

# EB GUIDE tutorial

Creating a list

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# 1. Tutorial: Creating a list with dynamic content

Instantiators allow creating lists dynamically during run-time. Based on a datapool item of a list type, an instantiator displays all list elements in a pre-defined layout. If the content of the datapool item is modified, so is the appearance of the instantiator.

The following instructions guide you through the process of creating a list with dynamic content. Each list element consists of a labeled rectangle.

Approximate duration: 15 minutes.



## Adding a datapool item


The following instructions guide you through the process of adding a datapool item of type `String list`. The datapool item provides a value for every list element of the instantiator. If the content of the datapool item is modified, so is the appearance of the instantiator.

Prerequisite:

- The **Main** state machine contains an initial state and a view state.
- The initial state has a transition to the view state.

### Step 1

To display content in your list, add a datapool item of type `String list`.

In the navigation area, go to **Datapool**, and click .

A menu expands.

### Step 2

In the menu, click **String list**.

A new datapool item of type `String list` is added.

### Step 3

Rename the datapool item to `MyStringList`.

### Step 4

Select the `MyStringList` datapool item, and go to the **Properties** panel.

### Step 5

Next to the `Value` property, click the  button.

An editor opens.

#### Step 5.1

Click **Add**.

A new entry is added to the table.

Step 5.2

Enter `One` in the `Value` text box.

Step 5.3

Add the values `Two`, `Three`, `Four`, and `Five` to the `MyStringList` datapool item.

Step 5.4

Click **Accept**.

You added a datapool item of type `String list`. The datapool item contains five entries.

The content of the list is displayed next to the `Value` property.



## Adding widgets

Prerequisite:

- You completed the previous instruction.

Step 1

To add widgets to your view, double-click the view state in the content area.

The view is displayed in the content area.

Step 2

In the navigation area, expand the view state and the view.

Step 3

Drag an instantiator from the **Toolbox** into the view. Rename the instantiator to `MyInstantiator`.

Step 4

Drag a rectangle from the **Toolbox** into the instantiator. Rename the rectangle to `MyRectangle`.

Step 5

Drag a label from the **Toolbox** into the rectangle. Rename the label to `MyLabel`.

The widget hierarchy now looks as follows.

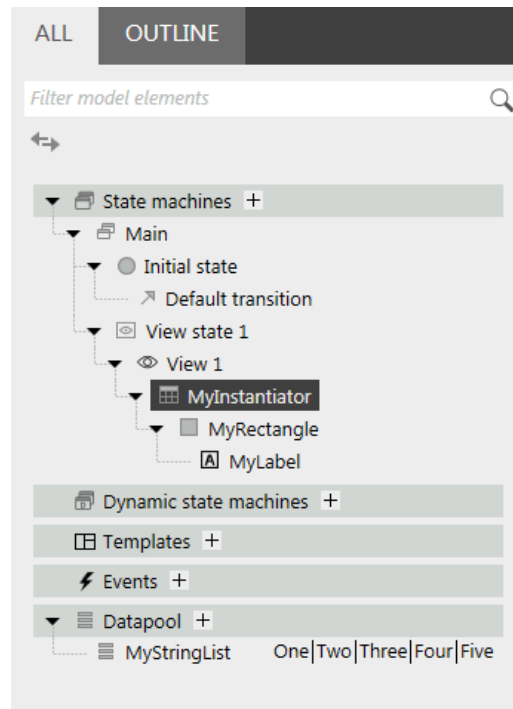


Figure 1. Widget hierarchy with an instantiator



## Configuring the instantiator

Prerequisite:

- You completed the previous instruction.

### Step 1

To change the properties of `MyInstantiator`, select the instantiator and go to the **Properties** panel.

### Step 2

Enter 300 in the `width` text box, and in the `height` text box.

### Step 3

Enter 250 in the `x` text box.

### Step 4

Enter 150 in the `y` text box.

### Step 5

To calculate the length of the list dynamically, add a conditional script.

In the **User-defined properties** category, click .

A menu expands.

#### Step 5.1

In the menu, click **Conditional script**.

#### Step 5.2

Rename the property to `calculateNumItems`.

#### Step 5.3

Next to the `calculateNumItems` property click **Edit**.

A script editor opens in the content area.

#### Step 5.4

Add the `MyStringList` datapool item to the **Trigger** list.

#### Step 5.5

Enter the following **On trigger** script:

```
function(v:arg0::bool)
{
  v:this.numItems = length dp:MyStringList;
  false
}
```

You added a script which automatically changes the number of list entries depending on the content of `MyStringList`.

### Step 6

To arrange all labels within the instantiator, add a layout to it.

In the **Widget feature properties** category, click **Add/Remove**.

The **Widget features** dialog is displayed.

#### Step 6.1

Under **Available widget features**, expand the **Layout** category, and select the **Box layout** widget feature to arrange the labels side by side.

The related widget feature properties are added to the instantiator and displayed in the **Properties** panel.

#### Step 6.2

Click **Accept**.

#### Step 6.3

Enter 5 in the `gap` text box to set a spacing of 5 px between each list element.

#### Step 6.4

Select **vertical (=1)** from the `layoutDirection` drop-down list box to arrange the labels among each other.

You configured the instantiator which defines the visual appearance of the list and adapts the number of list items dynamically.



## Configuring list element texts

Prerequisite:

- You completed the previous instruction.

### Step 1

To change the appearance of the label, select the label and go to the **Properties** panel.

