Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

01	JSON	subscriptionTopic: /plant1/#
		mappingTopic: /plant1/+/+
		mappingTopicSample: /plant1/line1/device1_measure1_Type
		check: Create non existing device
		
		sub:
		1.[* _TOPIC_LEVEL_[0]&"_"&_TOPIC_LEVEL_[1]&"_"&$substringBefore(_TOPIC_LEVEL_[2],"_") -> source.id]
		2.[$substringAfter(_TOPIC_LEVEL_[2],"_") -> type]
		3.[$now() -> time]
		4.[value -> measure1_Type.V.value]
			M	`{`
				`    "value": 100`
				`}`
					`{`
					`    "measure1_Type": {`
					`        "V": {`
					`            "value": 110,`
					`            "unit": "C"`
					`        }`
					`    },`
					`    "time": "2022-08-05T00:14:49.389+02:00",`
					`    "source": {`
					`        "id": "909090"`
					`    },`
					`    "type": "c8y_TemperatureMeasurement"`
					`}`
						For the device with external id: plant1_line1_device1 a measurement c8y_TemperatureMeasurement should be created.
						The device is created implicitly.

02	JSON	subscriptionTopic: devices/#
		mappingTopic: devices/+
		mappingTopicSample: devices/device_best_01
		check: Create non existing device
		
		sub:
		1.[* _TOPIC_LEVEL_[1] -> source.id]
		2.[mea[0].values[0].value -> c8y_ProcessLoadMeasurement.L.value]
		3.[$map($map(mea.values[0].timestamp, $number), function($v, $i, $a) { $fromMillis($v) }) -> time]
			M	`{`
				`    "mea": [`
				`        {`
				`            "tid": "uuid_01",`
				`            "psid": "Crest",`
				`            "devicePath":`
				`"path01_80_X03_VVB001StatusB_Crest",`
				`            "values": [`
				`                {`
				`                    "value": 4.6,`
				`                    "timestamp": 1648562285347`
				`                }`
				`            ]`
				`        },`
				`        {`
				`            "tid": "uuid_02",`
				`            "psid": "Crest",`
				`            "devicePath":`
				`"path01_80_X03_VVB001StatusB_Crest",`
				`            "values": [`
				`                {`
				`                    "value": 5.6,`
				`                    "timestamp": 1648563285347`
				`                }`
				`            ]`
				`        }`
				`    ]`
				`}`
					`{`
					`    "c8y_ProcessLoadMeasurement": {`
					`        "L": {`
					`            "value": 110,`
					`            "unit": "%"`
					`        }`
					`    },`
					`    "time": "2022-08-05T00:14:49.389+02:00",`
					`    "source": {`
					`        "id": "909090"`
					`    },`
					`    "type": "c8y_ProcessLoadMeasurement"`
					`}`
						For the device with external id: device_best_01 multiple measurements should be created.
						The device is created implicitly.

03	JSON	subscriptionTopic: device/#
		mappingTopic: device/express/+
		mappingTopicSample: device/express/berlin_01
		check: Map device identifier
		
		sub:
		1.[* _TOPIC_LEVEL_[2] -> id]
		2.[customType -> type]
		3.[operator&"-"&line -> name]
		4.[capacity -> capacity]
			I	`{`
				`    "line": "Bus-Berlin-Rom",`
				`    "operator": "EuroBus",`
				`    "customFragment": {`
				`        "customFragmentValue": "Express"`
				`    },`
				`    "capacity": 64,`
				`    "customArray": [`
				`        "ArrayValue1",`
				`        "ArrayValue2"`
				`    ],`
				`    "customType": "type_International"`
				`}`
					`{`
					`    "c8y_IsDevice": {},`
					`    "com_cumulocity_model_Agent": {},`
					`    "name": "Bus Name",`
					`    "type": "type_bus",`
					`    "capacity": 100,`
					`    "id": "909090"`
					`}`
						Create device with:
						1.external id: berlin_01
						2.name: EuroBus-Bus-Berlin-Rom
						3.type: type_International

Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

04	JSON	subscriptionTopic: event/#
		mappingTopic: event/+
		mappingTopicSample: event/berlin_01
		check: Map device identifier
		
		sub:
		
		1.[* _TOPIC_LEVEL_[1] -> source.id]
		2.[txt->text]
		3.[msg_type -> type]
		4.[$now() -> time]
			E	`{`
				`    "msg_type": "c8y_BusStopEvent",`
				`    "txt": "Bus stopped at petrol station today!",`
				`    "td": "2022-09-08T16:21:53.389+02:00",`
				`    "ts": "1665473038000"`
				`}`
					`{`
					`    "source": {`
					`        "id": "909090"`
					`    },`
					`    "text": "This is a new test event.",`
					`    "time": "2022-08-05T00:14:49.389+02:00",`
					`    "type": "c8y_GeneralBusEvent"`
					`}`
						Event for existing device should be created
						
						mention [$fromMillis($number(deviceTimestamp))->time]

05	JSON	subscriptionTopic: measurement/#
		mappingTopic: measurement/+/gazoline
		mappingTopicSample: measurement/berlin_01/gazoline
		check: Map device identifier
		
		sub:
		1.[* _TOPIC_LEVEL_[1] -> source.id]
		2.[fuel -> c8y_FuelMeasurement.F.value]
		3.[$now() -> time]
			M	`{`
				`    "fuel": 65,`
				`    "ts": "2022-08-05T00:14:49.389+02:00",`
				`    "mea": "c8y_FuelMeasurement"`
				`}`
					`{`
					`    "c8y_FuelMeasurement": {`
					`        "L": {`
					`            "value": 110,`
					`            "unit": "L"`
					`        }`
					`    },`
					`    "time": "2022-10-18T00:14:49.389+02:00",`
					`    "source": {`
					`        "id": "909090"`
					`    },`
					`    "type": "c8y_FuelMeasurement"`
					`}`
						Add c8y_FuelMeasurement to bus.

06	JSON	subscriptionTopic: multiarray/devices
		mappingTopic: multiarray/devices
		mappingTopicSample: multiarray/devices
		check: Map device identifier
		
		sub:
		1.[* device -> id] , choose option "Expand Array"
		2.[types.type_A -> type]
		3.[$map(used_name, function($v, $i, $a) {
		$contains($v,'d1') ? $join(['Special_i0', $string($i)]) :
		$join([$string($v), $string($i)]) }) -> name] , choose option "Expand Array"
			I	`{`
				`    "device": [`
				`        "d1_id",`
				`        "d2_id"`
				`    ],`
				`    "types": {`
				`        "type_A": "type_A",`
				`        "type_B": "type_B"`
				`    },`
				`    "used_name": [`
				`        "Pressure_d1",`
				`        "Pressure_d2"`
				`    ]`
				`}`
					`{`
					`    "c8y_IsDevice": {},`
					`    "name": "Vibration Sensor",`
					`    "type": "maker_Vibration_Sensor",`
					`    "id": "909090"`
					`}`
						New Devices:
						1.Pressure_d21
						2.Special_i00
						should be created.
						
						All device have the same type "type_A"

Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

07	JSON	subscriptionTopic: arrayType/devices
		mappingTopic: arrayType/devices
		mappingTopicSample: arrayType/devices
		check: Create non existing device
		
