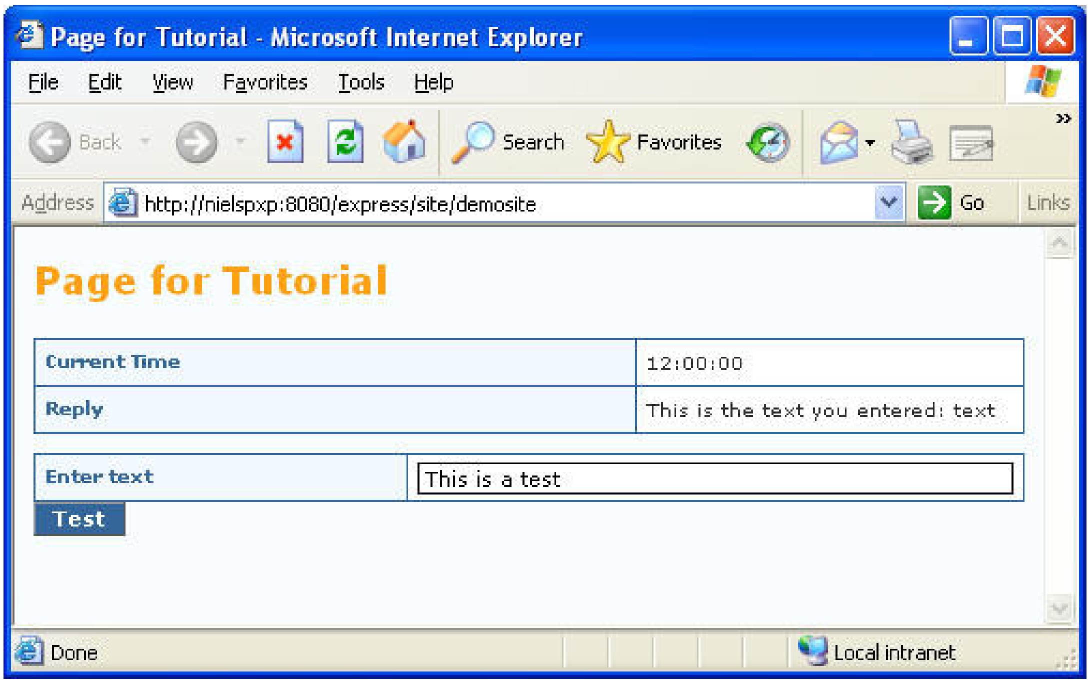
WebsydianExpress

RPGDeveloper Tutorial

Part 2 - Retrieving data from the web


Page for Tutorial - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://nielspxp:8080/express/site/demosite
Go Links
Done
Local intranet

Page for Tutorial

Current Time	12:00:00
Reply	This is the text you entered: text

Enter text	This is a test

Test

Revision 11

Table of Contents

Introduction

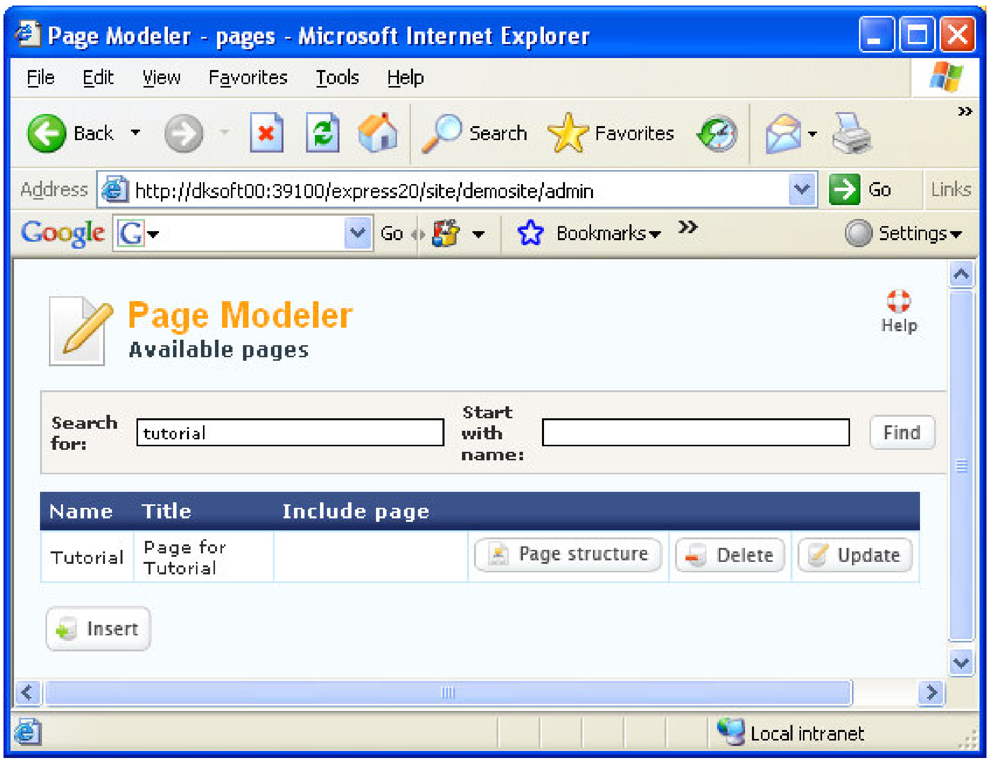
The second part of the tutorial will extend the business process made in the first part of the tutorial. It will show how to add a button and an input field to the HTML page and how to retrieve the value entered in the input field.

