

Modeling Data

Exercise: How to

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Outline

In this exercise lab, we will create the data model for the OSMDb application created in the previous exercise.

The data model will be created exclusively on the OSMDb_Core module. At this stage, it will consist of two Entities, **Movie** and **Person**, and two Static Entities, **MovieGenre** and **PersonRole**.

These Entities will represent the movies (Movie) in the database and their genres (MovieGenre), as well as the cast and crew (People) and the role they play in the movies (PersonRole).

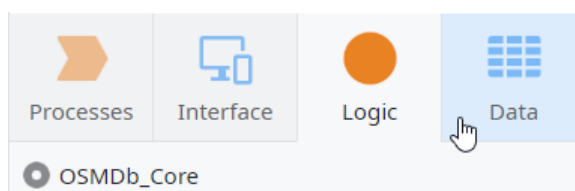
The movie genres we will use in this should be Comedy, Action, Drama and Horror, while the cast and crew roles used will be Director, Producer, Actor and Crew.

How to

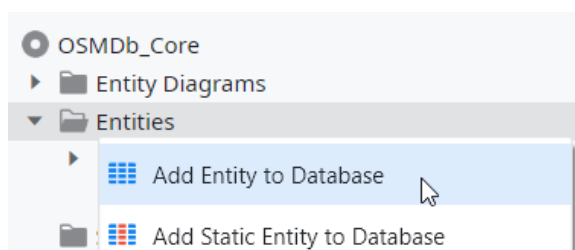
In this document, we will describe, step by step, the exercise 2 - *Modeling Data Exercise*.

Create Entities

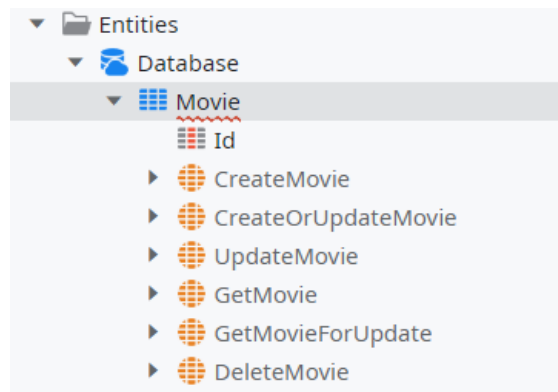
1. Create the *Movie* Entity with the following attributes: *Title*, *Year*, *PlotSummary*, *GrossTakingsAmount* and *IsAvailableOnDvd*, with the first two being **mandatory**. The Entity will also be **Public** and **Exposed as Read Only**.
 - a. Switch to the OSMDb_Core module.
 - b. Click the **Data** tab in the upper right corner of the workspace, to switch to the Data elements.



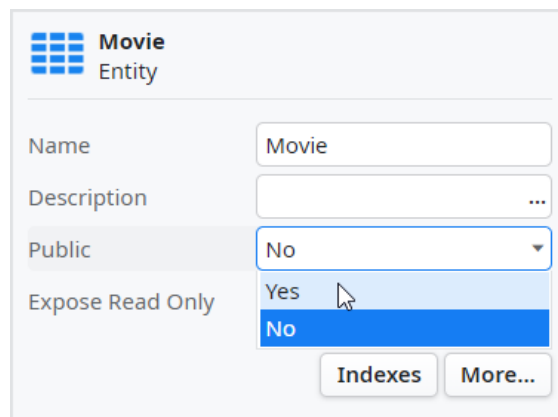
- c. Right-click the **Entities** folder and select **Add Entity to Database**.



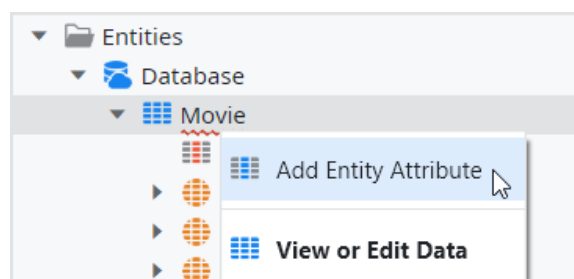
- d. Type *Movie* for the **Name** of the Entity.
- e. Expand the **Movie** Entity. There is an auto-number *Id* attribute and six Entity Actions to provide typical Create, Read, Update and Delete (CRUD) functionality.



