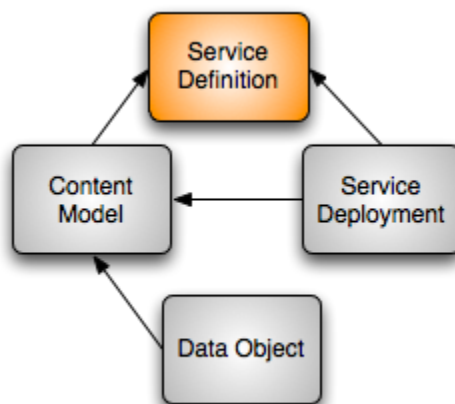


Creating a Service Definition



This guide describes how *Service Definition Objects* are constructed in detail. For a conceptual overview of these and other special Fedora object types, please see the [Fedora Digital Object Model](#) document.

Introduction

In Fedora, a Service Definition ("SDef") is a special kind of object that defines a set of operations on objects in a repository. As you will see, that set of operations needs to be expressed in a particular way inside the object in order for Fedora to understand it.

Although you may author Fedora objects in other ways (e.g. by making a series of API calls to your repository), we will assume for this guide that the object is being constructed in FOXML format outside the repository, then ingested in a single step.

Persistent Identifier

As with all Fedora objects, Service Definitions must declare a persistent identifier ("PID") that is unique within the repository. There are no special restrictions on the PID beyond those described in the [Fedora Identifiers](#) document. In FOXML format, the PID is declared in the root element of the XML document as shown below:

```
<?xml version="1.0" encoding="UTF-8"?>
<foxml:digitalObject xmlns:foxml="info:fedora/fedora-system:def/foxml#"
  VERSION="1.1" PID="demo:MyServiceDefinition">
  <!-- Object Properties -->
  <!-- Datastreams -->
</foxml:digitalObject>
```

Object Properties

There are also no special restrictions on the top-level object properties for Service Definitions. In the following FOXML fragment, we assert that the state of the object is *Active* and the label is *My Service Definition*.

```
<foxml:objectProperties>
  <foxml:property
    NAME="info:fedora/fedora-system:def/model#state"
    VALUE="Active"/>
  <foxml:property
    NAME="info:fedora/fedora-system:def/model#label"
    VALUE="My Service Definition"/>
</foxml:objectProperties>
```

DC Datastream

The DC datastream describes the object in human terms using the [Dublin Core Metadata Element Set](#). If you don't provide it yourself, Fedora will automatically add a bare-bones DC datastream for the object at ingest time. For an example DC datastream, please see the [FOXML Ingest Example](#).

RELS-EXT Datastream

The RELS-EXT datastream expresses relationships and properties of the object in RDF. An object asserts that it is a Service Definition Object through a special *hasModel* relationship to the *fedora-system:ServiceDefinition-3.0* object as shown below:

```
<foxml:datastream ID="RELS-EXT"
  CONTROL_GROUP="X" STATE="A" VERSIONABLE="true">
  <foxml:datastreamVersion ID="RELS-EXT1.0"
    MIMETYPE="application/rdf+xml"
    FORMAT_URI="info:fedora/fedora-system:FedoraRELSExt-1.0"
    LABEL="RDF Statements about this object">
    <foxml:xmlContent>
      <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
        xmlns:fedora-model="info:fedora/fedora-system:def/model#">
        <rdf:Description rdf:about="info:fedora/demo:MyServiceDefinition">
          <fedora-model:hasModel
            rdf:resource="info:fedora/fedora-system:ServiceDefinition-3.0"/>
        </rdf:Description>
      </rdf:RDF>
    </foxml:xmlContent>
  </foxml:datastreamVersion>
</foxml:datastream>
```

METHODMAP Datastream

The METHODMAP datastream is the heart of the Service Definition object. It defines the set of methods in the [Fedora Service Definition Method Map format](#). Each method may be defined in this datastream as taking zero or more user-supplied parameters. Each parameter may be required or optional, with a default value and optionally, a set of valid values.

In the following example, we define several methods:

- methodOne - takes no user parameters
- methodTwo - takes one parameter:
 - parm1 - optional, with any possible value and default value of "value1"
- methodThree - takes two parameters:
 - parm1 - optional, with two possible values and a default value of "value1"
 - parm2 - required, with any possible value and a default value of "" (empty string)

```
<foxml:datastream ID="METHODMAP"
  CONTROL_GROUP="X" STATE="A" VERSIONABLE="true">
  <foxml:datastreamVersion ID="METHODMAP1.0"
    FORMAT_URI="info:fedora/fedora-system:FedoraSDefMethodMap-1.0"
    LABEL="Abstract Method Map" MIMETYPE="text/xml">
    <foxml:xmlContent>
      <fmm:MethodMap
        xmlns:fmm="http://fedora.com:nsdlib.org/service/methodmap"
        name="N/A">
        <fmm:Method operationName="methodOne"/>
        <fmm:Method operationName="methodTwo">
          <fmm:UserInputParm parmName="parm1" defaultValue="value1"
            required="false" passBy="VALUE"/>
        </fmm:Method>
        <fmm:Method operationName="methodThree">
          <fmm:UserInputParm parmName="parm1" defaultValue="value1"
            required="false" passBy="VALUE">
            <fmm:ValidParmValues>
              <fmm:ValidParm value="value1"/>
              <fmm:ValidParm value="value2"/>
            </fmm:ValidParmValues>
          </fmm:UserInputParm>
          <fmm:UserInputParm parmName="parm2" defaultValue=""
            required="true" passBy="VALUE"/>
        </fmm:Method>
      </fmm:MethodMap>
    </foxml:xmlContent>
  </foxml:datastreamVersion>
</foxml:datastream>
```