درس مبانی اینترنت اشیاء

گزارش پروژه

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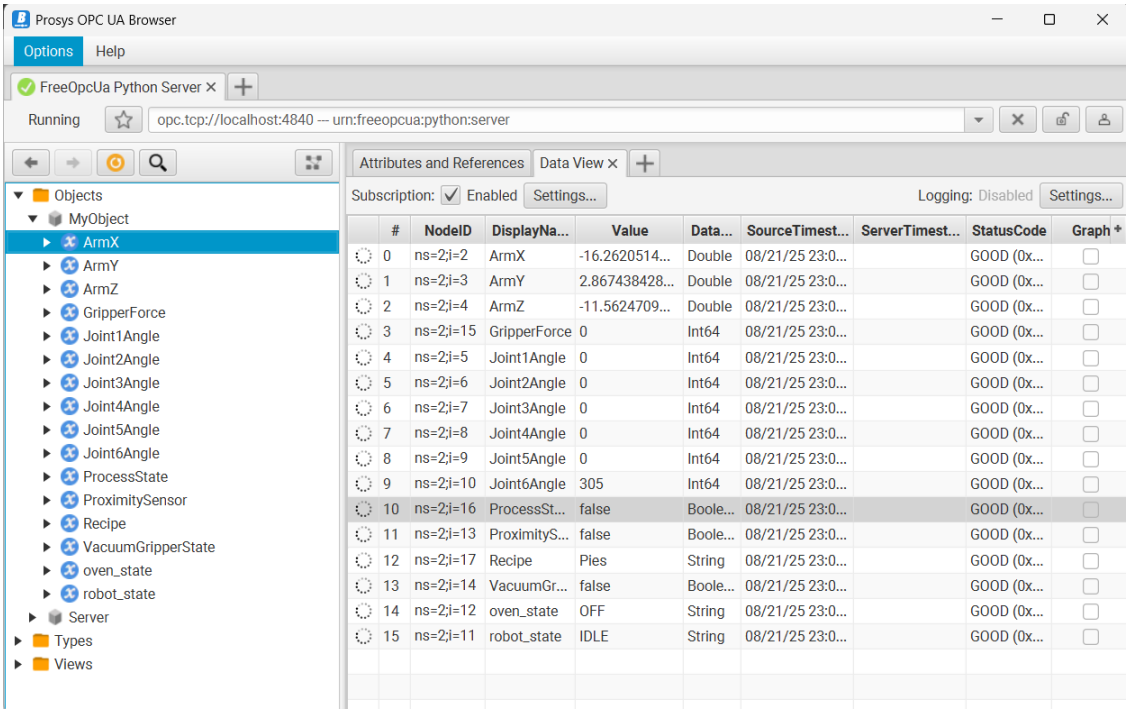
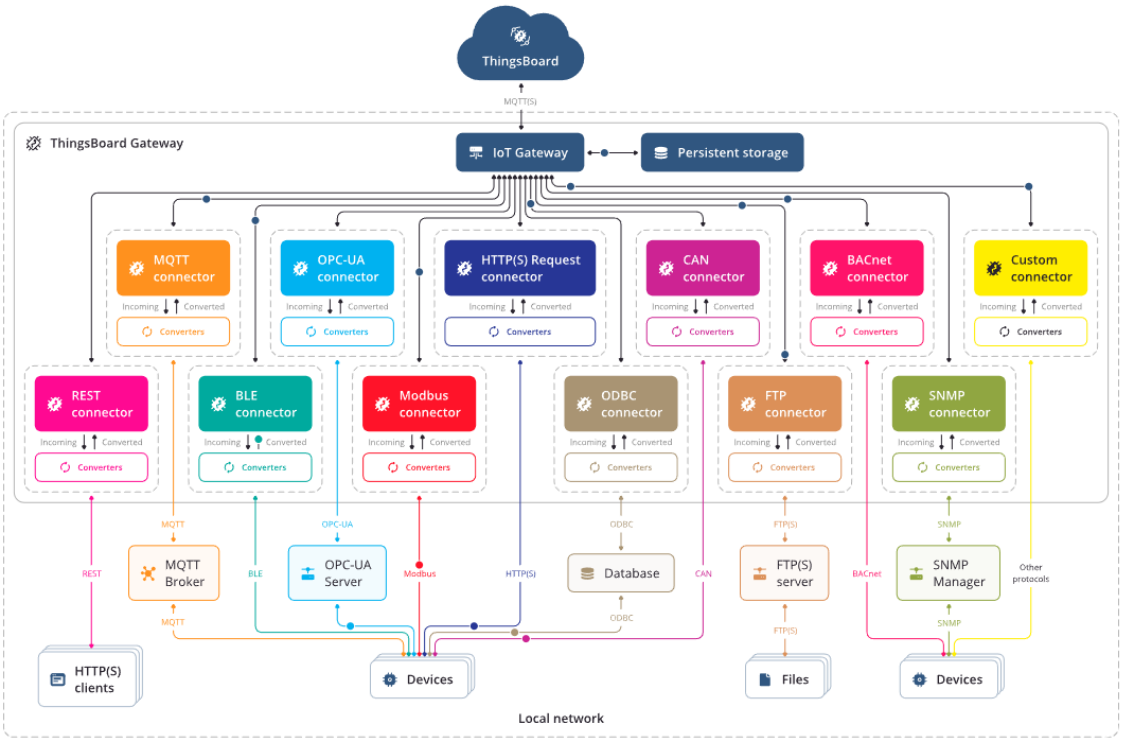
Factory-sim