- f. Since we will be using this Entity on our UI module, in the properties editor at the bottom right, change the **Public** property to *Yes*.

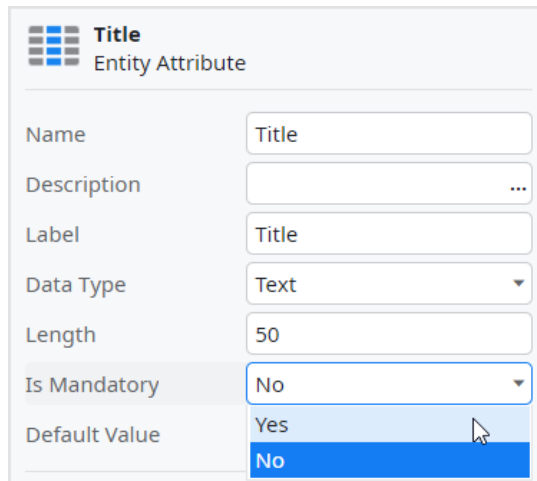


- g. Still in the Entity's properties, leave the **Expose Readonly** to *Yes*, to make the Entity exposed with read only permissions.
- h. Right-click the Movie Entity and select **Add Entity Attribute**.



- i. Enter *Title* for the **Name** of the attribute. Notice that the errors disappear.

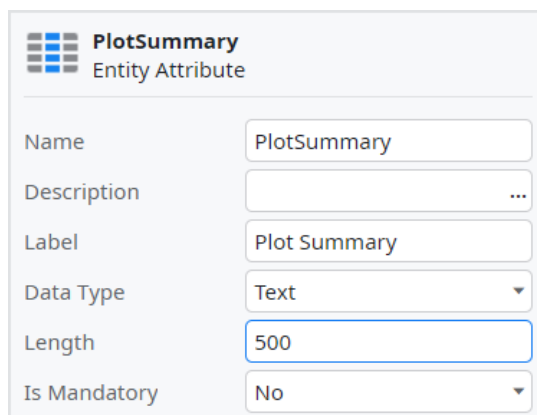
- j. Change its **Is Mandatory** property to *Yes*.



Title
Entity Attribute

Name	Title
Description	
Label	Title
Data Type	Text
Length	50
Is Mandatory	No
Default Value	Yes

- k. Right-click the Movie Entity and select **Add Entity Attribute** again.
- l. Type *Year* for the **Name** of the attribute. Notice the default **Data Type** is *Integer*. Make this attribute **Mandatory**.
- m. Add the *PlotSummary* attribute. Set its **Length** to 500 characters.

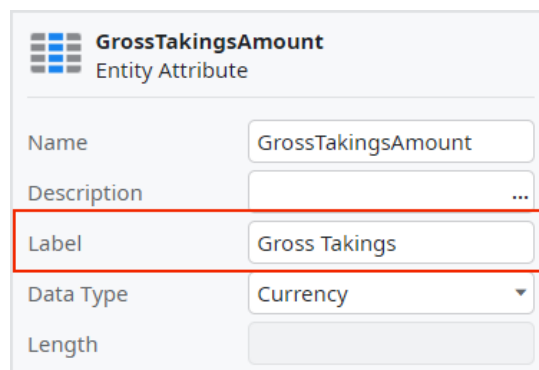


PlotSummary
Entity Attribute

Name	PlotSummary
Description	
Label	Plot Summary
Data Type	Text
Length	500
Is Mandatory	No

- n. Add the *GrossTakingsAmount* and *IsAvailableOnDVD* attributes. Notice the default **Data Types** are correctly set to *Currency* and *Boolean*.

