




Eclipse Dataspace Connector – Gaia-X Self-Description

Ronja Quensel
Technical Employee, Data Business, Fraunhofer ISST 
Contributor of Eclipse Dataspace Connector

EDC as Service Offering

- EDC is a Service Offering in Gaia-X
 - Data exchange connector service
- Gaia-X Trust-Framework defines attributes:
 - <https://gaia-x.gitlab.io/policy-rules-committee/trust-framework/service/#service-offering>
 - https://gaia-x.gitlab.io/policy-rules-committee/trust-framework/service_offering/#data-exchange-connector-service

EDC as Service Offering

- Required attributes:
 - **providedBy**: URL of the service provider
 - **aggregationOf[]**: URLs of resources related to the service
 - **termsAndConditions[]**: URLs pointing to terms and conditions
 - **physicalResource[]**: URLs of resources that hold information on where the data is located
 - **virtualResource[]**: URLs of resources that hold information on who owns the data
 - **policies[]**: policies expressed using a DSL (e.g. ODRL)

Self-Description in the EDC

- Example implementation:

<https://github.com/FraunhoferISST/EclipseDataspaceConnector/tree/gaia-x-hackathon/samples/gaia-x-self-description>

- Reads attribute values for self-description from configuration file

```
edc.samples.gaiax.selfdescription.providedby=https://example.service-provider.com
edc.samples.gaiax.selfdescription.aggregationof.0=https://example.resource1.com
edc.samples.gaiax.selfdescription.aggregationof.1=https://example.resource2.com
edc.samples.gaiax.selfdescription.termsandconditions.0=https://example.terms-and-conditions.com
edc.samples.gaiax.selfdescription.physicalresource.0=https://example.physical-resource.com
edc.samples.gaiax.selfdescription.virtualresource.0=https://example.virtual-resource.com
edc.samples.gaiax.selfdescription.contractdefinitions=samples\\gaia-x-self-description\\src\\mai
```

- Reads policies from existing contract definitions
- Provides the self-description (JSON) at <http://localhost:8181/api/gaiax>

Self-Description in the EDC

- **SelfDescriptionService** reads configuration and creates SD
- Endpoint returns SD

```
@GET
@Path("/gaiax")
public GaiaxSelfDescription selfDescription() {
    monitor.info( message: "Received request for Gaia-X self description.");
    return selfDescriptionService.getSelfDescription();
}
```

- Registered via **WebService** provided by **http** extension

```
var webService : WebService = context.getService(WebService.class);
webService.registerResource(new GaiaxSelfDescriptionController(context.getMonitor(), selfDescriptionService));
```

Self-Description in the EDC

```
{
  "providedBy": "https://example.service-provider.com",
  "aggregationOf": [
    "https://example.resource1.com",
    "https://example.resource2.com"
  ],
  "termsAndConditions": [
    "https://example.terms-and-conditions.com"
  ],
  "physicalResource": [
    "https://example.physical-resource.com"
  ],
  "virtualResource": [
    "https://example.virtual-resource.com"
  ],
  "policies": [
    {
      "type": "odrl",
      "content": "{\r\n  \"uid\" : \"AP_0\", \r\n  \"permissions\" : [ {\r\n    \"edctype\" : \"dataspaceconnector:permission\", \r\n    \"uid\" : null, \r\n    \"target\" : \"asset_01\", \r\n    \"action\" : {\r\n      \"type\" : \"USE\", \r\n      \"includedIn\" : null, \r\n      \"constraint\" : null\r\n    }, \r\n    \"assignee\" : null, \r\n    \"assigner\" : null, \r\n    \"constraints\" : [ ], \r\n    \"duties\" : [ ]\r\n  } ], \r\n  \"prohibitions\" : [ ], \r\n  \"obligations\" : [ ], \r\n  \"extensibleProperties\" : { }, \r\n  \"inheritsFrom\" : null, \r\n  \"assigner\" : null, \r\n  \"assignee\" : null, \r\n  \"target\" : null, \r\n  \"@type\" : {\r\n    \"@policytype\" : \"set\"\r\n  }\r\n}"
    },
    {
      "type": "odrl",
      "content": "{\r\n  \"uid\" : \"CP_0\", \r\n  \"permissions\" : [ {\r\n    \"edctype\" : \"dataspaceconnector:permission\", \r\n    \"uid\" : null, \r\n    \"target\" : \"asset_01\", \r\n    \"action\" : {\r\n      \"type\" : \"USE\", \r\n      \"includedIn\" : null, \r\n      \"constraint\" : null\r\n    }, \r\n    \"assignee\" : null, \r\n    \"assigner\" : null, \r\n    \"constraints\" : [ ], \r\n    \"duties\" : [ ]\r\n  } ], \r\n  \"prohibitions\" : [ ], \r\n  \"obligations\" : [ ], \r\n  \"extensibleProperties\" : { }, \r\n  \"inheritsFrom\" : null, \r\n  \"assigner\" : null, \r\n  \"assignee\" : null, \r\n  \"target\" : null, \r\n  \"@type\" : {\r\n    \"@policytype\" : \"set\"\r\n  }\r\n}"
    }
  ]
}
```

[Raw](#)[Parsed](#)