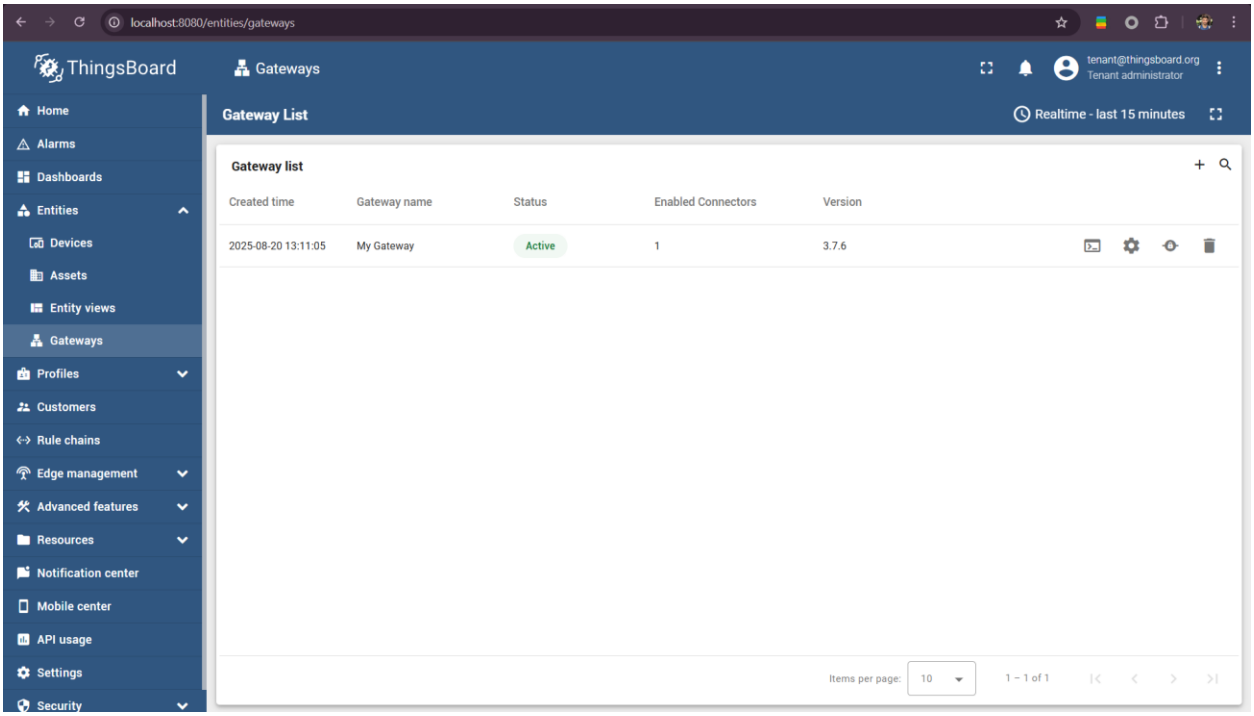
Prosys OPC UA Browser

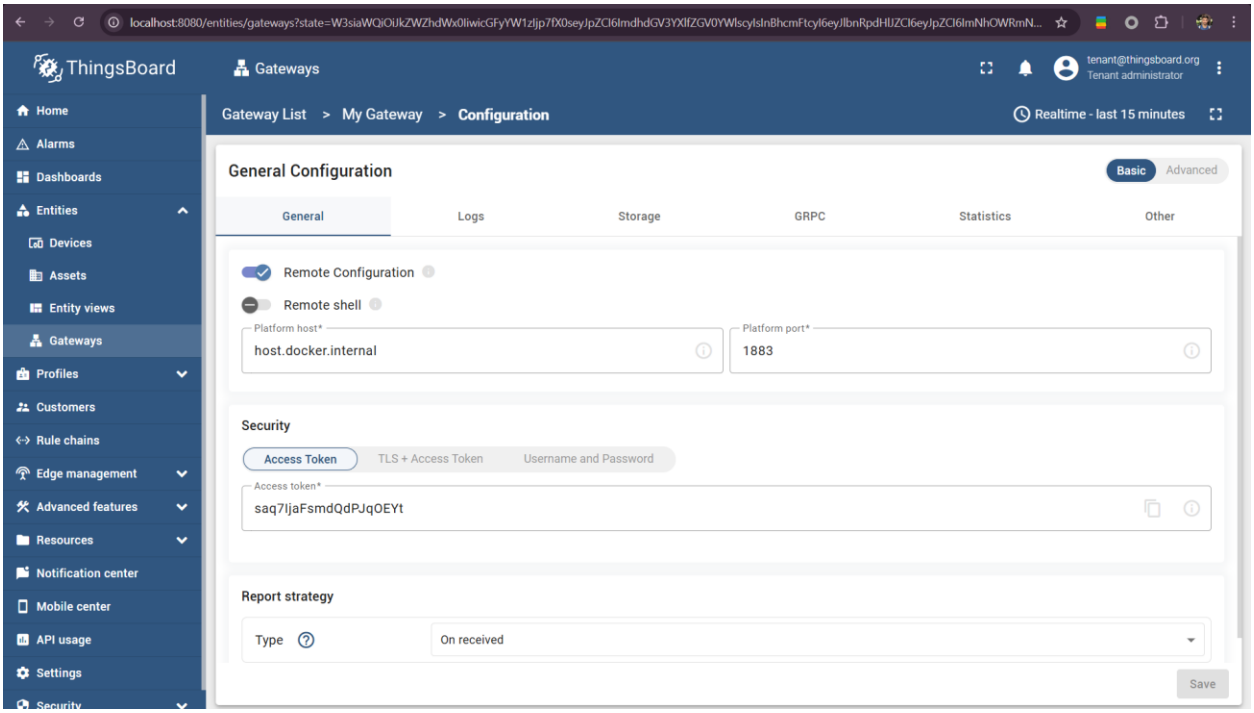


#	NodeID	DisplayNa...	Value	Data...	SourceTimest...	ServerTimest...	StatusCode	Graph
0	ns=2;i=2	ArmX	-16.2620514...	Double	08/21/25 23:0...		GOOD (0x...	
1	ns=2;i=3	ArmY	2.867438428...	Double	08/21/25 23:0...		GOOD (0x...	
2	ns=2;i=4	ArmZ	-11.5624709...	Double	08/21/25 23:0...		GOOD (0x...	
3	ns=2;i=15	GripperForce	0	Int64	08/21/25 23:0...		GOOD (0x...	
4	ns=2;i=5	Joint1Angle	0	Int64	08/21/25 23:0...		GOOD (0x...	
5	ns=2;i=6	Joint2Angle	0	Int64	08/21/25 23:0...		GOOD (0x...	
6	ns=2;i=7	Joint3Angle	0	Int64	08/21/25 23:0...		GOOD (0x...	
7	ns=2;i=8	Joint4Angle	0	Int64	08/21/25 23:0...		GOOD (0x...	
8	ns=2;i=9	Joint5Angle	0	Int64	08/21/25 23:0...		GOOD (0x...	
9	ns=2;i=10	Joint6Angle	305	Int64	08/21/25 23:0...		GOOD (0x...	
10	ns=2;i=16	ProcessSt...	false	Boole...	08/21/25 23:0...		GOOD (0x...	
11	ns=2;i=13	ProximityS...	false	Boole...	08/21/25 23:0...		GOOD (0x...	
12	ns=2;i=17	Recipe	Pies	String	08/21/25 23:0...		GOOD (0x...	
13	ns=2;i=14	VacuumGr...	false	Boole...	08/21/25 23:0...		GOOD (0x...	
14	ns=2;i=12	oven_state	OFF	String	08/21/25 23:0...		GOOD (0x...	
15	ns=2;i=11	robot_state	IDLE	String	08/21/25 23:0...		GOOD (0x...	

