

# EB GUIDE tutorial

Modeling button behavior with EB GUIDE Script

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# 1. Tutorial: Modeling button behavior with EB GUIDE Script

With EB GUIDE Script you can express property values, actions, or conditions and evaluate them during runtime.

The following instructions guide you through the process of using EB GUIDE Script to model the behavior of a button. The button increases in size when it is clicked and shrinks back to its original size when it reaches a defined maximum size. For best results, work through the steps in the order presented.

Approximate duration: 10 minutes.



## Adding widgets

Prerequisite:

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

### Step 1

Drag a rectangle from the **Toolbox** into the view.

### Step 2

In the navigation area, click the rectangle, press the **F2** key, and rename the rectangle to `Background`.

### Step 3

Drag a rectangle from the **Toolbox** into the navigation area. Place it as a child widget to the `Background` rectangle.

### Step 4

In the navigation area, click the new rectangle, press the **F2** key, and rename the rectangle to `Button`.

### Step 5

Drag a label from the **Toolbox** into the navigation area. Place the label as a child widget to the `Button` rectangle.

### Step 6

In the navigation area, click the label, press the **F2** key, and rename the label to `Button text`.

Your widget hierarchy now looks as follows.

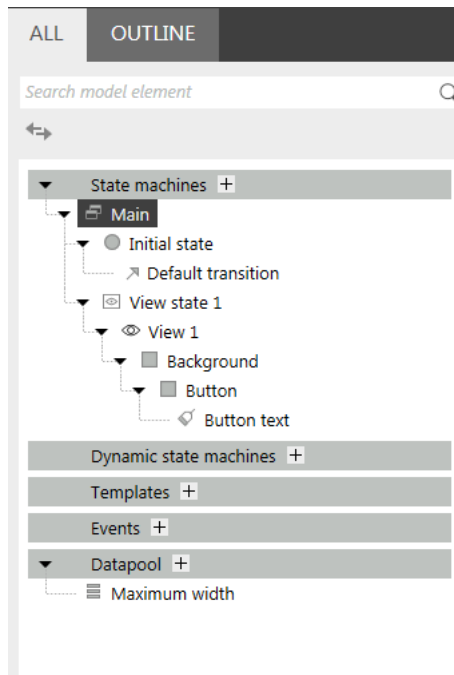


Figure 1. Widget hierarchy



## Configuring the background

Prerequisite:

- You completed the previous instruction.

### Step 1

In the navigation area, click the `Background` rectangle, and go to the **Properties** panel.

### Step 2

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

A menu expands.

### Step 3

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


A dialog opens.

### Step 4

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

### Step 5

Click **Accept**.

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

#### Step 6

Link the `height` property of the `Background` rectangle to the `height` property of the view.

#### Step 7

Link the `x` property of the `Background` rectangle to the `x` property of the view.

#### Step 8

Link the `y` property of the `Background` rectangle to the `y` property of the view.

The `Background` rectangle covers the exact size and position of the view.



### Defining the maximum button width

A datapool item holds the value for the maximum width of the button. It can be changed during run-time.

Prerequisite:

- You completed the previous instruction.

#### Step 1

In the navigation area, point to **Datapool**.

The  button appears.

#### Step 2

Click .

A menu expands.

#### Step 3

In the menu, click **Integer**.

A new datapool item of type integer is added.

#### Step 4

Rename the datapool item to `Maximum width`.

#### Step 5

Go to the **Properties** panel, and enter `400` in the `Value` text box.



### Configuring the button

Prerequisite:

- You completed the previous instruction.

#### Step 1

In the navigation area, click the `Button` rectangle, and go to the **Properties** panel.

Step 1.1

Enter 50 in the `height` text box.

Step 1.2

Enter 350 in the `x` text box.

Step 1.3

Enter 215 in the `y` text box.

Step 1.4

Select blue for the `fillColor` property.

The button is now colored blue.

Step 2

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

The **Widget features** dialog is displayed.

Step 3

Under **Available widget features**, expand the **Input handling** category, and select the **Touch pressed** widget feature.

Step 4

Click **Accept**.

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

Step 5

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

Step 6

Replace the existing EB GUIDE Script with the following code:

```
function(v:touchId::int, v:x::int, v:y::int, v:fingerId::int)
{
    if (v:this.width > dp:"Maximum width") // If the button has grown
        // beyond its maximum size...
    {
        // ...reset its dimensions to the default values.
        v:this.height = 50
        v:this.width = 100
        v:this.x = 350
        v:this.y = 215
    }
    else // Otherwise...
    {

        // ... increase button size...
        v:this.width += 80
        v:this.height += 40
    }
}
```

```
// ...and move the button to keep it centered.  
v:this.x -= 40  
v:this.y -= 20  
  }  
  false  
}
```

#### Step 7

Click **Accept**.

You configured the `Button` rectangle and wrote an EB GUIDE Script which changes the size of the `Button` rectangle in run-time.



### Configuring the button text

Prerequisite:

- You completed the previous instruction.

#### Step 1

In the navigation area, click the `Button text` label, and go to the **Properties** panel.

#### Step 2

Enter `grow!` in the `text` text box.

#### Step 3

Link the `width` property of the `Button text` label to the `width` property of the `Button` rectangle.

#### Step 4

Link the `height` property of the `Button text` label to the `height` property of the `Button` rectangle.

#### Step 5

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

#### Step 6

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

#### Step 7

Next to the `horizontalAlign` property, click .

Now the `Button text` label and the `Button` rectangle are equal in size and position.



### Saving and testing the EB GUIDE model

Prerequisite:

- You completed the previous instruction.

### Step 1

To save the project, click  in the command area.

### Step 2

To start the simulation, click  in the command area.

Result:

The simulation starts the EB GUIDE model you created. It behaves as follows.

1. First, it displays a grey screen with a blue button in its center. The screen looks as follows.



Figure 2. Result

2. Whenever you click the button, it increases in size but keeps its position at the center of the screen.
3. As soon as the button width reaches the value of the `Maximum width` datapool item, it shrinks back to its original size and position.