		sub:
		1. [$substringBefore($[0].devicePath,"_AL") -> source.id]
		2. [$[].values[0].value ->
		c8y_TemperatureMeasurement.T.value] , choose option "Expand Array"
		3. [$map($map($[].values[0].timestamp, $number),
		function($v) { $fromMillis($v)}) -> time] , choose option "Expand Array"
			M	`[`
				`  {`
				`    "tid": "5e4bac9f-b47a-499e-8601-68fc16a9847c",`
				`    "psid": "Crest",`
				`    "devicePath": "c2818e07-4c09-42f0-ba24-ddb712573ab5_AL1352_192168221_80_X03_VVB001StatusB_Crest",`
				`    "processDataUnit": "20",`
				`    "values": [`
				`      {`
				`        "value": 4.6,`
				`        "timestamp": 1648562285347`
				`      }`
				`    ]`
				`  },`
				`  {`
				`    "tid": "5e4bac9f-b47a-499e-8601-68fc16a9847c",`
				`    "psid": "Crest",`
				`    "devicePath": "c2818e07-4c09-42f0-ba24-ddb712573ab5_AL1352_192168221_80_X03_VVB001StatusB_Crest",`
				`    "processDataUnit": "20",`
				`    "values": [`
				`      {`
				`        "value": 5.6,`
				`        "timestamp": 1648562285347`
				`      }`
				`    ]`
				`  }`
				`]`
					`{`
					`  "c8y_TemperatureMeasurement": {`
					`    "T": {`
					`      "value": 110,`
					`      "unit": "C"`
					`    }`
					`  },`
					`  "time": "2022-08-05T00:14:49.389+02:00",`
					`  "source": {`
					`    "id": "909090"`
					`  },`
					`  "type": "c8y_TemperatureMeasurement"`
					`}`
						Create one device implicitly with the name: device_c8y_Serial_c2818e07-4c09-42f0-ba24-ddb712573ab5 and for this device create two measurements of type: "c8y_TemperatureMeasurement"

08	JSON	subscriptionTopic: eventObject/#
		mappingTopic: eventObject/+
		mappingTopicSample: eventObject/berlin_01
		
		sub:
		1. [_TOPIC_LEVEL_[1] -> source.id]
		2. [txt -> text]
		3. [msg_type -> type]
		4. [$now() -> time]
		5. [model -> customProperties]
		choose Repair Strategy: REMOVE_IF_MISSING
			E	`{`
				`  "msg_type": "c8y_BusStopEvent",`
				`  "txt": "Bus stopped at petrol station today!",`
				`  "td": "2022-09-08T16:21:53.389+02:00",`
				`  "model": {`
				`    "name": "MAN e-Bus"`
				`  }`
				`}`
					`{`
					`  "source": {`
					`    "id": "909090"`
					`  },`
					`  "text": "This is a new test event.",`
					`  "time": "2022-08-05T00:14:49.389+02:00",`
					`  "type": "c8y_TestEvent",`
					`  "customProperties": "dummy"`
					`}`
						Create event for device

09	JSON	subscriptionTopic: measurementObject/#
		mappingTopic: measurementObject/+/gazoline
		mappingTopicSample: measurementObject/berlin_01/gazoline
		sub:
		1.[* _TOPIC_LEVEL_[1] -> source.id]
		2.[mea -> type]
		3.[$now() -> time]
		4.[fuel*3.78541 -> c8y_FuelMeasurement.Tank.value]
		5.[(oil?{\"Motor\": {\"value\":oil, \"unit\":\"l\"}}:null) -> c8y_OilMeasurement]
		choose Repair Strategy:
		REMOVE_IF_NULL
			M	`{`
				`  "fuel": 65,`
				`  "oil": 4.5,`
				`  "ts": "2022-08-05T00:14:49.389+02:00",`
				`  "mea": "c8y_FuelMeasurement"`
				`}`
					`{`
					`  "c8y_FuelMeasurement": {`
					`    "Tank": {`
					`      "value": 110,`
					`      "unit": "l"`
					`    }`
					`  },`
					`  "c8y_OilMeasurement": "undefined",`
					`  "time": "2022-08-05T00:14:49.389+02:00",`
					`  "source": {`
					`    "id": "909090"`
					`  },`
					`  "type": "c8y_FuelMeasurement"`
					`}`
						This mapping makes use of the option "REMOVE_IF_MISSING". The incoming payload can contain either properties: "fuel", "oil" or both. Depending on this the relevant fragments n the Cumulocity measurement are created.