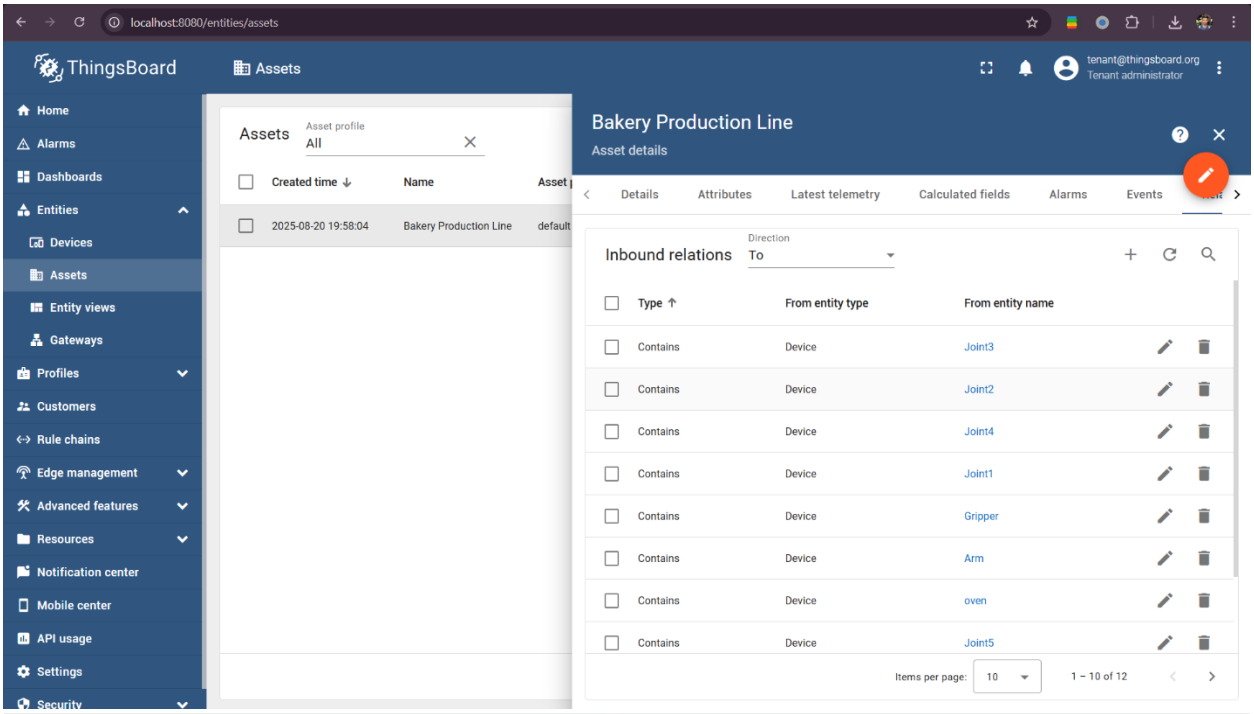
ThingsBoard

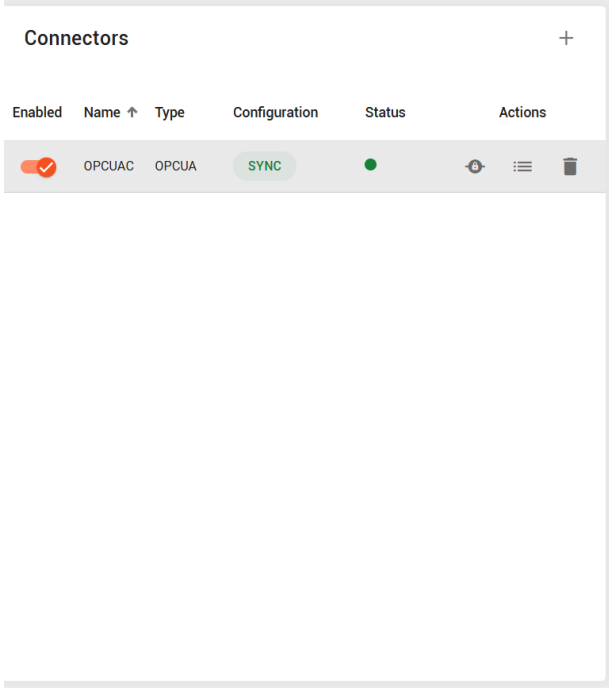


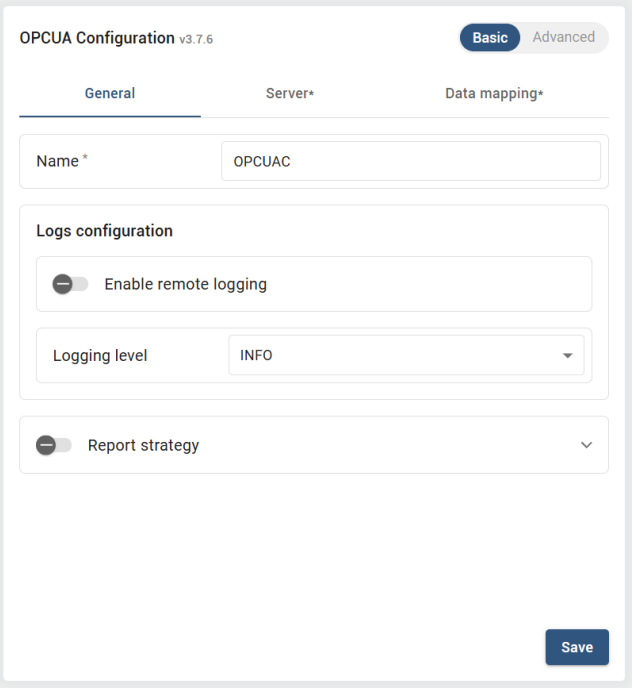

localhost:8080/entities/gateways
ThingsBoard
Gateways
tenant@thingsboard.org
Tenant administrator
Home
Alarms
Dashboards
Entities
Devices
Assets
Entity views
Gateways
Profiles
Customers
Rule chains
Edge management
Advanced features
Resources
Notification center
Mobile center
API usage
Settings
Security
Gateway List
Realtime - last 15 minutes
Gateway list
Created time
Gateway name
Status
Enabled Connectors
Version
2025-08-20 13:11:05
My Gateway
Active
1
3.7.6
Items per page:
10
1 – 1 of 1