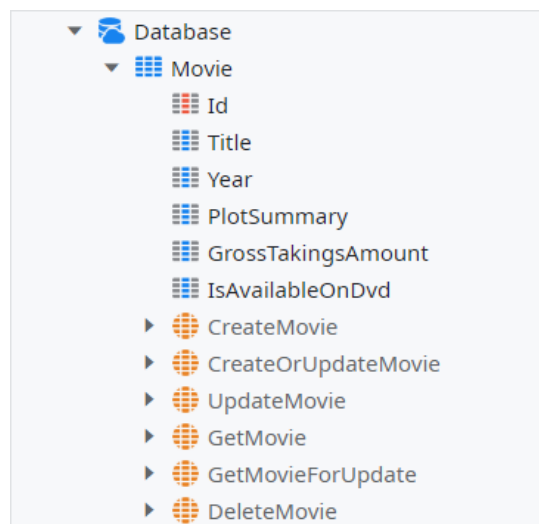
- o. Select the GrossTakingsAmount attribute and change its **Label** property to *Gross Takings*. The Label property is useful to set how we want the attribute to be identified in the UI, for instance in a Table, when used. This way, we are shortening the Label, as we will see in a later exercise.



The screenshot shows the properties editor for the **GrossTakingsAmount** Entity Attribute. The properties listed are:

- Name: GrossTakingsAmount
- Description: (empty)
- Label: Gross Takings (highlighted with a red box)
- Data Type: Currency
- Length: (empty)

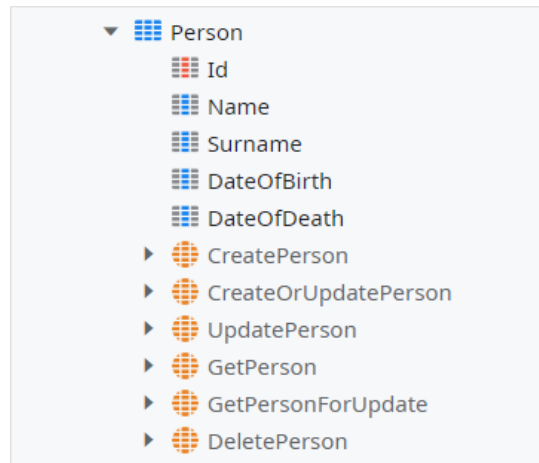
- p. The Movie Entity should look like this



2. Create the *Person* Entity with the following attributes: *Name*, *Surname*, *DateOfBirth* and *DateOfDeath*, with the first three being **mandatory**. The Entity will also be **Public** and **Exposed as Read Only**.
 - a. On the **Data** tab, create a new Entity and set its name to *Person*.
 - b. In the properties editor at the bottom right, change the **Public** property to *Yes* and then leave **Expose Read Only** to *Yes*.
 - c. Add the following attributes to the Entity: *Name*, *Surname*, *DateOfBirth*, and *DateOfDeath*. Did Service Studio guess the Data Types correctly from the attribute name? **Always double-check!**

d. Set *Name*, *Surname* and *DateOfBirth* as **mandatory**.

e. The Person Entity should look like this



f. Select the Person Entity and, in the properties editor, click on the button **More...** to launch the **Entity Editor**.

The screenshot shows the 'Person Entity' properties editor. It has a header with the 'Person' entity name and a blue grid icon. Below the header, there are four properties: 'Name' (text input with 'Person'), 'Description' (text input with a dropdown arrow), 'Public' (dropdown menu with 'Yes'), and 'Expose Read Only' (dropdown menu with 'Yes'). At the bottom right, there are two buttons: 'Indexes' and 'More...'. The 'More...' button is highlighted with a red rectangle.

- g. In the Entity Editor dialog, expand the **More Options** section and change the **Label (plural)** property to *People* and click the **Close** button.

Person

Indexes

This entity has no indexes

[New index](#)

[What are indexes?](#)

Example record

Id	Name	Surname	DateOfBirth

More Options

?