13	GENERIC_BINARY	subscriptionTopic: binary/+
		mappingTopic: binary/+
		mappingTopicSample: binary/berlin_01
		check: Map device identifier
		sub:
		
		1.[* _TOPIC_LEVEL_[1] -> deviceId]
		2.[$number($substring(message,0,6)) -> value]
			E	Hex Code: 0x41b1
				No leading 0x, only the plain payload as hexadecimal numbers
					`{`
					`  "source": {`
					`    "id": "909090"`
					`  },`
					`  "text": "This is a new test event.",`
					`  "time": "2022-08-05T00:14:49.389+02:00",`
					`  "type": "c8y_TestEvent",`
					`  "value": 99`
					`}`
						Snoop recorded message

SampleMappings_11.xlsx

Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

14	JSON	subscriptionTopic: operation/#
		mappingTopic: operation/+
		mappingTopicSample: operation/berlin_01
		sub:
		
		1.[* _TOPIC_LEVEL_[1] -> deviceId]
		2.[$join([text,"_",$now()]) -> description]
			O	{
				    "text": "Special operation restart"
				}
					{
					    "deviceId": "909090",
					    "description": "New camera operation!",
					    "type": "maintenance_operation"
					}
						Create operation "maintenance_operation" for device with extenralId berlin_01

15	GENERIC_BINARY	subscriptionTopic: binaryEvent/+
		mappingTopic: binaryEvent/+
		mappingTopicSample: binaryEvent/berlin_01
		sub:
		
		1. ["Temp: "&$number($substring(message,0,4))&" C" ->
		text]
		2. [* _TOPIC_LEVEL_[1] -> deviceId]
		3. [$now() -> time]
			E	Hex Code: 0x5a75
				No leading 0x, only the plain payload as hexadecimal numbers
					{
					    "source": {
					        "id": "909090"
					    },
					    "text": "This is a new test event.",
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "type": "c8y_TestEvent"
					}
						Send c8y_TestEvent to device with externalId berlin_01

17	JSON	subscriptionTopic: device/update/+
		mappingTopic: device/update/+
		mappingTopicSample: device/update/berlin_01
		
		sub:
		1.[* _TOPIC_LEVEL_[2] -> id]
		2.[customType->type]
			I	{
				    "customType": "type_Overnight"
				}
					{
					  "id" : "909090",
					  "type": "type_any"
					}
						Update type of existing device.

18	PROTOBUF_STATIC	subscriptionTopic: protobuf/measurement
		mappingTopic: protobuf/measurement
		mappingTopicSample: protobuf/measurement
		sub:
		Defined in cumulocity-dynamic-mapper/dynamic-mapping-service/src/main/java/dynamic/mapping/processor/processor/fixed/StaticProtobufProcessor.java
			M	Send message in protobuf format:
				
				option java_package = "mqtt.mapping.processor.protobuf";
				option java_outer_classname = "MeasurementProto";
				message CustomMeasurement {
				  int64 timestamp = 1;
				  float value = 2;
				  string unit = 3;
				  string externalIdType = 4;
				  string externalId = 5;
				  string measurementType = 6;
				}
				
				Use test client: cumulocity-dynamic-mapper/dynamic-mapping-service/src/test/java/dynamic/mapping/ProtobufMqttClient.java
					{
					    "c8y_GenericMeasurement": {
					        "Module": {
					            "value": 110,
					            "unit": "l"
					        }
					    },
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "source": {
					        "id": "909090"
					    },
					    "type": "c8y_GenericMeasurement_type"
					}
						Use test client: cumulocity-dynamic-mapper/dynamic-mapping-service/src/test/java/dynamic/mapping/ProtobufMqttClient.java to create a new measurement for bus "berlin_01"

Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

19	PROCESSOR_EXTENSION	subscriptionTopic: protobuf/event
		mappingTopic: protobuf/event
		mappingTopicSample: protobuf/event
		sub:
		Defined in cumulocity-dynamic-mapper/dynamic-mapping-extension/src/main/java/dynamic/mapping/processor/extension/external/ProcessorExtensionCustomEvent.java
		