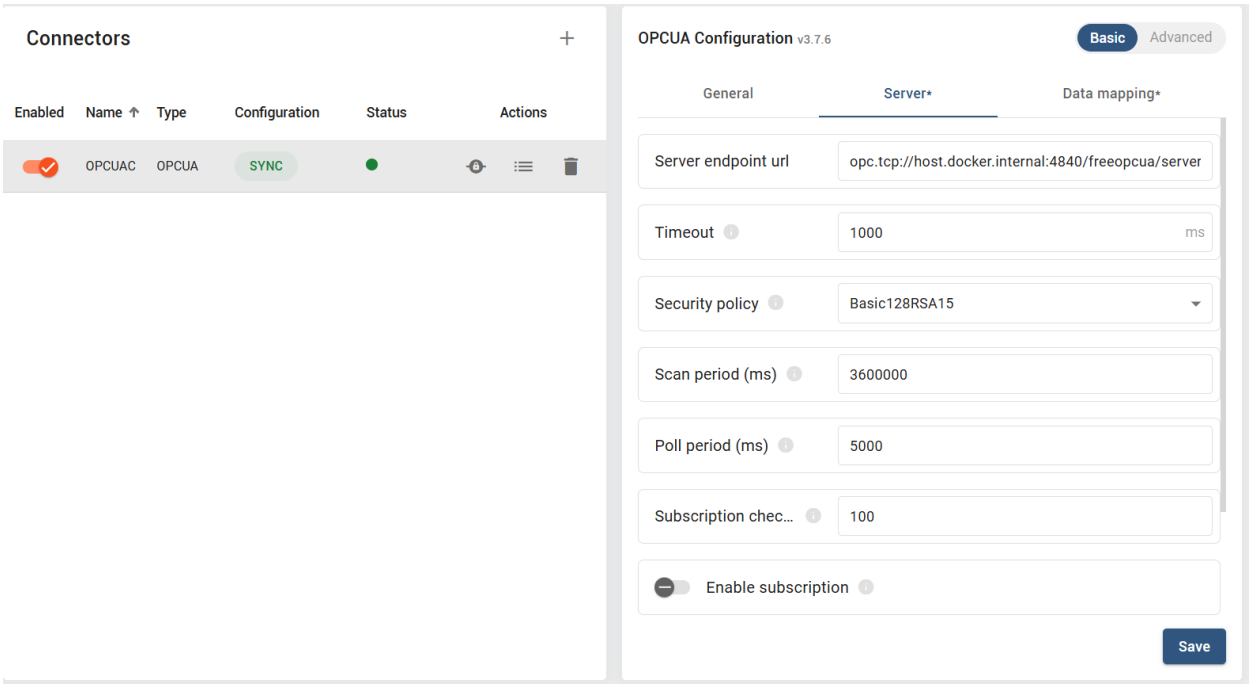

ThingsBoard
Gateways
tenant@thingsboard.org
Tenant administrator
Gateway List > My Gateway > Configuration
Realtime - last 15 minutes
General Configuration
Basic
Advanced
General
Logs
Storage
GRPC
Statistics
Other
Remote Configuration
Remote shell
Platform host*
host.docker.internal
Platform port*
1883
Security
Access Token
TLS + Access Token
Username and Password
Access token*
saq7IjaFsmdQdPJqOEYt
Report strategy
Type
On received
Save