Close

Example record

Id	Name	Surname	DateOfBirth

More Options

Update Behavior:

Is Multi-tenant:

☐ Expose Process Events

☐ Show Tenant Identifier

Label:

Label (plural):

Identifier Attribute:

Order By Attribute:

Label Attribute:

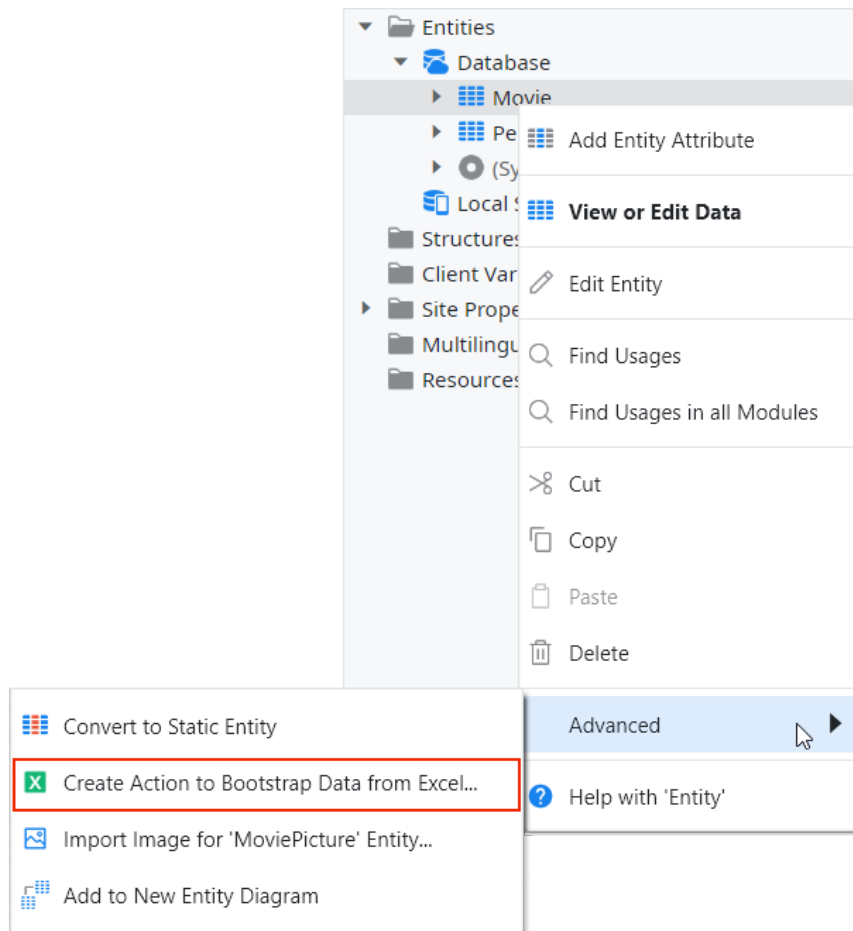
Is Active Attribute:

?

Close

Bootstrap Data from Excel

1. Populate the Movies Entity with data, by bootstrapping data from the Excel file **Movies.xlsx**.
 - a. Right-click the Movie Entity, select Advanced, and then the option **Create Action to Bootstrap Data from Excel...**



- b. Browse to the Resources folder and select the **Movies.xlsx** Excel file.

- c. In the new dialog, ensure that the column headers names from the Movies.xlsx excel file (**Excel Columns**) match the names of the Movie Entity attributes (**'Movie' Attributes**). If so, click on the **Proceed** button. Otherwise, click on the Cancel button and fix the names, or data types, of the mismatched Movie Entity attributes. Then, redo the third step again. Your Entity attributes **must match in name and type** what is in the Excel file.

The dialog box is titled "Create Action to Bootstrap Data from Excel" and contains a close button (X) in the top right corner. Below the title, it states: "The 'BootstrapMovies' Action will be created to bootstrap data from Excel Sheet 'Movie'".

Excel Columns	'Movie' Attributes
Title	Title
Year	Year
PlotSummary	PlotSummary
GrossTakingsAmount	GrossTakingsAmount
IsAvailableOnDVD	IsAvailableOnDvd

At the bottom right, there are two buttons: a red "Proceed" button and a grey "Cancel" button. A mouse cursor is pointing at the "Proceed" button.