		In selection: Extensions for PROCESSOR_EXTENSION
		choose:
		  dynamic-mapping-extension
		
		In selection: Events for dynamic-mapping-extension
		choose:
		  CustomEvent
			E	Send message in protobuf format:
				
				syntax = "proto3";
				package processor.protobuf;
				
				option java_package = "mqtt.mapping.processor.extension.external";
				option java_outer_classname = "CustomEventOuter";
				
				message CustomEvent {
				  int64 timestamp = 1;
				  string txt = 2;
				  string unit = 3;
				  string externalIdType = 4;
				  string externalId = 5;
				  string eventType = 6;
				}
				
				Use test client: cumulocity-dynamic-mapper/dynamic-mapping-extension/src/test/java/dynamic/mapping/ProtobufMqttClient.java
					{
					    "source": {
					        "id": "909090"
					    },
					    "text": "This is a new test event.",
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "type": "c8y_TestEvent"
					}
						Use test client: cumulocity-dynamic-mapper/mqtt-mapping-extension/src/test/java/dynamic/mapping/ProtobufMqttClient.java
						to create a new event for bus "berlin_01"

20	JSON	subscriptionTopic: panel
		mappingTopic: panel
		mappingTopicSample: panel
		check: Create non existing device
		
		sub:
		1.[* deviceId->source.id]
		2.[$fromMillis($number(deviceTimestamp))-> time]
		3.[temperature->c8y_TemperatureMeasurement.T.value]
			I.M	{
				    "deviceId": "863859042393327",
				    "version": "1",
				    "deviceType": "20",
				    "deviceTimestamp": "1665473038000",
				    "deviceStatus": "BTR",
				    "temperature": 90
				}
					{
					    "c8y_TemperatureMeasurement": {
					        "T": {
					            "value": 110,
					            "unit": "C"
					        }
					    },
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "source": {
					        "id": "909090"
					    },
					    "type": "c8y_TemperatureMeasurement"
					}
						Devices with external id: 863859042393327 does not exist and is implicitly created.
						For this device an new measurement is created.

21	JSON	subscriptionTopic: panel
		mappingTopic: panel
		mappingTopicSample: panel
		
		sub:
		1.[deviceId->source.id]
		2.[[$now()->time]]
		3.['New device status: ' & deviceStatus & '!' -> text]
			E	{
				    "deviceId": "863859042393327",
				    "version": "1",
				    "deviceType": "20",
				    "deviceTimestamp": "1665473038000",
				    "deviceStatus": "BTR",
				    "temperature": 90
				}
					{
					    "source": {
					        "id": "909090"
					    },
					    "text": "New device status: BTR!",
					    "time": "2022-11-24T00:14:49.389+02:00",
					    "type": "c8y_GeneralPanelEvent"
					}
						For this device an new event is created.

23	JSON	subscriptionTopic: flexM/#
		mappingTopic: flexM/+/gazoline
		mappingTopicSample: flexM/berlin_01/gazoline
		
		sub:
		1.[deviceId->source.id]
		2.[Measurementname & "_type" -> type]
		3.[Measurementname = "Airsensor" ? {Seriesname:{"value": value, "unit": unit}} : null -> Airsensor]]
		select: Repair Strategy: REMOVE_IF_NULL
		4. [Measurementname = "Liquidsensor" ? {Seriesname:{"value": value, "unit": unit}} : null -> Liquidsensor]
		select: Repair Strategy: REMOVE_IF_NULL
		5. [$now() -> time]
			M	{
				    "Measurementname": "Airsensor",
				    "Seriesname": "Humidity",
				    "value": 10,
				    "unit": "%"
				}
					{
					    "Airsensor": "dummy",
					    "Liquidsensor": "dummy",
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "source": {
					        "id": "909090"
					    },
					    "type": "c8y_measurementtype"
					}
						Depending on the content in the payload:
						1. is "Airsensor" present
						2. is "Liquidsensor" present
						either mapping 3. or 4. is evaluated and the relevant fragment in the measurement is crrested.

SampleMappings_11.xlsx

Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

24	JSON	subscriptionTopic: alarm/tires
		mappingTopic: alarm/tires
		mappingTopicSample: alarm/tires
		
		sub:
		1.[bus_id->source.id]
		2.[msg_type->type]
		3.[tx->text]
			A	{
				  "msg_type": "c8y_FlatTireAlarm",
				  "tx": "Left rear tire loses air!",
				  "bus_id": "berlin_01"
				}
					{
					  "source": {
					    "id": "909090"
					  },
					  "type": "c8y_FlatTireAlarm",
					  "text": "Left rear tire loses air!",
					  "severity": "MAJOR",
					  "status": "ACTIVE",
					  "time": "2022-03-19T12:03:27.845Z"
					}
						An alarm should be created for the device berlin_01.

25	PROCESSOR_EXTENSION	subscriptionTopic: measurementExt
		mappingTopic: measurementExt
		mappingTopicSample: measurementExt
		
		sub:
		Events for mqtt-mapping-extension: CustomMeasurement
		Extension for PROCESSOR_EXTENSION: mqtt-mapping-externsion
		
		Defined in cumulocity-dynamic-mapper/dynamic-mapping-extension/src/main/java/dynamic/mapping/processor/extension/external/ProcessorExtensionCustomMeasurement.java
			M	{
				  "temperature": 120.5,
				  "unit": "Celsius",
				  "time": "2023-07-12T16:21:53.389+02:00",
				  "externalId": "berlin_01",
				  "unexpected": 17.5
				}
					{
					  "source": {
					    "id": "909090"
					  },
					  "time": "2022-08-05T00:14:49.389+02:00",
					  "type": "c8y_Temperature",
					  "c8y_Temperature": "dummy",
					  "c8y_Fragment_to_remove": "remove_me"
					}
						A measasurement should be created for the device berlin_01.
						The fragment "c8y_Fragment_to_remove" is not included in the created measurement, as the repair strategy is "REMOVE_IF_NULL".
						In addition the reapar strategy "CREATE_IF_MISSING" is used. This is required to map the node "unexpected" to the target fragment "c8y_Unexpected". This is created, due to the used reapir strategy.

26	JSON	subscriptionTopic: v2/things/#
		mappingTopic: v2/things/+
		mappingTopicSample: v2/things/berlin_01
		
		1. [* _TOPIC_LEVEL_[2] -> source.id]
		2. [$now() -> time]
		3. [values{key: {'Measurement':{'value':value, 'key': 'U'}}} -> $]
			M	{
				  "values":[
				    {
				      "key":"velocidad_cabezal",
				      "value":136.34
				    },
				    {
				      "key":"temperature",
				      "value":25
				    }
				  ]
				}
					{
					  "time":"2022-08-05T00:14:49.389+02:00",
					  "source":{
					    "id":"909090"
					  },
					  "type":"c8y_FlexibleMeasurement"
					}
						A measurement with two fragments:
						1. velocidad_cabezal
						2. temperature
						is created.
						It demonstrates the use of a substitution using "$" as a target. This results in merging the extracted content with the predefined target template.

27	JSON	subscriptionTopic: v3/things/#
		mappingTopic: v3/things/+
		mappingTopicSample: v3/things/berlin_01
		
		1. [* _TOPIC_LEVEL_[2] -> source.id]
		2. [$now() -> time]
		3. [$map(values, function ($v) { {$v.key: {'Measurement':{'value':$v.value, 'unit': 'U'}}}}) -> $ }]
		check: expand2Array
			M	{
				  "values":[
				    {
				      "key":"velocidad_cabezal",
				      "value":136.34
				    },
				    {
				      "key":"temperature",
				      "value":25
				    }
				  ]
				}
					{
					  "time":"2022-08-05T00:14:49.389+02:00",
					  "source":{
					    "id":"909090"
					  },
					  "type":"c8y_FlexibleMeasurement"
					}
						Two measurements with different fragments:
						1. velocidad_cabezal
						2. temperature
						are created.
						It demonstrates the use of a substitution using "$" as a target. This results in merging the extracted content with the predefined target template in combination with the attribute "expand2Array".
						See as well mapping 26.

Sample Mapping #	Mapping Type	Topics/Substitutions	API	Template-Source	Target-Payload	Expected Result

28	JSON	subscriptionTopic: datalogger/0018
		mappingTopic: datalogger/0018
		mappingTopicSample: datalogger/0018
		
		1. [* ID —> source.id]
		2. [$replace(ts,' ','T') —> time]
		3. [$map($spread(meas), function($v, $k) { { $keys($v): { "value": $lookup($v,$keys($v))[0], "unit": "l/h" } } })~>$merge() —> onguardMeasurement]
			M	```{
				    "ID": "0018",
				    "meas": {
				        "Product1_Flow": [
				            14.93
				        ],
				        "Water_Flow": [
				            18.54
				        ],
				        "Product2_Flow": [
				            272.9
				        ],
				    },
				    "ts": "2024-06-18 13:20:45.000Z",
				    "timestampUTC": "2024-06-18T13:20:45.000Z",
				}```
					``{
					    "onguardMeasurement": null,
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "source": {
					        "id": "909090"
					    },
					    "type": "onguardMeasurement"
					}```
						Map the structure under meas as fragments in the measurements. The number of keys in meas can vary and must therefore be generated dynamically.

51	JSON OUTBOUND	publishTopic: evt/outbound/#
		mappingTopicSample: evt/outbound/berlin_01
		filter outbound: bus_event
		NOTE: for outbound mappings no tt (template topic) is defined.
		check: Map device identifier
		
		sub:
		1.[source.id -> _TOPIC_LEVEL_[2]]
		2.[type -> eventType]
		3.[$now() -> time]
		4.[bus_event -> bus_event]
		5.[source.id -> deviceId], for option Resolve to externalId
			E	```{
				    "source": {
				        "id": "38268445"
				    },
				    "type": "c8y_BusEvent",
				    "text": "Bus was stopped",
				    "time": "2022-08-05T00:14:49.389+02:00",
				    "bus_event": "stop_event"
				}```
					``{
					    "deviceId": "909090",
					    "description": "This is a new test event.",
					    "time": "2022-08-05T00:14:49.389+02:00",
					    "eventType": "TestEvent",
					    "bus_event": "stop_event",
					    "_TOPIC_LEVEL_": [
					        "evt",
					        "outbound",
					        "berlin_01"
					    ]
					}```
						Publish mqtt msg. with event on topic 'evt/outbound/berlin_01' Use following command to create sample event:
						c8y events create --device "YOUR_DEVICE_ID" --data 'bus_event="stop_event", text="Bus was stopped today!", type="c8y_BusEvent"'

52	JSON OUTBOUND	publishTopic: opp/outbound/#
		mappingTopicSample: opp/outbound/berlin_01
		filter outbound: bus_opp
		NOTE: for outbound mappings no tt (template topic) is defined.
		
		sub:
		1. [deviceId -> _TOPIC_LEVEL_[2]]
		choose: Resolve to externalId
		2. [bus_opp -> decription]
		3. [* deviceId —> c8y_Id]
			O	```{
				    "deviceId": "909090",
				    "bus_opp": "New engine restart operation!"
				}```
					``{
					    "c8y_Id": "909090",
					    "decription": "dummy operation",
					    "type": "bus_operation",
					    "_TOPIC_LEVEL_": [
					        "opp",
					        "outbound",
					        "berlin_01"
					    ]
					}```
						Publish mqtt msg. with operation on topic 'opp/outbound/berlin_01' Use following command to create sample event:
						c8y operations create --device "YOUR_DEVICE_ID" --data 'bus_opp="New engine restart operation!"'
						Note: The option "resolve2ExternalId = false" esures that the C8Y internal device id is used in substitution 3.