The retrieved value is used to create a reply text, which is shown on the HTML page, but it could as well have been used to update a database, been used for calculations in the program or been used as input to other programs.

Change Template

The first step in extending the business process is to add a button and an input field to the HTML template used by the tutorial business process.

Log in to the demo site using the WSADMIN profile, open the administration interface, and select RPGDeveloper→PageModeler.

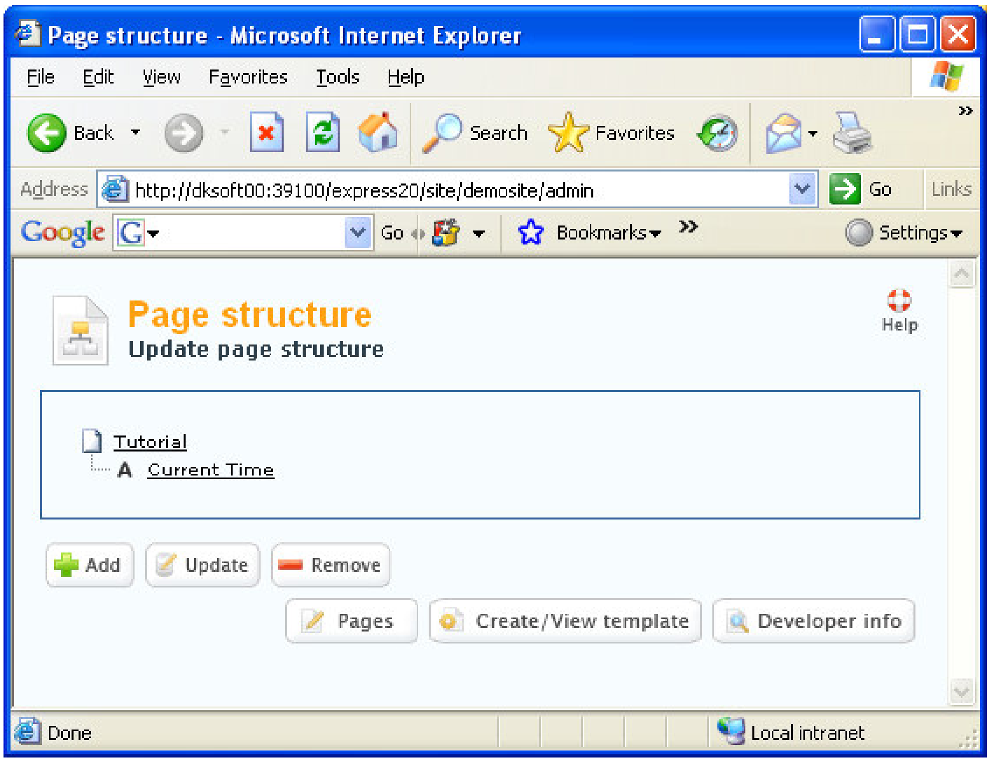

Page Modeler - pages - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin Go Links
Google Go Bookmarks Settings
Help
Find
Page structure Delete Update
Insert
Local intranet

Page Modeler
Available pages

Search for: tutorial
Start with name:

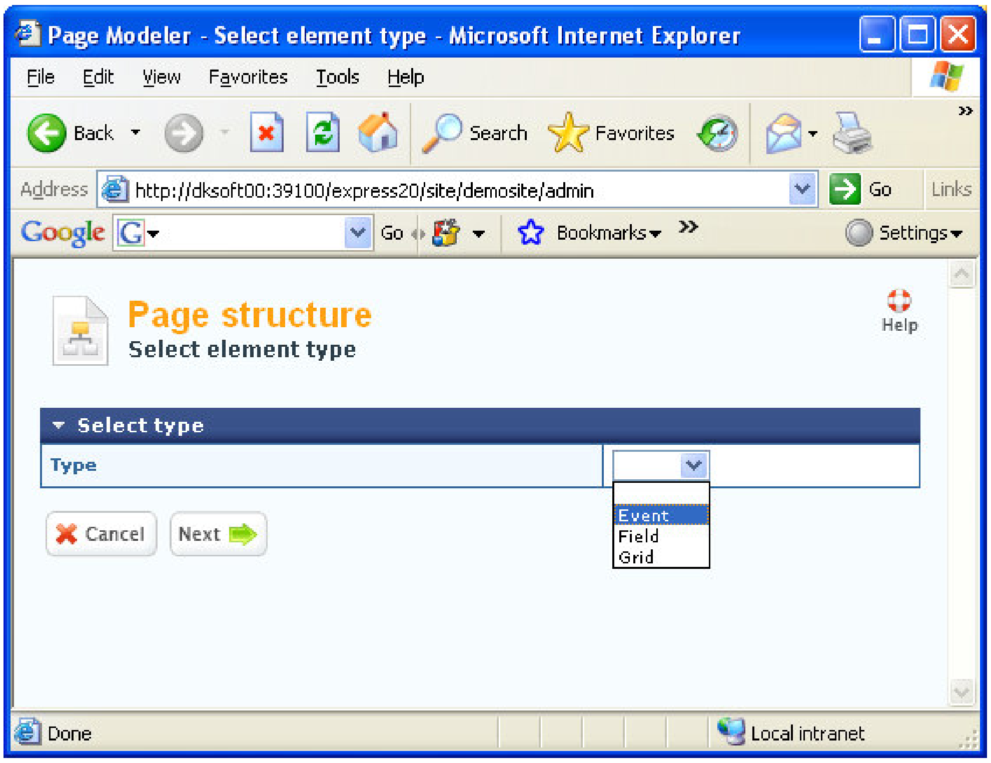
Name	Title	Include page
Tutorial	Page for Tutorial	

Find the Tutorial page in the list of pages (if necessary search for Tutorial). Press the "Page structure" button.

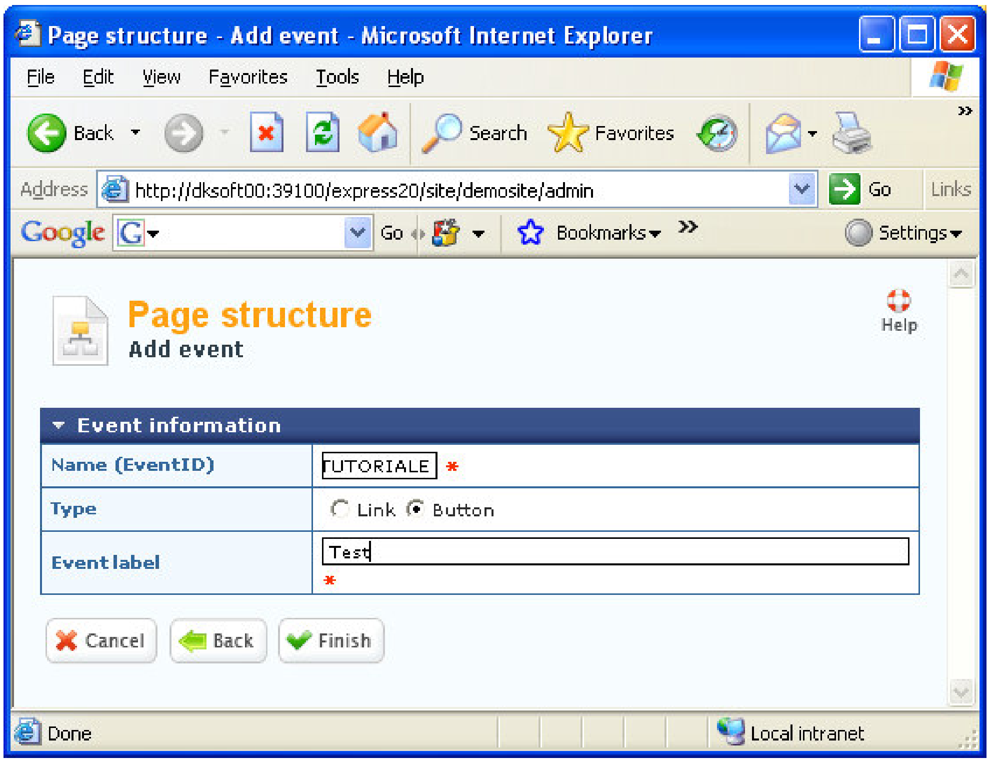

Page structure - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://dksoft00:39100/express20/site/demosite/admin
Page structure
Update page structure
Help
Tutorial
Current Time
Add
Update
Remove
Pages
Create/View template
Developer info
Done
Local intranet

Next step is to add the button to the page.

