OSDU Data Platform
Application Developer Training

Schema Service
Schema

» A schema is a data model definition

» OSDU Data Platform's Data Model is defined in rich JSON objects

» Schema ID and version:
  – E.g., opendes:wks:master-data--Well:1.0.0

» Scoped:
  – INTERNAL
  – SHARED
Schema Service Overview

» Enables centralized governance and management of schemas in the OSDU Data Platform

» Provides all necessary APIs to fetch, create, update, and mark a schema obsolete

» Requires a special permission level to manage schemas:
  – `service.schema-service.admin`
Schema States

» DEVELOPMENT: mutable state
» PUBLISHED: immutable state
» OBSOLETE: no longer needed
Schema Definition: Example

```json
{
  "$id": "https://schema.osdu.opengroup.org/json/master-data/SeismicProcessingProject.1.6.0.json",
  "schema": "http://json-schema.org/draft-07/schema#",
  "title": "SeismicProcessingProject",
  "description": "A seismic processing project is a type of business project...",
  "type": "object",
  "allOf": [
    {
      "$ref": "../abstract/AbstractMaster.1.0.0.json"
    },
    {
      "$ref": "../abstract/AbstractProject.1.0.0.json"
    },
    {
      "type": "object",
      "properties": {
        "SeismicAcquisitionSurveys": {
          "description": "List of seismic acquisition projects (surveys)...",
          "type": "array",
          "items": {
            "type": "string",
            "pattern": "([w]\-{\w}\-\-]+:master-data\-{\w}\-\-\-{\w}\-\-\-\-SeismicAcquisitionSurvey\:[\w\-{\w}\-\-\-\%]+\:(0-9)\)\$"
          }
        }
      }
    }
  ]
}
```
Schema Record: Example

```json
{
    "schemaInfo": {
        "schemaIdentity": {
            "authority": "{{schema-authority}}",
            "source": "wks",
            "entityType": "master-data--SeismicProcessingProject",
            "schemaVersionMajor": 1,
            "schemaVersionMinor": 0,
            "schemaVersionPatch": 0,
            "id": "{{schema-authority}}!wks:master-data--SeismicProcessingProject:1.0.0"
        },
        "createdBy": "OSDU Data Definition Group",
        "scope": "SHARED",
        "status": "DEVELOPMENT"
    },
    "schema": {
        "{} schema definition {}"
    }
}
```
Entity Types in Manifest

Manifest 1.0.0

- **MasterData**
  - AE
  - Well, Wellbore, Field, etc.

- **ReferenceData**
  - AE
  - UnitOfMeasure, LogCurveType, CoordinateReferenceSystem, etc.

- **Data**
  - **WorkProduct**
    - AE
    - An envelope of WorkProductComponents
  - **WorkProductComponent**
    - AE
    - WellLog, WellboreMarkerSet, SeismicTraceData, etc.
  - **Datasets**
    - AE
    - FileGeneric, FileWITSML, FileCollectionSEGY, etc.

AbstractEntities
- ACL, Legal, etc.

Schema Definition repository: [https://gitlab.opengroup.org/osdu/subcommittees/data-def](https://gitlab.opengroup.org/osdu/subcommittees/data-def)
E-R for Manifest (part)

E-R diagrams
Thank you!