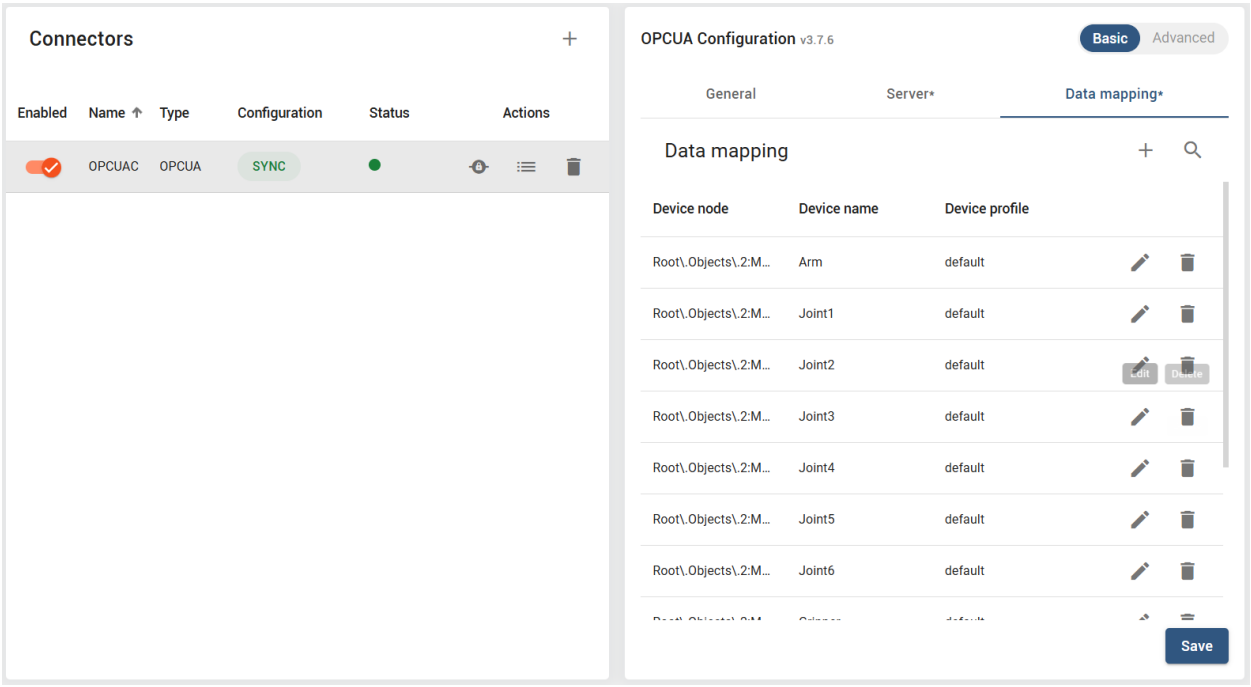
OPC UA Connector

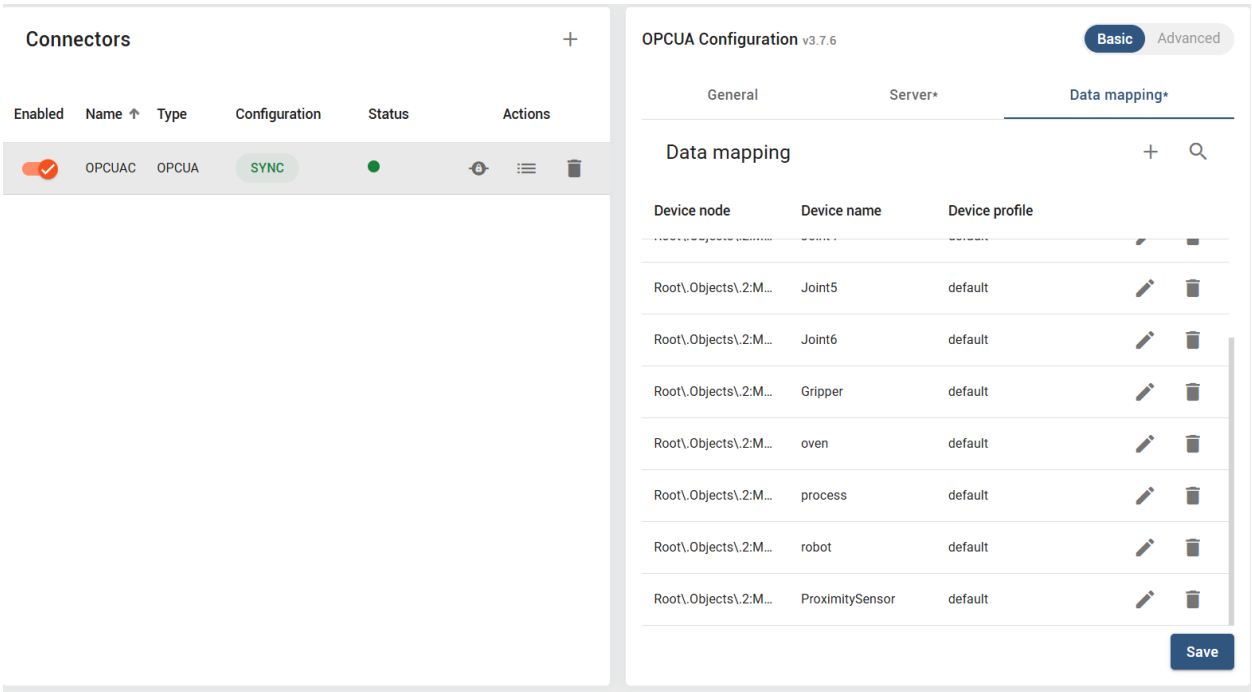


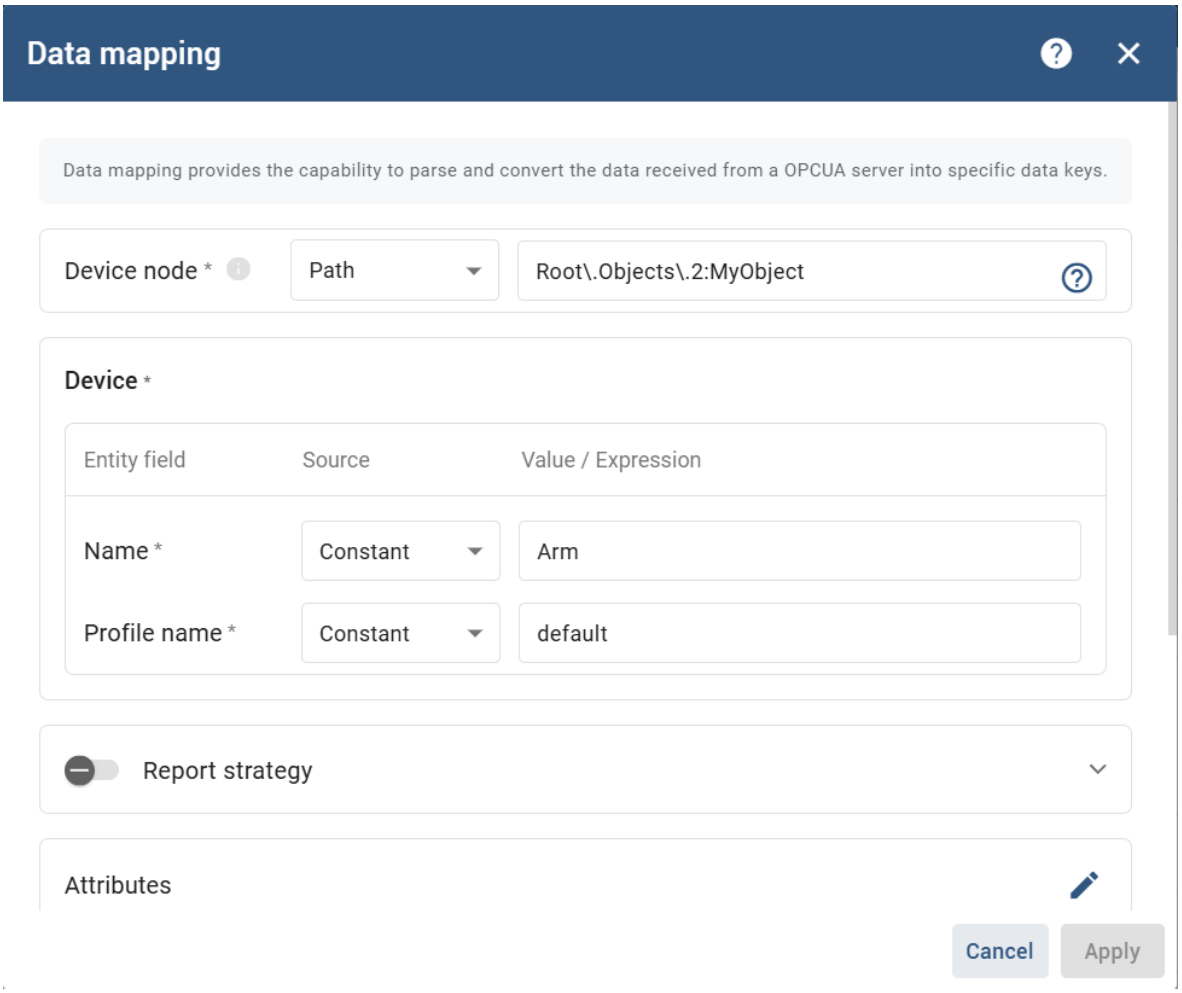


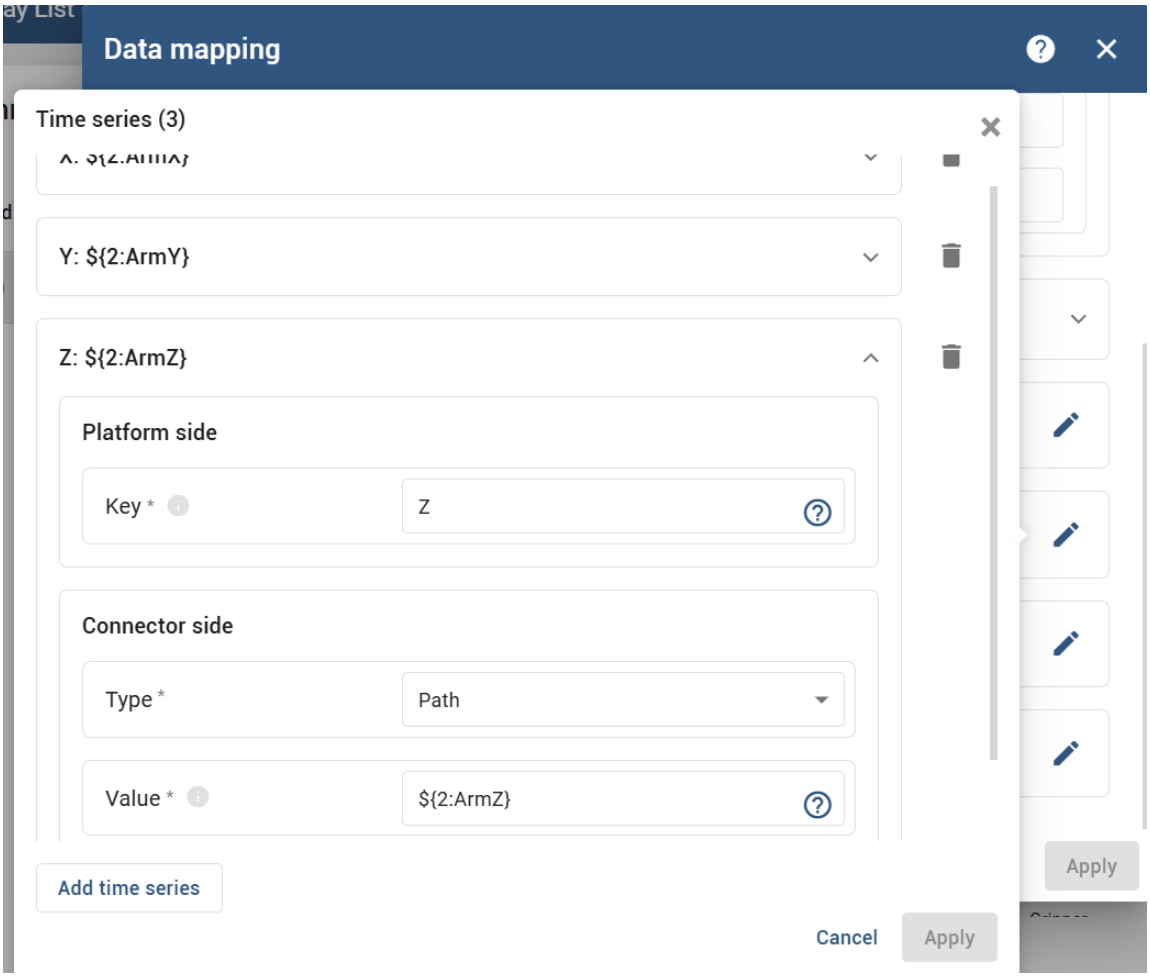



Connectors
Enabled
Name
Type
Configuration
Status
Actions
OPCUAC
OPCUA
SYNC
OPCUA Configuration v3.7.6
Basic
Advanced
General
Server*
Data mapping*
Server endpoint url
opc.tcp://host.docker.internal:4840/freeopcua/server
Timeout
1000
ms
Security policy
Basic128RSA15
Scan period (ms)
3600000
Poll period (ms)
5000
Subscription chec...
100
Enable subscription
Save

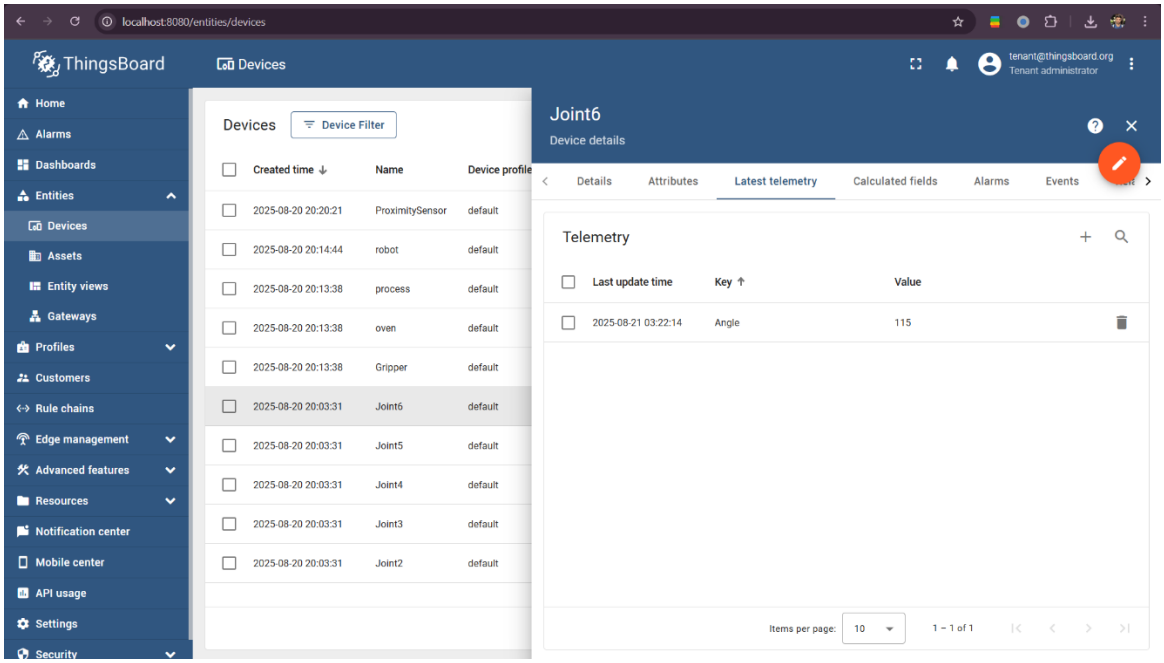

Connectors
Enabled
Name
Type
Configuration
Status
Actions
OPCUAC
OPCUA
SYNC
OPCUA Configuration v3.7.6
Basic
Advanced
General
Server*
Data mapping*
Data mapping
Device node
Device name
Device profile
Root\.Objects\.2:M...
Arm
default
Joint1
Joint2
Joint3
Joint4
Joint5
Joint6
Edit
Delete
Save