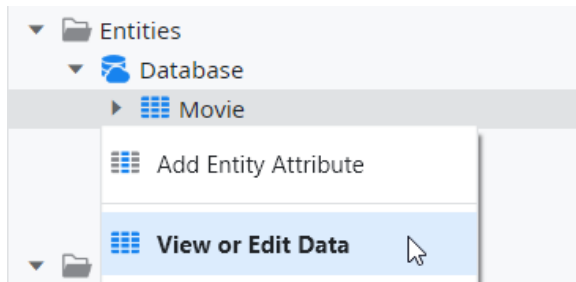
2. Populate the Person Entity with data, by bootstrapping data from the Excel file **People.xlsx**. Don't forget to verify that the values in **Excel Columns** match the values in **'Person' Attributes** before you click Proceed.

The dialog box is titled "Create Action to Bootstrap Data from Excel" and contains a close button (X) in the top right corner. Below the title, it states: "The 'BootstrapPeople' Action will be created to bootstrap data from Excel Sheet 'Person'".

Excel Columns	'Person' Attributes
Name	Name
Surname	Surname
DateOfBirth	DateOfBirth
DateOfDeath	DateOfDeath

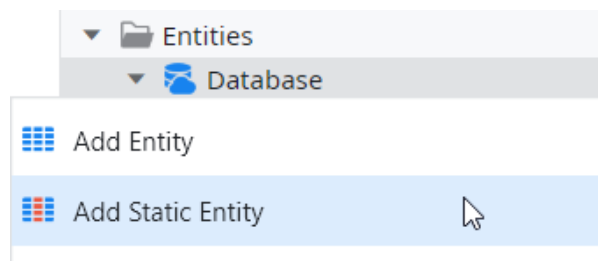
At the bottom right, there are two buttons: a red "Proceed" button and a grey "Cancel" button.

3. Publish the module to save the changes in the server.
4. After a few seconds, right-click on the **Movie** or **Person** Entity, select *View Data*, and make sure that the data is previewed properly.

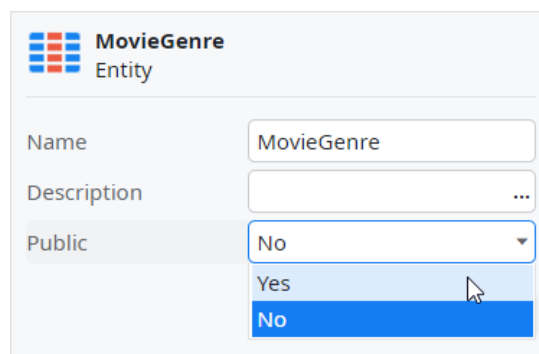


Create Static Entities

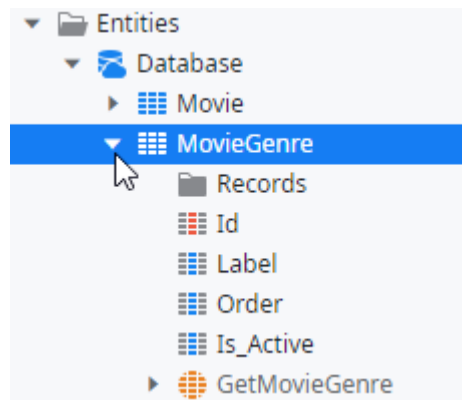
1. Create a Static Entity called *MovieGenre*, with the following records: *Comedy*, *Action*, *Drama* and *Horror*. This Entity should have an additional attribute, called *MinimumAge*, with the following values per each record: 6, 12, 16 and 18. The Static Entity should be set as **Public**.
 - a. Right-click the Entities folder and select **Add Static Entity to Database**.



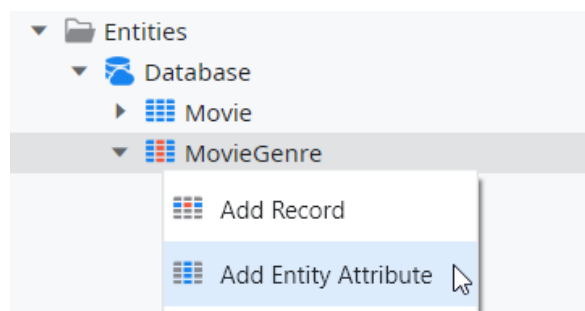
- b. Type *MovieGenre* for the **Name** of the Static Entity.
 - c. Select the **MovieGenre** Entity and set the **Public** property to *Yes*.



