Management API Overview

With the help of this document, you will gain an overview of how a provider can share data with a consumer via Tractus-X EDC.

Throughout this document, you will encounter several elements that need to be used, such as:

- provider_url
- provider_bpn
- provider_dsp_endpoint
- consumer_url
- consumer_bpn
- x-api-key for provider connector
- x-api-key for consumer connector

No worries—you can get all the required information within the Smart Systems Hub – Learn and Explore environment.

To follow the Management API walkthrough, both the provider and consumer will need to complete a few steps, which are detailed in the following sections.

Provider:

1) Create an Asset
2) Policies
   a) Create Usage Policy
   b) Create Access Policy
3) Create a Contract Definition

Consumer:

1) Fetching a Provider's Catalog
2) EDRs
   a) Receiving the EDR
   b) Retrieving EDR entries from the Consumer Control Plane
   c) Pull out the EDR
   d) Use EDR for Data Access

Management-api-walkthrough

Provider

Create an Asset

Use this url with POST:

```
{{PROVIDER_CONNECTOR_URL}}/management/v3/assets
```

Use this part in body:

```json
{
  "@context": {},
  "@type": "Asset",
  "@id": "{{ASSET_ID}}",
  "properties": {
        "description": "{{DESCRIPTION FOR ASSET}}"
  },
  "dataAddress": {
    "@type": "DataAddress",
    "type": "{{SUPPORTED_TYPE}}"
    "baseUrl": "{{API_PUBLICK_URL}}"
  }
}
```

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{PROVIDER_X_API_KEY}}

In response you will get correct output.

Policies:

Add Usage/contract policy in provider (Define how the data can be used):

Use this url with POST:

```
{{PROVIDER_CONNECTOR_URL}}/management/v3/policydefinitions
```

Use this part in body:

```json
{
  "@context": [
    "https://w3id.org/tractusx/edc/v0.0.1",
    "http://www.w3.org/ns/odrl.jsonld",
    {
```

```
    "@vocab": "https://w3id.org/edc/v0.0.1/ns/"
    }
  ],
  "@type": "PolicyDefinition",
  "@id": "{{USAGE_POLICY_ID}}",
  "policy": {
    "@type": "Set"
  }
}
```

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{PROVIDER_X_API_KEY}}

In response you will get correct output.

Add access policy in provider

Use this url with POST:

```
{{PROVIDER_CONNECTOR_URL}}/management/v3/policydefinitions
```

Use this part in body:

```
{
  "@context": [
    "https://w3id.org/tractusx/edc/v0.0.1",
    "http://www.w3.org/ns/odrl.jsonld",
    {        "@vocab": "https://w3id.org/edc/v0.0.1/ns/"      }  ],  "@type":
"PolicyDefinition",
  "@id": "{{ACCESS_POLICY_ID}}",
  "policy": {
    "@type": "Set",
    "permission": [
      {        "action": "use",
        "constraint": {
          "leftOperand": "BusinessPartnerNumber",
          "operator": "eq",
          "rightOperand": "{{CONSUMER_BPN}}"
        }
      }
    ]
  }
}
```

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{PROVIDER_X_API_KEY}}

In response you will get correct output.

Creating a Contract Definition

Use this url with POST:

```
{{PROVIDER_CONNECTOR_URL}}/management/v3/contractdefinitions
```

Use this part in body

```
{
  "@context": {},
  "@id": "{{CONTRACT_DEFINITION_ID}}",
  "@type": "ContractDefinition",
  "accessPolicyId": "{{USAGE_POLICY_ID}}",
  "contractPolicyId": "{{ACCESS_POLICY_ID}}",
  "assetsSelector": {
    "@type": "CriterionDto",
    "operandLeft": "https://w3id.org/edc/v0.0.1/ns/id",
    "operator": "=",
    "operandRight": "{{ASSET_ID}}"
  }
}
```

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{PROVIDER_X_API_KEY}}

In response you will get correct output.

Consumer

Catalog

Send catalog request via using this url with POST:

```
{{CONSUMER_CONNECTOR_URL}}/management/v3/catalog/request
```

Use this part in body:

```
{
    "@context": {
      "@vocab": "https://w3id.org/edc/v0.0.1/ns/"
    },
    "protocol": "dataspace-protocol-http",
    "counterPartyAddress": "{{PROVIDER_CONNECTOR_DSP_URL}}",
```

```
   "counterPartyId": "{{PROVIDER_BPN}}",
    "querySpec": {
    "offset": 0,
    "limit": 50
  }
}
```

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{CONSUMER_X_API_KEY}}

In response you will get correct output.

EDRs

Receiving the EDR

Use this url with POST:

```
{{CONSUMER_CONNECTOR_URL}}/management/v3/edrs
```

Use this part in body:

```
{
    "@context": [
        "https://w3id.org/tractusx/policy/v1.0.0",
        "http://www.w3.org/ns/odrl.jsonld",
        {
            "@vocab": "https://w3id.org/edc/v0.0.1/ns/",
            "tx": "https://w3id.org/tractusx/v0.0.1/ns/"
        }
    ],
    "@type": "ContractRequest",
    "counterPartyAddress": "{{PROVIDER_CONNECTOR_DSP_URL}}",
    "protocol": "dataspace-protocol-http",
    "policy": {
        "@id": "{{OFFER_ID}}",
        "@type": "Offer",
        "assigner": "{{PROVIDER_BPN}}",
        "permission": [
            {
                "action": "use",
                "constraint": {
                    "leftOperand": "tx:BusinessPartnerNumber",
                    "operator": "eq",
                    "rightOperand": "{{CONSUMER_BPN}}"
                }
            }
        ],
```

```
        "prohibition": [],
        "obligation": [],
        "target": "{{ASSET_ID}}"
    },
    "callbackAddresses": []
}
```

*{{OFFER_ID}}: You got from previous step (catalog request)

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{CONSUMER_X_API_KEY}}

In response you will get correct output.

Retrieving EDR entries from the Consumer Control Plane

Use this url with POST:

```
{{CONSUMER_CONNECTOR_URL}}/management/v3/edrs/request
```

Use this part in body:

```
{
    "@context": {
        "@vocab": "https://w3id.org/edc/v0.0.1/ns/"
    },
    "@type": "QuerySpec",
    "filterExpression": [
        {
            "operandLeft": "assetId",
            "operator": "=",
            "operandRight": "{{ASSET_ID}}"
        }
    ]
}
```

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{CONSUMER_X_API_KEY}}

In response you will get correct output.

Pull out the EDR:

Use this url with GET:

```
{{CONSUMER_CONNECTOR_URL}}/management/v3/edrs/{{transferProcessId}}/dataaddres
```

*transferProcessId : You got from previous step

Use this part in Header:

- Key: Content-Type Value: application/json

- Key: X-Api-Key Value: {{CONSUMER_X_API_KEY}}

In response you will get correct output.

Use EDR for Data Access:

Use GET with this url:

```
{{endpoint}}
```
*endpoint: You got from previous step

Use this part in Header:

- Key: Authorization Value

    o * {{authorization}} : You got from previous step

In response you will get the data which provider shared with consumer

Documentation for Management API Walkthrough:

Tractusx-edc-management-api-walkthrough: https://github.com/eclipse-tractusx/tractusx-edc/tree/main/docs/usage/management-api-walkthrough

Tractusx-edc-swagger-api-document:
https://app.swaggerhub.com/apis/eclipse-tractusx-bot/tractusx-edc/0.9.0