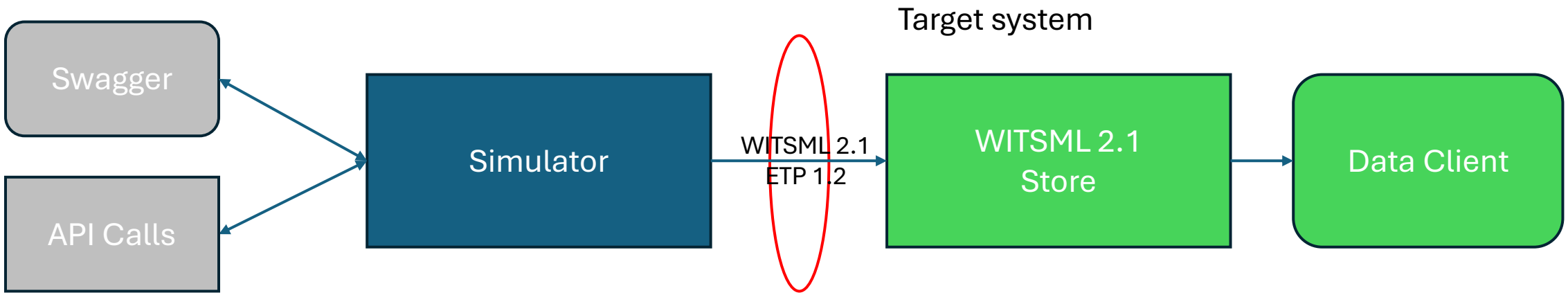
Kongsberg Digital's internal simulator for WITSML 2.1 and ETP 1.2:

- Free for non-commercial use.
- Delivered as-is and for test purposes.
- We intend to release upgrades as we further develop the tool.

Intention is to foster collaboration, data sharing and innovation, supporting the adoption of the latest industry standards