Select the Tutorial page and press "Add".


Page Modeler - Select element type - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://dksoft00:39100/express20/site/demosite/admin
Page structure
Select element type
Help
Select type
Type
Event
Field
Grid
Cancel
Next
Done
Local intranet

Select Event.


Page structure - Add event - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin Go Links
Google Go Bookmarks Settings
Help
Done
Local intranet

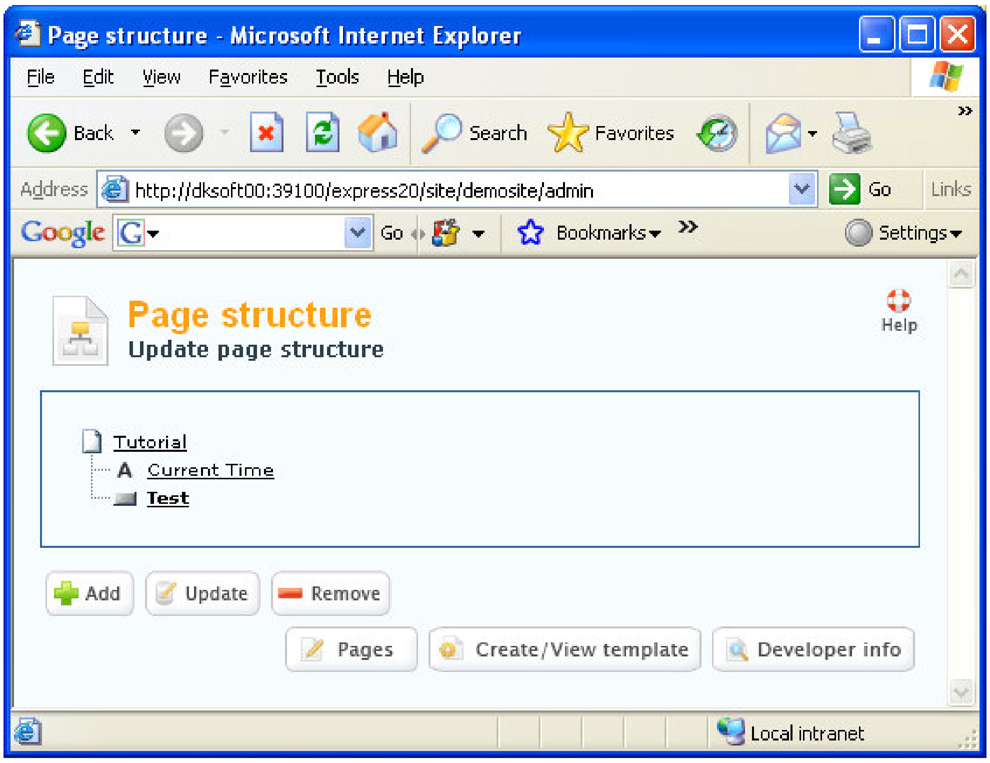
Page structure
Add event

Event information	
Name (EventID)	TUTORIALE *
Type	Link [✓ Button]
Event label	Test *

Cancel Back Finish

Enter the values shown and press "Finish" (The name is **TUTORIALE**).

This adds an event to the page. The next step is to add an input field to the event.

