

Getting Started With your First rIoT Application

Before diving into describing different system components in detail, we will go over a simple case to show an end to end scenario. In this example, we create a simulation stream and demonstrate how we can push the data streams to a cloud server. It is assumed that rIoT Explorer is installed on your Windows machine and you have access to a rIoT Engine. Please refer to the other documents describing installation process, if you do not have the applications installed.

TIP: Make sure the Explorer is not connected to the Engine when you go through the following configuration steps. rIoT Explorer does not allow you to change the configuration while connected to the Engine.

In this example, we create a simulation device and push data to the M2X cloud service.

Step 1: Start the Explorer

Locate the rIoT Explorer icon on your desktop and navigate to the application in the start menu and run the Explorer.

After Explorer is run, the following splash window appears:

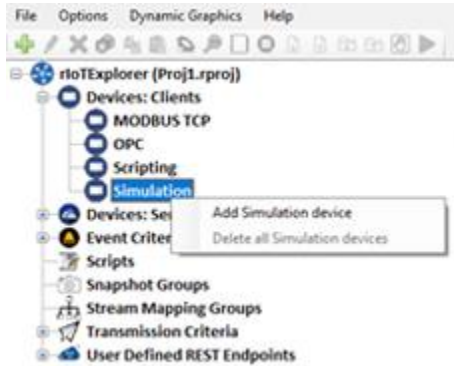


You can choose to start a new project or load an existing project. In this example, we start a new project. To start a new project, you should follow the prompts to choose a location and a name for the project. Once the project is selected, the related folder structure is created automatically

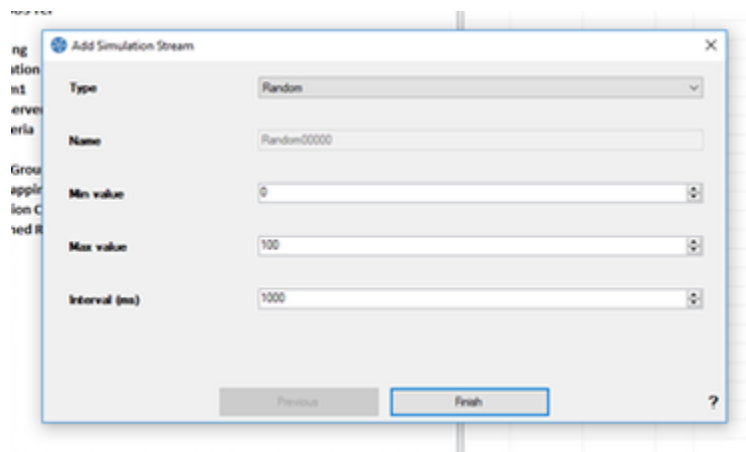
Step 2: Create Client Device and Client Stream

In this step, we add a simulation device and a simulation stream to simulate some values. This is considered a client device and the values will be mapped to server streams in later steps.

Open the Explorer tree, click on the Devices: Clients, right click on Simulation, choose Add Simulation Device as shown below and give it a name



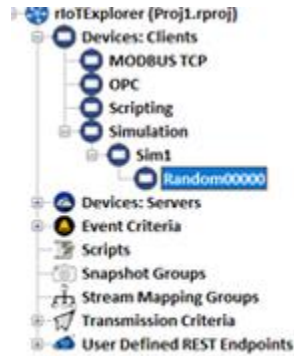
Right click on the created device, select Add Stream, select Random for the type and click Finish. We are now creating a random stream with random values between 0 and 100 changing every 1000 ms.



Go ahead and connect to the target with a right click on the Explorer node in the tree and selecting the IP address of the target.



Download the configuration into the target. Verify that the random stream we created is changing: Connect to the Engine and verify the sequence of random values. You need to disconnect in order to continue the configuration steps.

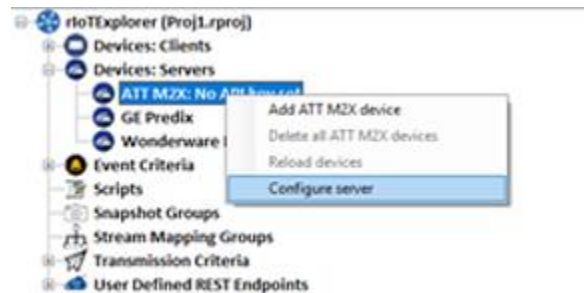


Timestamp	Local Value	Quality
08/18/2017 22:38:50.732	10	Ok
08/18/2017 22:38:49.492	28	Ok
08/18/2017 22:38:48.552	48	Ok
08/18/2017 22:38:46.993	66	Ok
08/18/2017 22:38:46.045	49	Ok
08/18/2017 22:38:44.494	20	Ok
08/18/2017 22:38:43.565	65	Ok
08/18/2017 22:38:42.000	7	Ok
08/18/2017 22:38:41.057	79	Ok
08/18/2017 22:38:39.508	94	Ok
08/18/2017 22:38:38.251	37	Ok
08/18/2017 22:38:37.321	54	Ok
08/18/2017 22:38:35.744	1	Ok
08/18/2017 22:38:34.814	78	Ok
08/18/2017 22:38:33.254	0	Ok
08/18/2017 22:38:32.312	3	Ok
08/18/2017 22:38:30.752	33	Ok

Step 3: Create Server Device and Server Stream

In this step, we create an M2X device and create a server stream. The server stream will receive the client values and saves them in the M2X time series. Please note that the process of creating service streams for other server services is similar.

