

How to configure the opcua-connector-service

The **opcua-connector-service** is a REST-based platform service that can be used to manage OPC UA connections, and to provide them to xUML services, e.g. developed with the Designer. On startup, the service creates connections to every configured OPC UA server and registers any needed subscriptions. For the service to work properly you need to configure every OPC UA connection within the PAS Administration.

You can access as many servers as needed. Each registered server

- provides a POST request to set a value to a node
 - provides a GET request to get a single value from a node
 - handles registered subscriptions (if defined) in a separate worker thread.
- Each time the value of a monitored item is updated, your defined endpoint is called with this value as the payload.

How to Configure the OPC UA Connector Service

[illegible]

On this Page:

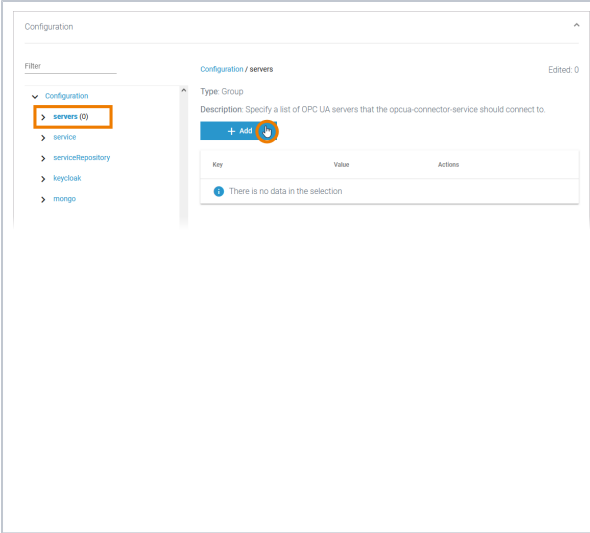
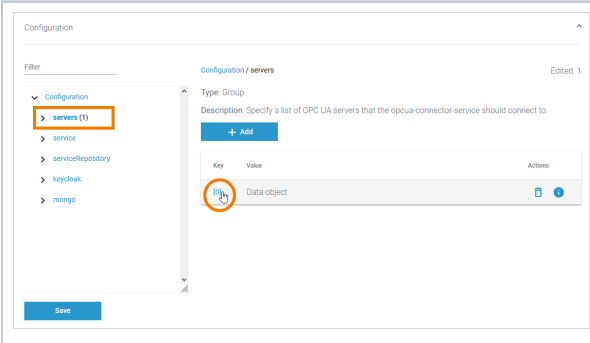
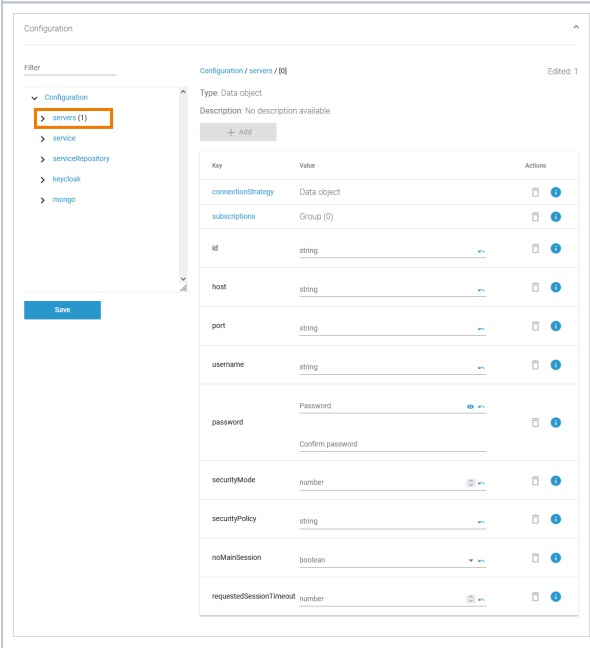
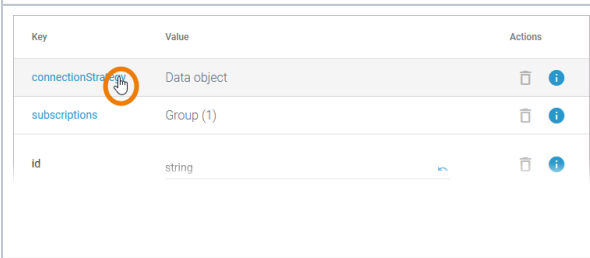
- [How to Configure the OPC UA Connector Service](#)
 - [Configuration Watching](#)
- [Configuration Reference](#)

Related Pages:

- Adapting Docker Container Configuration

Related Documentation:

- OPC UA Documentation: Security Policies
- OPC UA Documentation: Subscription Parameters

	<p>For the configuration of the opc-ua-connector-service, open tab servers.</p> <p>Use option Add to create a new server data object or open an existing one to access the configuration details.</p>
	<p>Click the Key to open a data object.</p>
	<p>Enter your configuration details (refer to Configuration Reference) and Save your changes.</p>
	<p>Nested configuration options like complex data objects or groups are displayed as link.</p>

Configuration

Filter

Configuration

servers (1)

connectionStrategy

subscriptions (1)

id

host

port

username

Save

Configuration / servers / 01 / connectionStrategy

Edited: 2

Type: Data object

Description: Specify the OPC UA reconnect options on connection loss. The default values should cover most cases. Only change these values if you run into problems and know what you are doing.

+ Add

Key	Value	Actions
maxRetry	number	
initialDelay	number	
maxDelay	number	

Click the link to open the details.

To navigate back, use the links in the sidebar or the breadcrumb navigation on top.

