

Writing the GUI Layout

You will now create the layout for your "Hello World!" application. When you have completed all exercises in this chapter, the layout should look as shown below and the XML code should be the same as shown in the section *About this Tutorial*.



This chapter contains the following exercises:

- Specifying the Properties for the Natural Page
- Specifying a Name for the Title Bar
- Using the Property Editor
- Specifying a Name and Method for the Button
- Adding the Input and Output Areas
- Adding the Image
- Adding a Horizontal Distance
- Adding an Instructional Text
- Adding a Vertical Distance
- Saving Your Layout

Tip:

Preview the layout and view the XML code each time you have completed an exercise. If the system finds some wrong or missing definitions while generating the preview page, there will be a corresponding message in the status bar. From the **Home** tab of the Layout Painter, choose **Protocol** to get more information about these problems.

Specifying the Properties for the Natural Page

You will now specify the following for the Natural page:

- **Name for the Natural Adapter (`natsource`)**

The value in the property `natsource` defines the name of the adapter. The adapter is a Natural object that your application will use to communicate with the page. It will be generated when you save the page layout.

If you do not specify a value for `natsource`, the name that you have specified for the layout (without the extension ".xml") will be used as the name for the Natural adapter. If you want to use the adapter in a development environment other than Natural for Eclipse, you must make sure that the resulting name matches the naming conventions for Natural object names.

- **Handling of Strings (`natsinglebyte`)**

Using the property `natsinglebyte`, you can specify how the strings displayed on this page are to be handled in the Natural application. Natural knows two types of strings: Unicode strings (format U) and code page strings (format A). By default, the strings displayed in web pages are mapped to Unicode strings in Natural. For this tutorial, you will specify that code page strings are to be used. Therefore, you will set the property `natsinglebyte` to "true".

If you do not specify a value for `natsinglebyte` or when you set it to "false", Unicode strings will be used.

 **To specify the properties for the Natural page**

1. In the layout tree, select the node **natpage**.

The properties for this control are now shown in the properties area at the bottom.

2. Specify the following properties:

Property	Value
<code>natsource</code>	HELLO-A
<code>natsinglebyte</code>	true

Specifying a Name for the Title Bar

You will now specify the string "Hello World!" which is to appear in the title bar of your application.

▶ To specify the name for the title bar

1. In the layout tree, select the node **titlebar (New Natural Page)**.

The properties for this control are now shown in the properties area at the bottom. You can see the default entry "New Natural Page" for the name property.

2. Specify the following property:

Property	Value
name	Hello World!

When you click on the layout tree, the node in the layout tree changes to **titlebar (Hello World!)**.

Note:

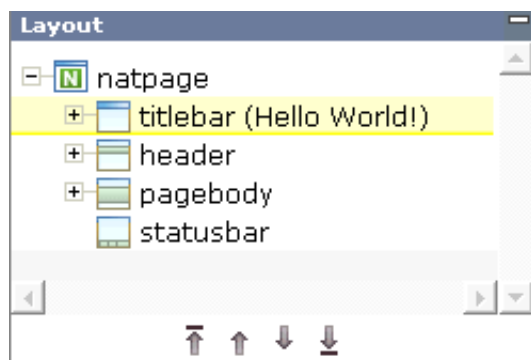
Properties that are left blank are not shown in the XML code.

Using the Property Editor

You can also specify the property values using the Property Editor. In this case, you can access detailed help information on each property.

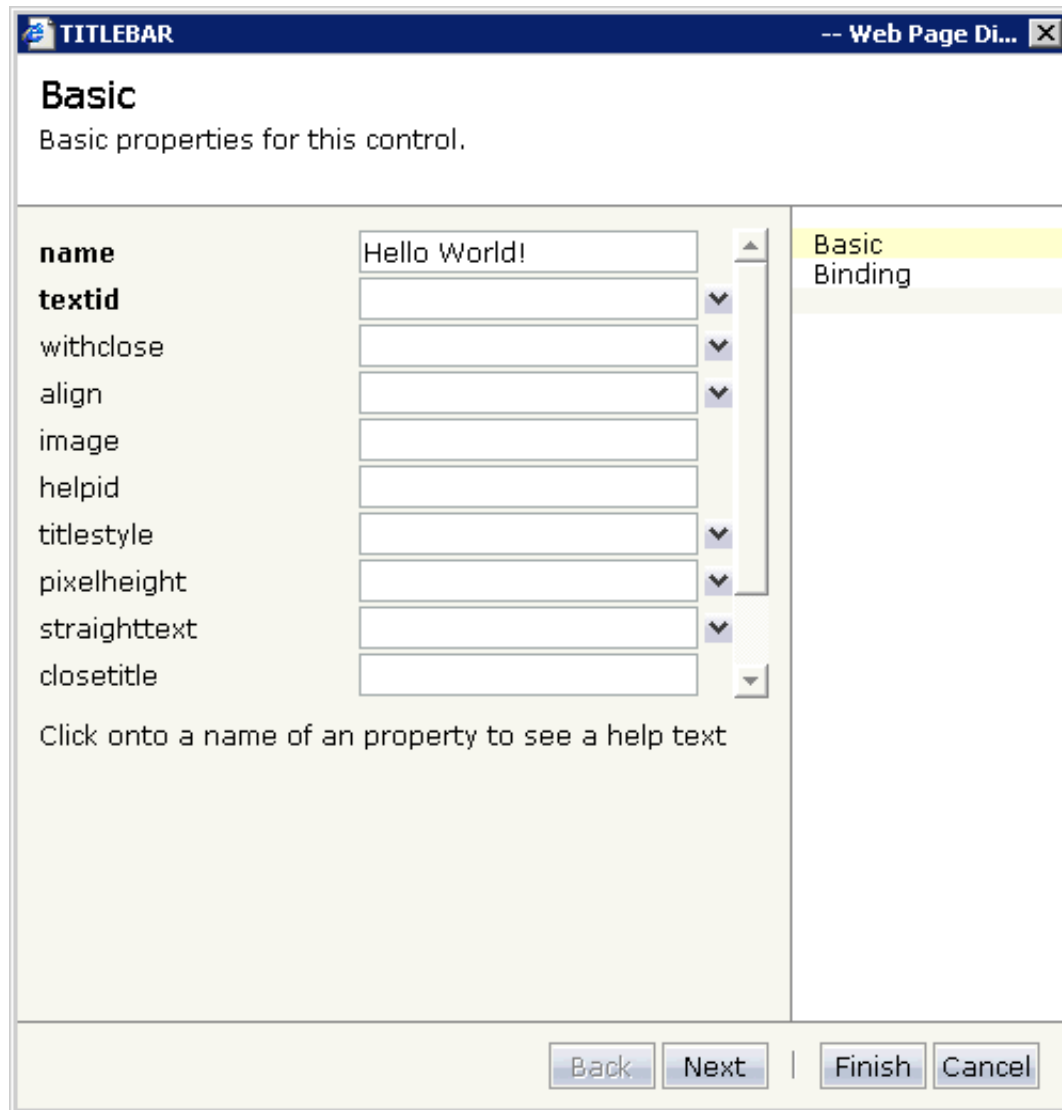
▶ To use the Property Editor

1. Select the control in the layout tree for which you need help, for example, the **titlebar (Hello World!)** node.



2. From the **Edit** tab of the Layout Painter, choose **Property Editor**.

The following dialog appears.



The properties of the control are listed.

3. Click on the name of a property to display detailed information on this property. This information is shown below the list of properties.
4. Choose the **Finish** button to close the dialog.

Any changes you have applied in the dialog will be saved.

Specifying a Name and Method for the Button

You will now specify the string "Say Hello" which is to appear on the button. And you will specify the name of the method that is to be invoked when the user chooses this button.

▶ **To specify the name and the method for the button**

1. In the layout tree, open the **header** node.

Note:

By clicking the icon of a node, you hide or expand the node's subnodes.

You can now see the entry for the button with the default name "Exit".

2. Select the node **button (Exit)**.
3. Specify the following properties:

Property	Value
name	Say Hello
method	sayHello

The method needs to be programmed in the adapter. This will be explained later in this tutorial.

Adding the Input and Output Areas

The input and output areas in this tutorial are created using **Row Area** controls. These controls can be found in the **Container** section of the controls palette.

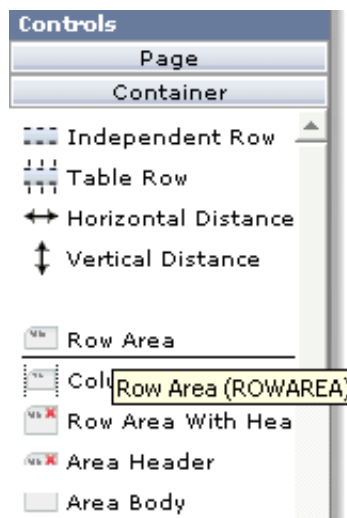
Each row area will contain an **Independent Row** control which in turn contains a **Label** and a **Field** control. These controls can be found in the **Controls** section of the controls palette.

For adding controls to your layout, you drag them from the controls palette onto the corresponding tree node in the layout tree. This is explained below.

▶ To create the input area

1. Open the **Container** section of the controls palette.

When you move the mouse over a control, a tool tip appears which also displays the control name which will be used in the XML layout. For example:



2. Drag the **Row Area** control from the controls palette onto the **pagebody** node in the layout tree.

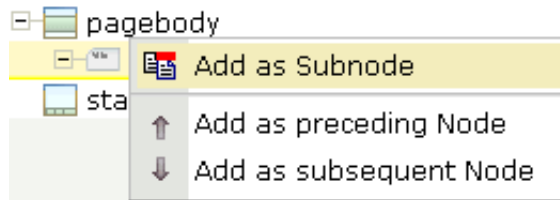
The row area is added as a subnode of the **pagebody** node. The new subnode is automatically selected so that you can maintain the properties of the row area directly in the properties area.

3. Specify the following property:

Property	Value
name	Input Area

4. Drag the **Independent Row** control from the controls palette onto the **rowarea (Input Area)** node in the layout tree.

When you drop information into the tree, the system will sometimes respond by offering a context menu with certain options about where to place the control. In this case, the following context menu appears.



Note:

When you move the mouse outside the context menu, the context menu disappears. The control is not inserted in this case.

5. Choose the **Add as Subnode** command.

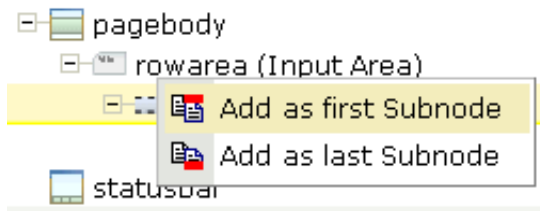
The control is now inserted below the **rowarea (Input Area)** node. The new node is shown as **itr**.

6. Open the **Controls** section of the controls palette.
7. Drag the **Label** control from the controls palette onto the **itr** node you have just inserted and specify the following properties:

Property	Value
name	Your Name
width	100

8. Drag the **Field** control from the controls palette onto the **itr** node you have previously inserted.

A context menu appears and you have to specify where to place the control.



9. From the context menu, choose the **Add as last Subnode** command.

10. Specify the following properties for the field:

Property	Value
valueprop	name
width	200

▶ To create the output area

- Create the output area in the same way as the input area (add it as the last subnode of the **pagebody** node), with the following exceptions:

Row Area

Specify a different value for the following property:

Property	Value
name	Output Area

Label

Specify a different value for the following property:

Property	Value
name	Result

Field

Specify different values for the following properties:

Property	Value
valueprop	result
displayonly	true

Note:

To display the `displayonly` property, choose the **Appearance** tab at the bottom of the properties area. You can then select the required value from a drop-down list box.

Adding the Image

You will now add the image which is to be shown above the input area. To do so, you will use the **Icon** control which can be found in the **Controls** section of the controls palette.

Note:

The image is provided in Application Designer's `/cis demos/images` directory.

▶ To add the image

1. Drag the **Icon** control from the controls palette onto the **pagebody** node in the layout tree.

The icon is added as the last subnode of the **pagebody** node. It is automatically placed into an **itr** (independent row) node.

2. Specify the following property for the icon:

Property	Value
image	../cis demos/images/hello.gif

3. Select the **itr** node containing the icon and choose the following button below the layout tree:



The selected node is now moved up so that it appears as the first subnode of the **pagebody** node.

4. Specify the following property for the **itr** node:

Property	Value
takefullwidth	true

Adding a Horizontal Distance

When you preview the layout, you will see that the image you have just added appears centered.

You will now move the image to the right side of the page. To do so, you will use the **Horizontal Distance** control which can be found in both the **Controls** section and the **Container** section of the controls palette.

▶ To add the horizontal distance

1. Drag the **Horizontal Distance** control from the controls palette onto the **itr** node containing the icon.
2. From the resulting context menu, choose the **Add as first Subnode** command.

The node **hdist** is inserted into the tree.

- Specify the following property:

Property	Value
width	100%

Adding an Instructional Text

You will now enter a text which is to appear below the output area and which tells the user what to do.

To do so, you will once again use the **Independent Row** control into which you will insert a **Label** control.

Note:

The **Independent Row** control can be found in both the **Controls** section and the **Container** section of the controls palette.

▶ To add the independent row with the label

- Drag the **Independent Row** control from the controls palette onto the **pagebody** node in the layout tree.
- From the resulting context menu, choose the **Add as last Subnode** command.

The node **itr** is inserted into the tree.

- Drag the **Label** control from the controls palette onto the **itr** node you have just created.
- Specify the following properties for the label:

Property	Value
name	Input your name and press the 'Say Hello' button.
asplaintext	true

Note:

Go to the **Appearance** tab to display the property `asplaintext`.

Adding a Vertical Distance

When you preview the layout, you will see that the text you have just added appears directly below the output area. You will now move the text 100 pixels to the bottom.

To do so, you will use the **Vertical Distance** control which can be found in both the **Controls** section and the **Container** section of the controls palette.

▶ To add the vertical distance

- Drag the **Vertical Distance** control from the controls palette onto the **itr** node containing the label.

- From the resulting context menu, choose the **Add as preceding Node** command.

The node **vdist** is inserted into the tree.

- Specify the following property:

Properties	Value
height	100

Saving Your Layout

If you have not already done so, you should now save your layout.

When you save a layout for the first time, an HTML file is generated (in addition to the XML file) which is placed into the root directory of your application project. This HTML file is updated each time you save the layout.

The Natural adapter is also created when you save your layout for the first time. Later in this tutorial, you will import this adapter into your Natural library. Your application program will use the adapter to communicate with the page.

To save the layout

- Choose the following button which is shown at the top of the Layout Painter.



You can now proceed with the next exercise: *Setting Up Your Development and Runtime Environment for Natural*.