- d. Expand the **MovieGenre** Entity by clicking on the expand symbol.



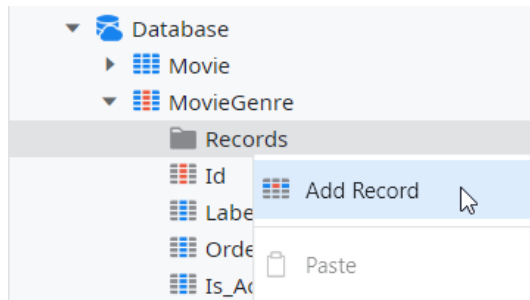
- e. Right-click the MovieGenre Entity and select **Add Entity Attribute**.



- f. Set its **Name** to *MinimumAge* and change the **Data Type** to *Integer*.

A screenshot of the 'MinimumAge' Entity Attribute configuration form. The form has a title bar with the entity name and a subtitle. Below the title bar, there are several fields for configuration: 'Name' (set to 'MinimumAge'), 'Description' (empty), 'Label' (set to 'Minimum Age'), 'Data Type' (set to 'Integer'), 'Is AutoNumber' (set to 'No'), 'Is Mandatory' (set to 'No'), and 'Default Value' (empty). Each field has a corresponding input box or dropdown menu.

- g. Right-click the Static Entity and select **Add Record**.

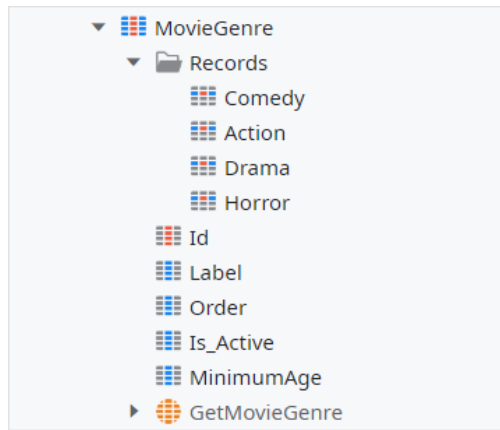


- h. Enter *Comedy* for the identifier of the Record. In the properties editor, set the value 6 in the **MinimumAge** attribute.

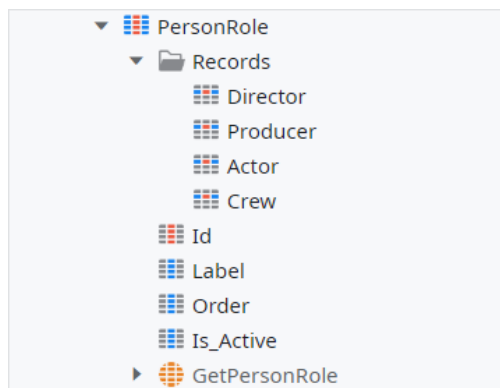
A screenshot of the 'Comedy' record properties editor. The top section shows the 'MovieGenre' tree with 'Records' > 'Comedy' selected. Below this, the 'Comedy Record' properties are shown. The 'Identifier' field contains 'Comedy'. The 'Icon' field shows 'Default Icon'. The 'Attribute Values' section lists: 'Id' with '(Auto Number)', 'Label' with '"Comedy"', 'Order' with '1', 'Is_Active' with 'True', and 'MinimumAge' with '6'.

- i. Add 3 more Records: *Action*, *Drama* and *Horror*. Set these Records' **MinimumAge** to 12, 16 and 18, respectively.

- j. The Static Entity should look like this



2. Create a Static Entity called *PersonRole*, with the following records: *Director*, *Producer*, *Actor* and *Crew*. The Static Entity should be set as **Public**.
- Create a new Static Entity and set its **Name** to *PersonRole*.
 - In the properties at the bottom right, change the **Public** property to *Yes*.
 - Add four Records to the Static Entity: *Director*, *Producer*, *Actor* and *Crew*.
 - The Static Entity should look like this



- e. Click the **1-Click Publish** button to publish the module.