Connectors
Enabled
Name
Type
Configuration
Status
Actions
OPCUAC
OPCUA
SYNC
OPCUA Configuration v3.7.6
Basic
Advanced
General
Server*
Data mapping*
Data mapping
Device node
Device name
Device profile
Root\.Objects\.2:M...
Joint5
default
Root\.Objects\.2:M...
Joint6
default
Root\.Objects\.2:M...
Gripper
default
Root\.Objects\.2:M...
oven
default
Root\.Objects\.2:M...
process
default
Root\.Objects\.2:M...
robot
default
Root\.Objects\.2:M...
ProximitySensor
default
Save

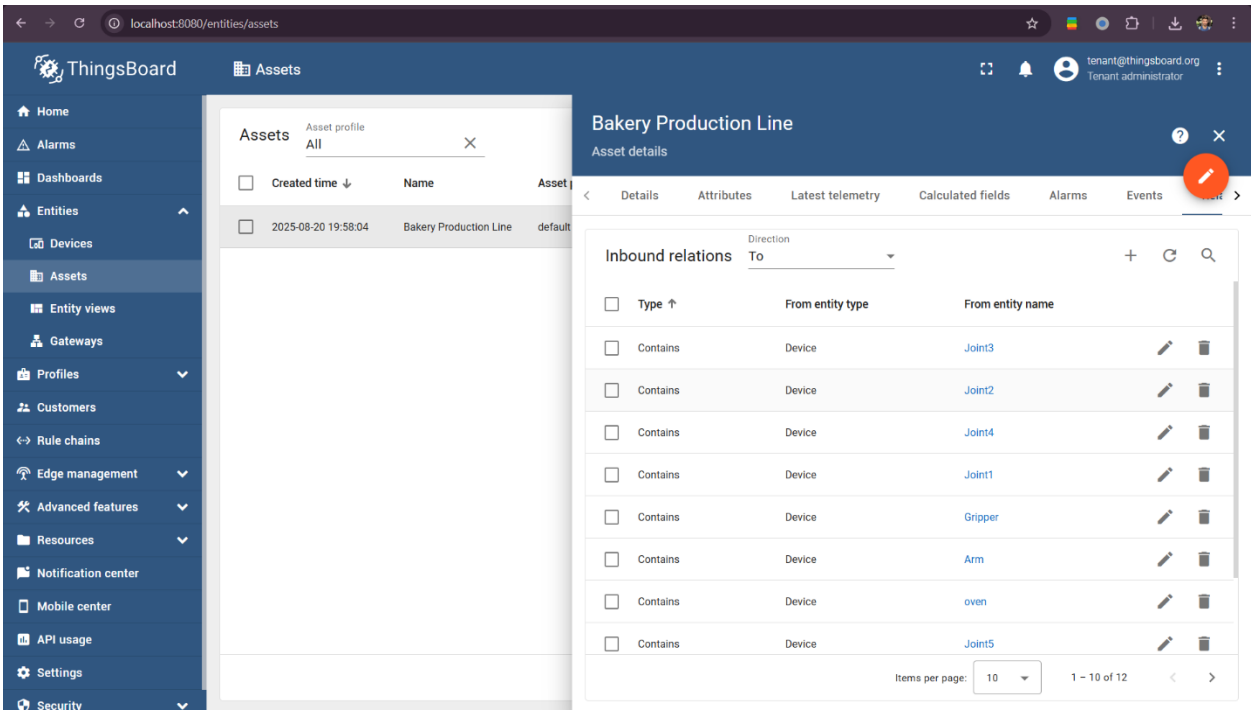

Data mapping
Data mapping provides the capability to parse and convert the data received from a OPCUA server into specific data keys.
Device node *
Path
Root\.Objects\.2:MyObject
Device *
Entity field
Source
Value / Expression
Name *
Constant
Arm
Profile name *
Constant
default
Report strategy
Attributes
Cancel
Apply


Data mapping
Time series (3)
Y: ${2:ArmY}
Z: ${2:ArmZ}
Platform side
Key *
Z
Connector side
Type *
Path
Value *
${2:ArmZ}
Add time series
Cancel
Apply
Apply