Configuration

Filter

Configuration

servers (1)

acme_opcua-connector-service

connectionStrategy

subscriptions (0)

id

host

port

username

Save

Configuration / servers / acme_opcua-connector-service

Edited: 4

Type: Data object

Description: No description available

+ Add

Key	Value	Actions
connectionStrategy	Data object	
subscriptions	Group (0)	
id	string acme_opcua-connector-service	
host	string acme-test_opcua-connector-service	
port	string 1234	

Click **Save**.

Save the Configuration

Created group elements:

Group Key	Key
servers	[]

Changed properties:

Key	Before	After
servers[0].id		acme_opcua-connector-service
servers[0].host		acme-test_opcua-connector-service
servers[0].port		1234

Deleted group elements:

Key
No changes

Save  Cancel

A summary of your changes is displayed. Click **Save** to apply them.



Restarting the container is not necessary, changes are applied to the service directly.


Configuration Watching


The configuration file is being watched. For changes that are stable for 10 seconds without further changes occurring in the meantime, the modified server array is read and the number of running servers /established connections is updated accordingly. The **id** field is important for this mechanism: It is used to identify a server during its whole lifetime.

The following cases can occur on id-identified servers:

- **New ID:** The ID in the server configuration object is new (no object with this specific ID existed before): A new connector instance will be created for this server configuration.
- **Duplicate ID:** For an existing connector another object having the same ID is found in the updated configuration: The corresponding instance will be shut down and re-created with the new configuration.
- **Missing ID:** For an existing connector no object with the ID can be found in the referencing array: The running instance is canceled because it should no longer exist.

Configuration Reference

Option	Type	Description	Allowed Values / Example	
servers	Array	Specify a list of OPC UA servers that the opcua-connector-service should connect to.		
id	String	Specify an internal name for the connector to refer to the connector later.	ACME_OPCUA	
host	String	Specify the host the OPC UA server is running on.		
port	String	Specify the port of the OPC UA server.	26543	
username	String	Specify credentials if necessary.		
password				
securityMode	Integer	Specify a security mode for each server to use.	0	
			1	Apply security mode None (default).
			2	Apply security mode Sign .
			3	Apply security mode SignAndEncrypt .
securityPolicy	String	Specify a link to the OPC UA security policy to use with the securityMode . Refer to the OPC UA documentation for more information and a list of the links.	http://opcfoundation.org/UA/SecurityPolicy#None	No security (default).
noMainSession	Boolean	Specify if this server should have a main session for getting and setting values or not.	true	This server configuration has no main session but only manages the listed subscriptions. It is e.g. not listed when getting a list of all available connections.
			false	This is the configuration for the main session of the OPC UA server (default).
requestedSessionTimeout	Integer	Specify the session timeout for the server session. The default of 60000 should be sufficient - only change this if you are running into problems.	60000	Default session timeout.
connectionStrategy		Specify the OPC UA reconnect options on connection loss.	<div> The default values should cover most cases. Only change these values if you run into problems and know what you are doing.</div>	
maxRetry	Integer	Specify the maximum count of retries the opcua-connector-service should perform on connection loss.	10	Try 10 times (default).
			-1	Try endless times.
	Integer	Specify the wait time in milliseconds the opcua-connector-service should wait before trying to re-establish the connection on connection loss.	10	Wait 10 milliseconds (default).

	maxDelay	Integer	The opcua-connector-service tries to re-connect in random intervals. Specify the maximum wait interval in milliseconds between re-connection tries.	10000	Pause no longer than 10.000 milliseconds (default).
	subscriptions	Array	Specify a list of subscriptions the opcua-connector-service should listen on.		
	name	String	Specify a name for the subscription. This will be the name of the related worker. <div>  We recommend using the format <name of the request type>.<name of the message type> . This format fits with the PAS logger and makes it easy to find worker actions in the PAS logs. </div>	get.example_message	
	endpoint	String	Specify the service endpoint messages should be forwarded to. This must be a valid endpoint e.g. of a message event of a Designer service.	http://bridge:14045/rest/process /OPCUA_message_send_receive/Receive_message http://mqttconnector-lib: 11111/rest/process /OPCUA_message_send_receive/Receive_message	
	nodeIds	Array of String	Specify a list of nodes that the opcua-connector-service should listen on. A change in any of these nodeIds will result in a POST request to the specified endpoint . Node ids consist of a namespace and the actual node (see example).	["ns=1;s=example_node"]	
	options		Specify an option object.		
	requestedPublishingInterval	Integer	Regarding these options, refer to the OPC UA documentation .	1000	Default value.
	requestedLifetimeCount	Integer		1000	Default value.
	requestedMaxKeepAliveCount	Integer		10	Default value.
	maxNotificationsPerPublish	Integer		0	Default value.
	publishingEnabled	Boolean		true	Default value.
	priority	Integer		1	Default value.
	monitor				
	samplingInterval	Integer		1000	Default value.
	discardOld	Boolean		true	Default value.
	queueSize	Integer		100	Default value.
	timeouts		Specify a timeout object.		
	recoverFromPanicTimeout	Integer	Specify how long (in ms) a connection is allowed to be in the panic state, where a (fast) "soft-reset" is still possible, before a "hard-reset" (~ 2-8 seconds) will be triggered. This tolerance period is intended to prevent the service from falling into a state of panic and not being able to recover.	10000	Default value.
	recoverFromBadSessionTimeout	Integer	Determine how long the service should re-try to use an old session, that might no longer exist server-sided. This avoids infinite re-connection loops by hard-resetting the connection when the timeout is over.	10000	Default value.