If you don't have an account with AT&T M2X, create an account at <https://m2x.att.com/> and get the access API keys. Add the key in the explorer: Right click on Devices: Servers, ATT M2X, Configure server, Add the API key and click on Apply API Key:



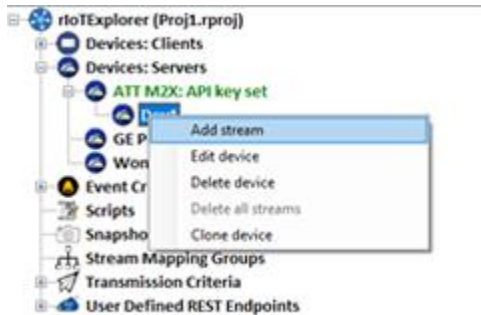
ATT M2X node should turn green.



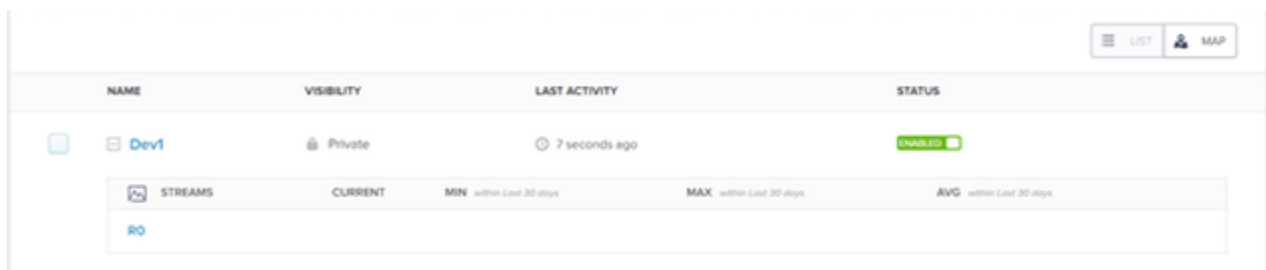
Add a device to the server: Right click on ATT M2x and choose add ATT M2X device. If there is no device in the account, rIoT Explorer asks you if you want to add one and add it to the service later. Choose Yes and continue:



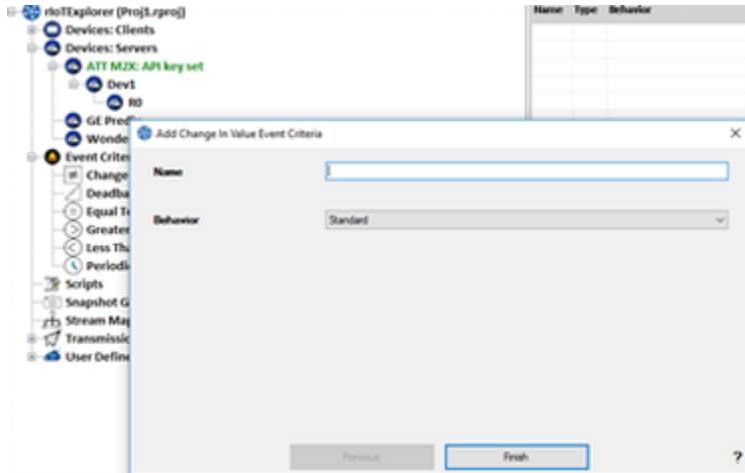
Add a stream: Right click on the device created and choose Add stream to add a numeric stream. If this is the first stream for the device, you will be asked if you want to create it and add to the service later. Click Yes and continue



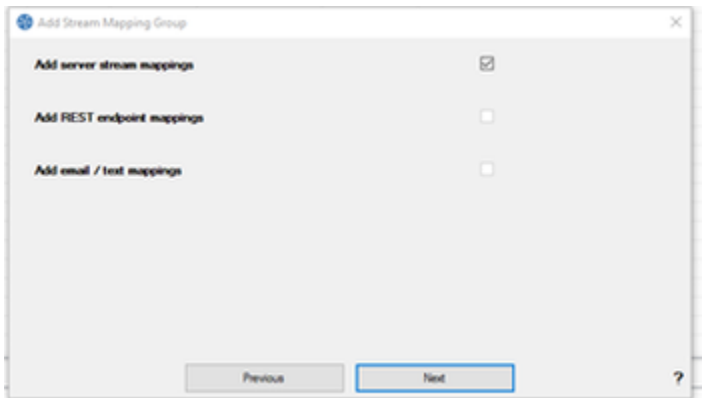
After you add the device and stream in your Explorer configuration, they will be added to the M2X account automatically:



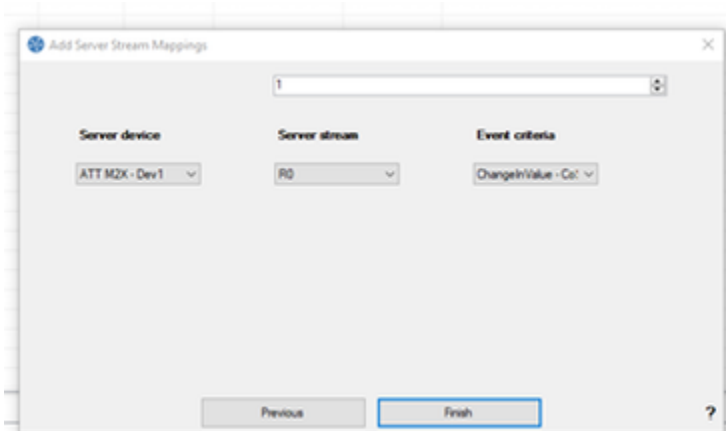
Create an event criterion to qualify the events sent to the service. Expand Event Criteria node, right click on Change In Value, add it and type a name. Make sure you choose standard behavior:



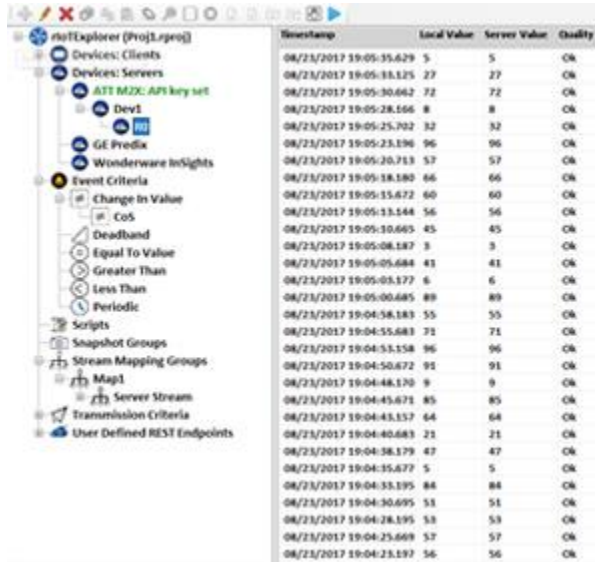
Add mapping: Right click on Stream Mapping Groups, choose Add stream mapping group, type a name, choose the Client device and Client stream and click Next. In the next page, select Add server stream mappings and Click Next:



Select the Serve device, Server stream and Event criteria and click Finish:



Download the configuration into the Engine: Connect to the Engine and download. Make sure you DO NOT load the configuration from the Engine to the Explorer upon connection. Verify the values are pushed to the server stream:



Timestamp	Local Value	Server Value	Quality
08/21/2017 19:05:35.629	5	5	OK
08/21/2017 19:05:33.125	27	27	OK
08/21/2017 19:05:30.662	72	72	OK
08/21/2017 19:05:28.166	8	8	OK
08/21/2017 19:05:25.702	32	32	OK
08/21/2017 19:05:23.196	96	96	OK
08/21/2017 19:05:20.713	57	57	OK
08/21/2017 19:05:18.180	66	66	OK
08/21/2017 19:05:15.672	60	60	OK
08/21/2017 19:05:13.144	56	56	OK
08/21/2017 19:05:10.665	45	45	OK
08/21/2017 19:05:08.187	3	3	OK
08/21/2017 19:05:05.684	41	41	OK
08/21/2017 19:05:03.177	6	6	OK
08/21/2017 19:05:00.685	89	89	OK
08/21/2017 19:04:58.183	55	55	OK
08/21/2017 19:04:55.683	71	71	OK
08/21/2017 19:04:53.158	96	96	OK
08/21/2017 19:04:50.672	91	91	OK
08/21/2017 19:04:48.170	9	9	OK
08/21/2017 19:04:45.671	85	85	OK
08/21/2017 19:04:43.157	64	64	OK
08/21/2017 19:04:40.683	21	21	OK
08/21/2017 19:04:38.179	47	47	OK
08/21/2017 19:04:35.677	5	5	OK
08/21/2017 19:04:33.195	84	84	OK
08/21/2017 19:04:30.695	51	51	OK
08/21/2017 19:04:28.195	53	53	OK
08/21/2017 19:04:25.669	57	57	OK
08/21/2017 19:04:23.197	56	56	OK

Step 4: Final Step

Verify the Data is populating in the Cloud Service:

