

Exercise 1

Examine OData Service and create a Destination

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1. Objectives

- Examine OData Service and test it
- Create a destination for the Northwind service
- Create dev spaces for Business Application Studio

2. Examine an Example OData Service (Northwind)

We will use the free OData V2 Northwind Service as example.

<https://services.odata.org/V2/Northwind/Northwind.svc/> [<https://services.odata.org/V2/Northwind/Northwind.svc/>]

The screenshot shows a REST client interface with a GET request to `https://services.odata.org/V2/Northwind/Northwind.svc`. The response is displayed in XML format, showing the service metadata. The XML structure includes a workspace with a default title and three collections: Categories, CustomerDemographics, and Customers.

```

1 <?xml version="1.0" encoding="utf-8" standalone="yes"?>
2 <service xml:base="https://services.odata.org/V2/Northwind/Northwind.svc/" xmlns:atom="http://www.w3.org/2005/Atom"
3   <workspace>
4     <atom:title>Default</atom:title>
5     <collection href="Categories">
6       <atom:title>Categories</atom:title>
7     </collection>
8     <collection href="CustomerDemographics">
9       <atom:title>CustomerDemographics</atom:title>
10    </collection>
11    <collection href="Customers">
12      <atom:title>Customers</atom:title>
13    </collection>

```

2.1. Metadata

- Metadata document describes the OData service
- Entity types
 - Properties
 - Key properties
 - Navigation properties
- Entity sets
- Associations

<https://services.odata.org/V2/Northwind/> [[https://services.odata.org/V2/Northwind/Northwind.svc/\\$metadata/](https://services.odata.org/V2/Northwind/Northwind.svc/$metadata/)]

2.2. Query String Parameters

Parameter	Description
<code>\$count</code>	The <code>\$count</code> system query option allows clients to request a count of the matching resources included with the resources in the response.
<code>\$expand</code>	The <code>\$expand</code> system query option specifies the related resources to be included in line with retrieved resources. You might think of this as an SQL join operation. Only navigation properties can be expanded; you can identify navigation properties in the Data Model entity relationship diagram.

Parameter	Description
<code>\$filter</code>	The <code>\$filter</code> system query option allows clients to filter a collection of resources that are addressed by a request URL.
<code>\$expand</code>	The <code>\$expand</code> system query option specifies the related resources to be included in line with retrieved resources. You might think of this is an SQL join operation. Only navigation properties can be expanded; you can identify navigation properties in the Data Model entity relationship diagram.
<code>\$orderby</code>	The <code>\$orderby</code> system query option allows clients to request resources in a particular order.
<code>\$search</code>	The <code>\$search</code> system query option allows clients to request entities matching a free-text search expression.
<code>\$select</code>	The <code>\$select</code> system query option allows clients to request entities matching a free-text search expression.
<code>\$skip</code>	The <code>\$skip</code> query option requests the number of items in the queried collection that are to be skipped and not included in the result. A client can request a particular page of items by combining <code>\$top</code> and <code>\$skip</code> .
<code>\$top</code>	The <code>\$top</code> system query option requests the number of items in the queried collection to be included in the result. A client can request a particular page of items by combining <code>\$top</code> and <code>\$skip</code> .

Tabelle 1. Query String Parameters

2.3. Test with Postman

There are different tools to test APIs.

- SOAPUI ([Homepage](https://www.soapui.org/) [https://www.soapui.org/])
- Insomnia ([Homepage](https://insomnia.rest/) [https://insomnia.rest/])
- Postman ([Homepage](https://www.postman.com/) [https://www.postman.com/])

In current exercise we will use Postman, as it is the most popular and widely used API Testing tool.

- List of Products → `../Products`
- Product with ProductID 3 → `../Products(3)`
- Expand Category for Product 3 → `../Products(3)?$expand=Category`
- Return first 10 Products → `../Products?$top=10`
- Return products 11 - 20 → `../Products?$top=10&$skip=10`

3. Create Destination

- We will create a destination for the Northwind service
- You can find destinations on your Subaccount level in Connectivity section