### Step 2

Enter 0 in the `x` and `y` text box.

### Step 3

Add a link from the label's `width` property to the rectangle's `width` property.

#### Step 3.1

Next to the `width` property, click the  button.

A menu expands.

#### Step 3.2

In the menu, click **Add link to widget property**.


A dialog opens.

#### Step 3.3

In the dialog, go to the rectangle, and select its `width` property.

#### Step 3.4

Click **Accept**.

The dialog closes. The  button is displayed next to the `width` property.

### Step 4

Add a link from the label's `height` property to the rectangle's `height` property.

### Step 5

Next to the `horizontalAlign` property, click .

You changed the appearance of the label. The label is now centered in the rectangle.



## Configuring list elements

Prerequisite:

- You completed the previous instruction.

### Step 1

To change the appearance of the rectangle, select the rectangle and go to the **Properties** panel.

### Step 2

To make sure that the list elements use the available width, add a link from the rectangle's `width` property to the instantiator's `width` property.

### Step 3

Enter 50 in the `height` text box.

### Step 4

To define a unique position for each line of your list, add the **Line index** widget feature.

#### Step 4.1

In the **Widget feature properties** category, click **Add/Remove**.

The **Widget features** dialog is displayed.

#### Step 4.2

Under **Available widget features**, expand the **List management** category, and select the **Line index** widget feature.

The `lineIndex` property is added to the rectangle's properties.

### Step 5

To fill the labels of the list with the content of `MyStringList`, add a conditional script.

#### Step 5.1

Next to the **User-defined properties** category, click **+**.

A menu expands.

#### Step 5.2

In the menu, click **Conditional script**.

#### Step 5.3

Rename the property to `setText`.

#### Step 5.4

Next to the `setText` property, click **Edit**.

A script editor opens in the content area.

#### Step 5.5

Add the `lineIndex` property of the rectangle and the `MyStringList` datapool item to the **Trigger** list.

#### Step 5.6

Enter the following **On Trigger** script:

```
function (v:arg0::bool)
{
    v:this->MyLabel.text=dp:MyStringList[v:this.lineIndex];
    false
}
```

You changed the appearance of the rectangle. With the `setText` property, the labels of `MyStringList` are filled automatically with the content of `MyStringList`.



## Testing the EB GUIDE model

Prerequisite:

- You completed the previous instruction.

### Step 1

To start the simulation, click ▶ in the command area.

Result:

Since `MyStringList` contains five datapool items, five rectangles that are labeled from one to five are displayed in vertical arrangement.

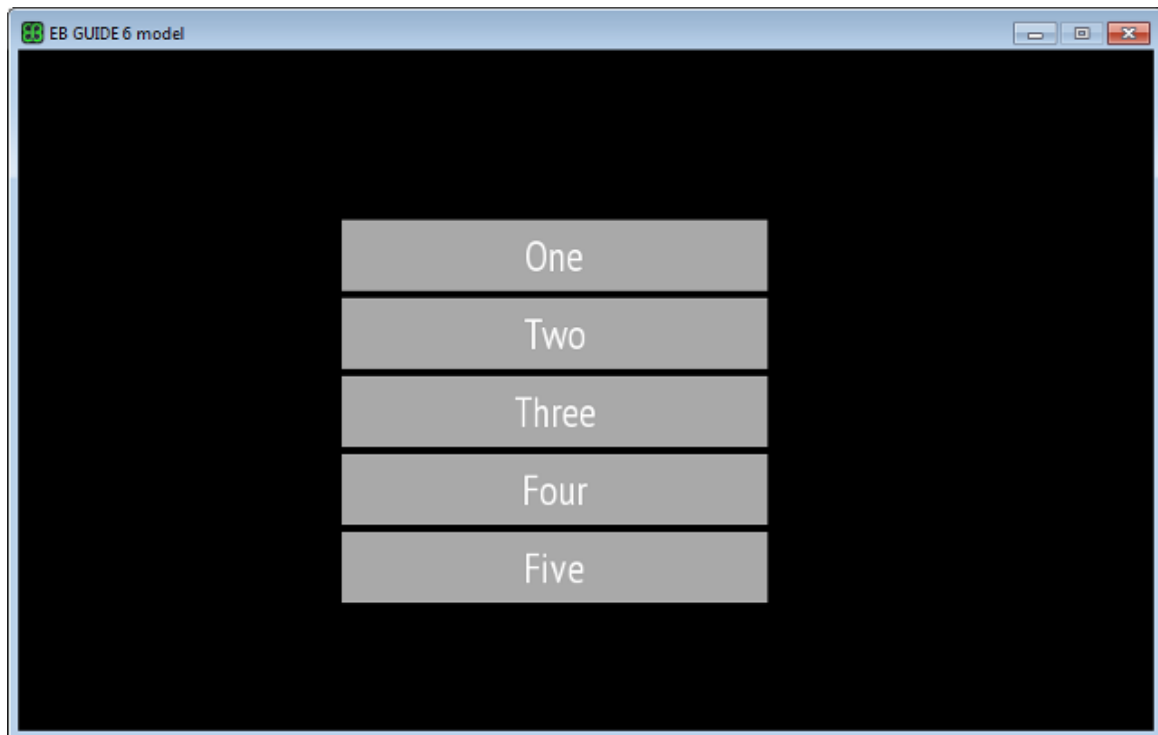


Figure 2. List created with an instantiator