Download from: https://sitecomapps.kognif.ai/

WITSML 2.1 / ETP 1.2 Simulator



Scope

ETP 1.2 Protocols in use

- 0 – Core
- 3 – Discovery
- 4 – Store
- 22 – Data Load

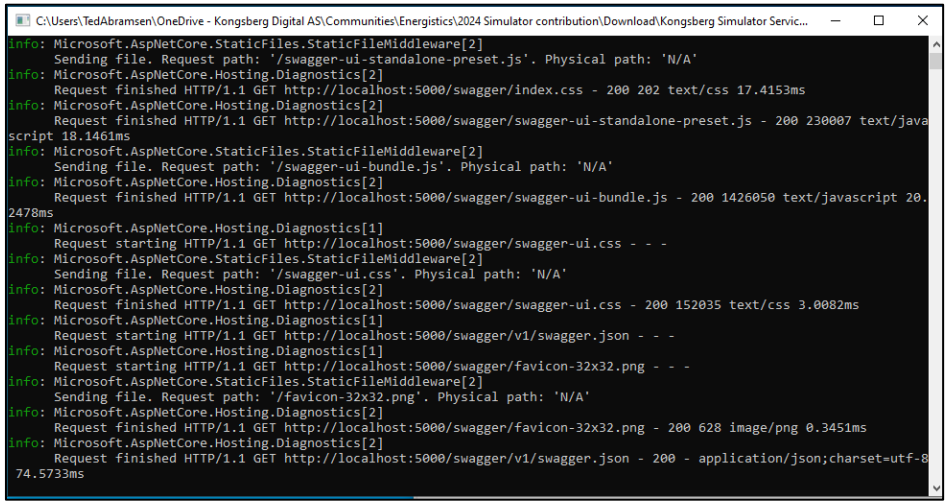
WITSML 2.1 Objects

- Channel
- ChannelSet
- Well
- Wellbore

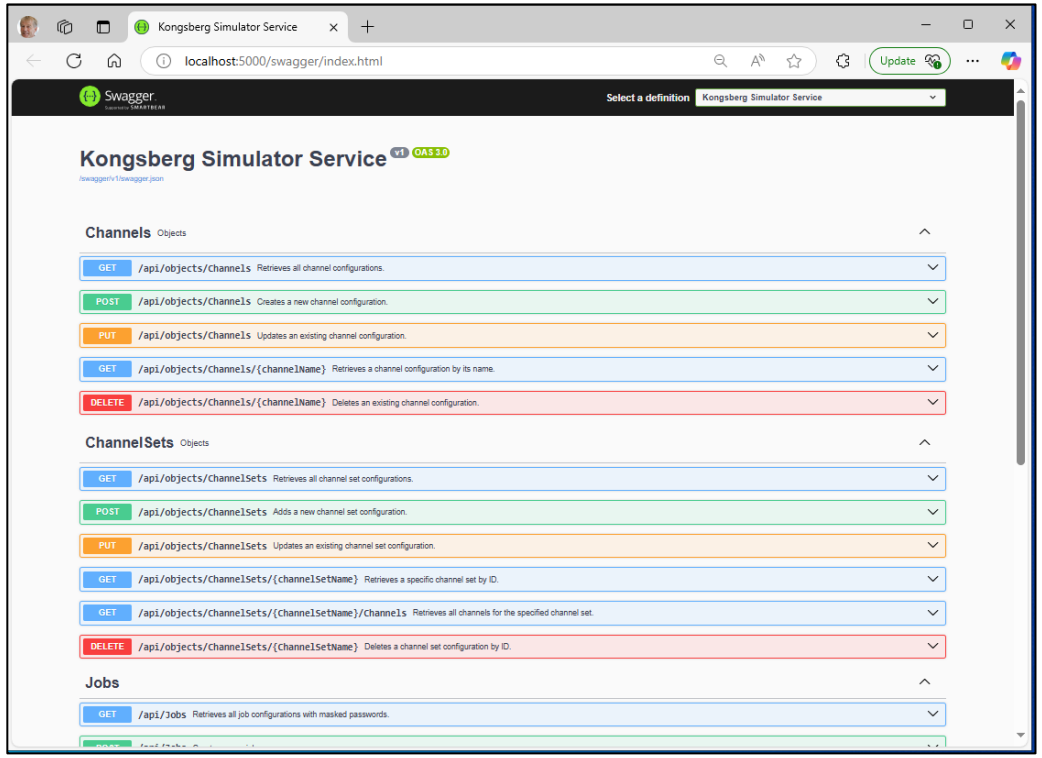
Starting the Simulator

The simulator comes as an .exe that can be started directly from the downloaded folder.
It launches two windows, as shown below.

Console Window



Swagger Page for Configuration API



Changes to the configuration will be persisted
Configure and start a Job to simulate

Channel

Channels Objects

GET	/api/objects/Channels	Retrieves all channel configurations.
POST	/api/objects/Channels	Creates a new channel configuration.
PUT	/api/objects/Channels	Updates an existing channel configuration.
GET	/api/objects/Channels/{channelName}	Retrieves a channel configuration by its name.
DELETE	/api/objects/Channels/{channelName}	Deletes an existing channel configuration.

ChannelConfiguration {

description: Represents the configuration settings for a channel in the simulator.

channelName*
string
nullable: true
Name of the channel.

unit
string
default: unitless
nullable: true
Measurement unit used for the channel.

description
string
default: string.Empty
nullable: true
Provides a text description of the channel.

valueMin
number($double)
default: 0
Minimum value for the channel data.

valueMax
number($double)
default: 1000
Maximum value for the channel data.

offset
number($double)
default: 0
Offset to be applied to the channel data.

array
integer($int32)
default: 0
Indicates if the channel has an array dimension.

}

ChannelSet

ChannelSets Objects

GET	/api/objects/ChannelSets	Retrieves all channel set configurations.
POST	/api/objects/ChannelSets	Adds a new channel set configuration.
PUT	/api/objects/ChannelSets	Updates an existing channel set configuration.
GET	/api/objects/ChannelSets/{channelSetName}	Retrieves a specific channel set by ID.
GET	/api/objects/ChannelSets/{ChannelSetName}/Channels	Retrieves all channels for the specified channel set.
DELETE	/api/objects/ChannelSets/{ChannelSetName}	Deletes a channel set configuration by ID.

ChannelSetConfiguration {

description: Represents a configuration for a channel set in the simulator.

channelSetName* string
nullable: true
Gets or sets the name of the channel set.

description string
default: string.Empty
nullable: true
Gets or sets the description for the channel set.

indexType string
default: Time
nullable: true
Gets or sets the index type for the channel set.

isActive boolean
default: true
Gets or sets a value indicating whether the channel set is active.

existingRange boolean
default: false
Gets or sets a value indicating whether the simulator should do updates on existing ranges.

channels [
default: []
nullable: true
Gets or sets the list of channelIDs in this channel set. Add Channels to a ChannelSet by adding their ID to the list.

string]

}

Job

Jobs

GET	/api/Jobs	Retrieves all job configurations with masked passwords.
POST	/api/Jobs	Creates a new job.
PUT	/api/Jobs	Updates an existing job.
GET	/api/Jobs/status	Retrieves statuses for all jobs.
GET	/api/Jobs/{id}	Retrieves a specific job configuration by job ID.
DELETE	/api/Jobs/{id}	Deletes a job by job ID.
GET	/api/Jobs/{id}/status	Retrieves the status of a specific job by job ID.
POST	/api/Jobs/{id}/start	Starts a job by job ID.
POST	/api/Jobs/{id}/stop	Stops a job by job ID.

DynamicJobConfigExtended {

description: Represents detailed configuration options for dynamic simulator jobs.

etpUrl*
string
nullable: true
The ETP service URL to connect to.

username*
string
nullable: true
Username for ETP authentication.

password*
string
nullable: true
Password for ETP authentication.

jobID
string($uuid)
default: Guid.NewGuid()
A unique identifier for the job.

jobName*
string
nullable: true
Optional name for the job.

jobDescription
string
default: string.Empty
nullable: true
Optional job description.

simulateChannelSets
boolean
default: true
Indicates whether channel sets should be simulated.

numberOfSteamingWellbores
integer($int32)
default: 1
Number of wellbores to be simulated.

timeLogResolution
string($date-span)
default: 00:00:01
Interval for adding a timelog row.

updateFrequency
string($date-span)
default: 00:00:05
Update frequency for simulation tasks.

rateOfPenetration
integer($int32)
default: 1
Rate of depth change in cm/s.

loop
boolean
default: true
Determines if the simulator should loop.

cleanWellAfterRun
boolean
default: false
Indicates if the well data should be cleaned after simulation completes.

wellPrefix
string
default: SimulatedWell
nullable: true
Prefix for simulated well names.

wellBorePrefix
string
default: SimulatedWellBore
nullable: true
Prefix for simulated wellbore names.

}

Enjoy!

Download from:
https://sitecomapps.kognif.ai/