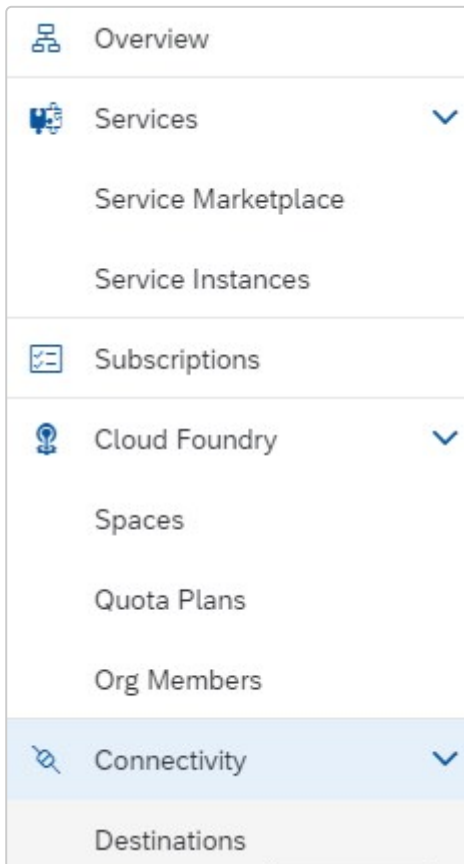


Abbildung 1. Destination menu

- Add the destination

Creation of new destination

Destination Configuration

Name: *	Northwind	Additional Properties		New Property
Type:	HTTP	HTML5.Dyna...	true	
Description:	Northwind OData services	WebIDEAddit...	full_url	
URL: *	https://services.odata.org/V2/Northwind/North...	WebIDEEnab...	true	
Proxy Type:	Internet	WebIDESyst...	Northwind_Data	
Authentication:	NoAuthentication	WebIDEUsage	odata_gen	
		<input checked="" type="checkbox"/> Use default JDK truststore		

Set up following destination configuration.

Attribute	Value
Name	Northwind
Type	HTTP

Attribute	Value
Description	Northwind OData services
URL	https://services.odata.org/V2/Northwind/Northwind.svc
Proxy Type	Internet
Authentication	NoAuthentication

Add Properties by clicking on **New Property**.

Property	Value
HTML5.DynamicDestination	true
WebIDEAdditionalData	full_url
WebIDEEnabled	true
WebIDESystem	Northwind_Data
WebIDEUsage	odata_gen

Make sure that checkbox "Use default JDK truststore" is enabled.

Save and Check connection



4. Enable Business Application Studio

To enable Business Application Studio you need to subscribe to corresponding Service/Application.

4.1. Subscribe to "SAP Business Application Studio"

1. Go to Subscriptions and Search for "SAP Business Application Studio"
2. If not already subscribed, Subscribe to "SAP Business Application Studio"

The screenshot shows the SAP Business Application Studio interface. On the left, a navigation sidebar contains the following items: Overview, Services (with a dropdown arrow), Subscriptions (highlighted), Cloud Foundry (with a dropdown arrow), Connectivity (with a dropdown arrow), and Security (with a dropdown arrow). The main content area is titled 'Subaccount: trial - Subscriptions' and shows 'Filtered: 1 of 24'. Below this, there is a section titled 'Extension Suite - Development Efficiency'. A card for 'SAP Business Application Studio' is prominently displayed, featuring the SAP logo, the text 'Subscribed' in a green box, and a description: 'Develop, debug, test, and deploy SAP business applications.' At the bottom of the card, it says 'trial' and provides a 'Go to Application' link.

4.2. Create Development Spaces

When starting Business Application Studio you will be asked to create a Development space.

The screenshot shows a dialog box titled 'Dev Spaces'. The text inside reads: 'Create and manage your development environment according to the type of applications you want to develop. You can add extensions and tools to further enhance your development options.' In the bottom right corner, there is a blue button with the text 'Create Dev Space'.


Because of the different development tools available in the IDE depending on type of Development Space, we will need two dev spaces for all developments during this course.


Create new SAP Fiori development space with name "fiori"


Create a New Dev Space


fiori ✓

What kind of application do you want to create?

☒  SAP Fiori

☐  SAP Cloud Business Application

☐  SAP Cloud Platform Mobile Services


☐  Basic


Create new SAP Cloud Business Application Development space with name "cap".


Create a New Dev Space


cap ✓

What kind of application do you want to create?

☐  SAP Fiori

☒  SAP Cloud Business Application

☐  SAP Cloud Platform Mobile Services

☐  Basic

For the next Exercise we can already start the "fiori" dev space.







Dev Spaces

Create and manage your development environment according to the type of applications you want to develop.

You can add extensions and tools to further enhance your development options.

[Create Dev Space](#)

You are allowed a maximum number of 2 dev spaces, and only 1 can be run at a time.

 cap SAP Cloud Business Application	STOPPED	Created On 19.10.2020 17:48	ID ws- 8gbwj	   
 fiori SAP Fiori	RUNNING	Created On 19.10.2020 17:43	ID ws- hvp5q	