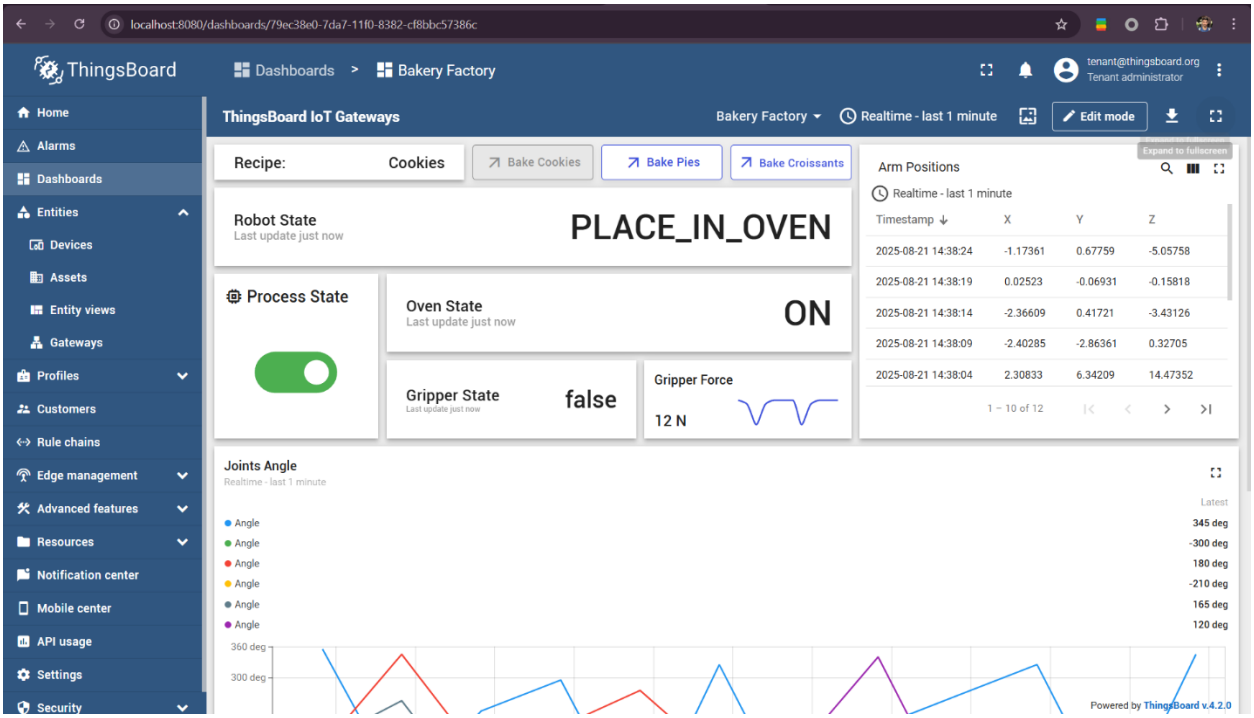
Devices

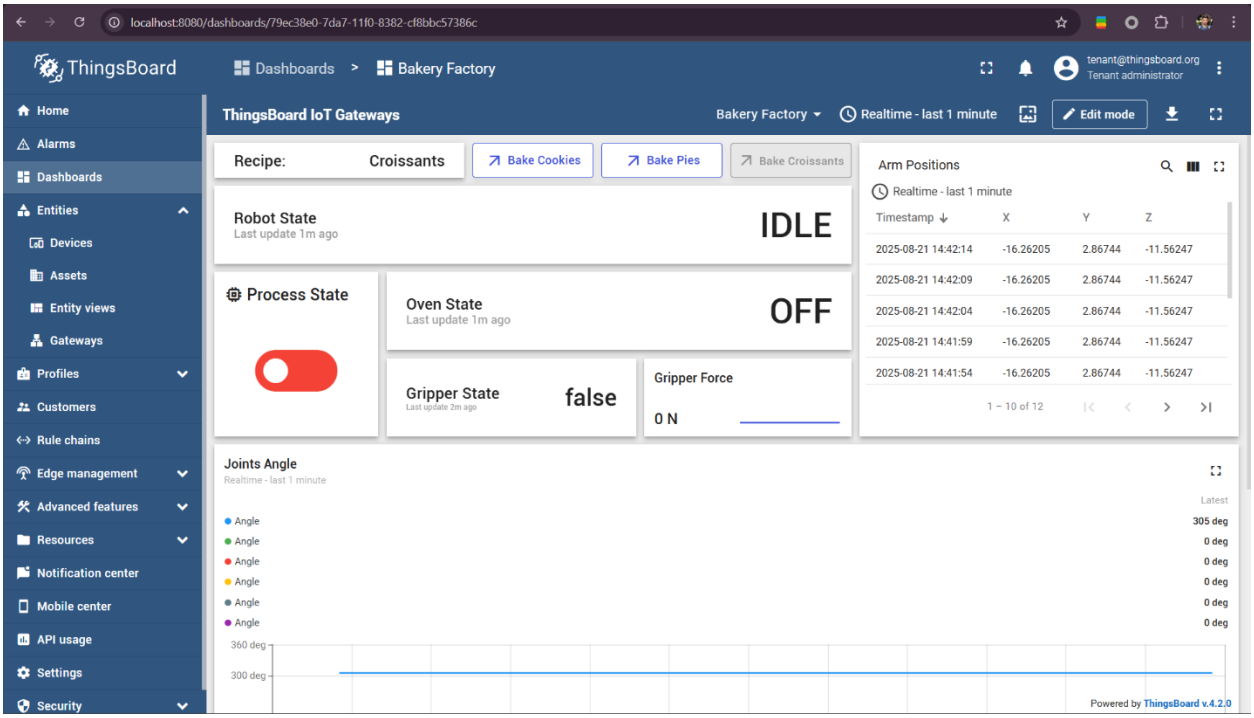


Asset



Dashboard


localhost:8080/dashboards/79ec38e0-7da7-11f0-8382-cf8bbc57386c
ThingsBoard
Dashboards > Bakery Factory
tenant@thingsboard.org
Tenant administrator
Home
Alarms
Dashboards
Entities
Devices
Assets
Entity views
Gateways
Profiles
Customers
Rule chains
Edge management
Advanced features
Resources
Notification center
Mobile center
API usage
Settings
Security
ThingsBoard IoT Gateways
Bakery Factory
Realtime - last 1 minute
Edit mode
Recipe: Cookies
Bake Cookies
Bake Pies
Bake Croissants
Robot State
Last update just now
PLACE_IN_OVEN
Process State
Oven State
Last update just now
ON
Gripper State
false
Gripper Force
12 N
Arm Positions
Realtime - last 1 minute
Timestamp X Y Z
2025-08-21 14:38:24 -1.17361 0.67759 -5.05758
2025-08-21 14:38:19 0.02523 -0.06931 -0.15818
2025-08-21 14:38:14 -2.36609 0.41721 -3.43126
2025-08-21 14:38:09 -2.40285 -2.86361 0.32705
2025-08-21 14:38:04 2.30833 6.34209 14.47352
1 – 10 of 12
Joints Angle
Realtime - last 1 minute
Latest
Angle 345 deg
Angle -300 deg
Angle 180 deg
Angle -210 deg
Angle 165 deg
Angle 120 deg
360 deg
300 deg
Powered by ThingsBoard v.4.2.0


localhost:8080/dashboards/79ec38e0-7da7-11f0-8382-cf8bbc57386c
ThingsBoard
Dashboards > Bakery Factory
tenant@thingsboard.org
Tenant administrator
Home
Alarms
Dashboards
Entities
Devices
Assets
Entity views
Gateways
Profiles
Customers
Rule chains
Edge management
Advanced features
Resources
Notification center
Mobile center
API usage
Settings
Security
ThingsBoard IoT Gateways
Bakery Factory
Realtime - last 1 minute
Edit mode
Recipe: Croissants
Bake Cookies
Bake Pies
Bake Croissants
Robot State
Last update 1m ago
IDLE
Process State
Oven State
Last update 1m ago
OFF
Gripper State
Last update 2m ago
false
Gripper Force
0 N
Arm Positions
Realtime - last 1 minute
Timestamp X Y Z
2025-08-21 14:42:14 -16.26205 2.86744 -11.56247
2025-08-21 14:42:09 -16.26205 2.86744 -11.56247
2025-08-21 14:42:04 -16.26205 2.86744 -11.56247
2025-08-21 14:41:59 -16.26205 2.86744 -11.56247
2025-08-21 14:41:54 -16.26205 2.86744 -11.56247
1 – 10 of 12
Joints Angle
Realtime - last 1 minute
Latest
Angle 305 deg
Angle 0 deg
Angle 0 deg
Angle 0 deg
Angle 0 deg
Angle 0 deg
360 deg
300 deg
Powered by ThingsBoard v.4.2.0