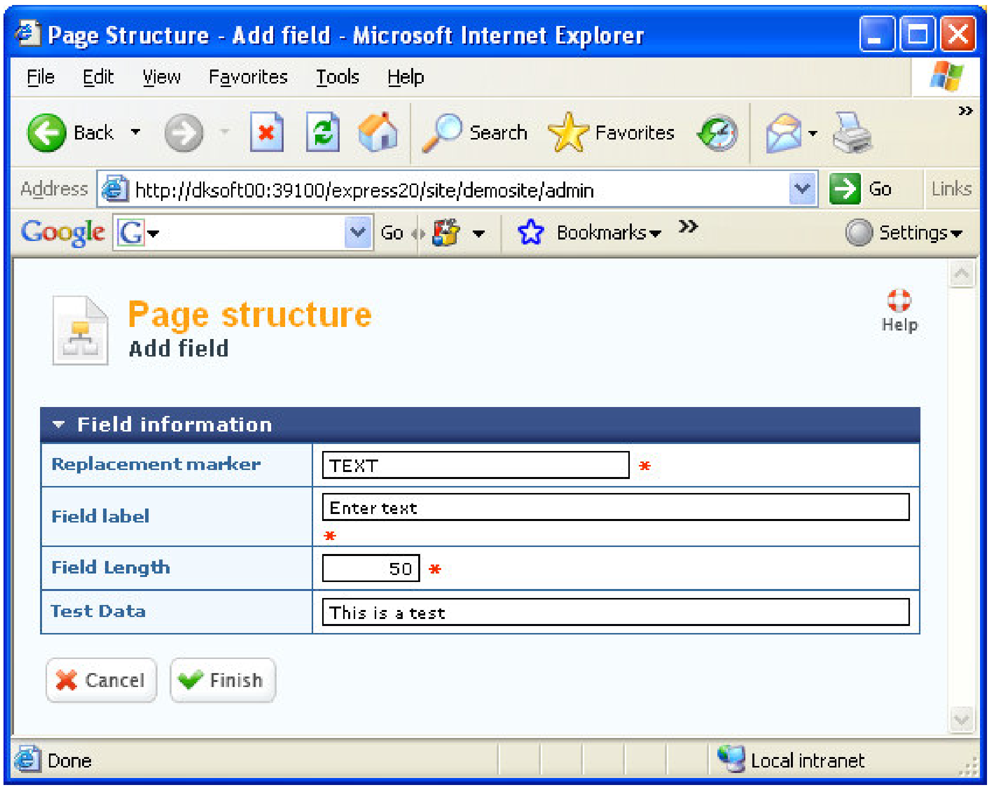

Page structure - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin Go Links
Google Go Bookmarks Settings
Help
Local intranet

Page structure
Update page structure

- Tutorial
  - A Current Time
  - Test

Add Update Remove
Pages Create/View template Developer info

Select the event "Test" and press the "Add" button.



Page Structure - Add field - Microsoft Internet Explorer

Address http://dksoft00:39100/express20/site/demosite/admin

Page structure

Add field

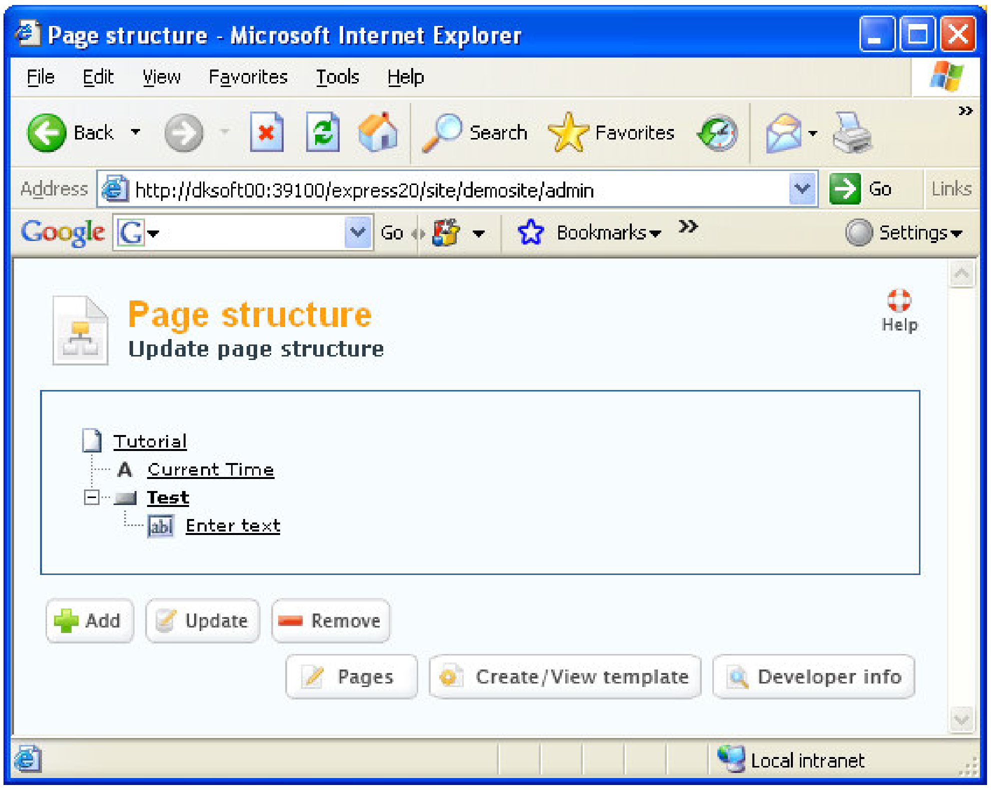
Field information

Replacement marker	TEXT *
Field label	Enter text *
Field Length	50 *
Test Data	This is a test

The above page allows you to define an input field.

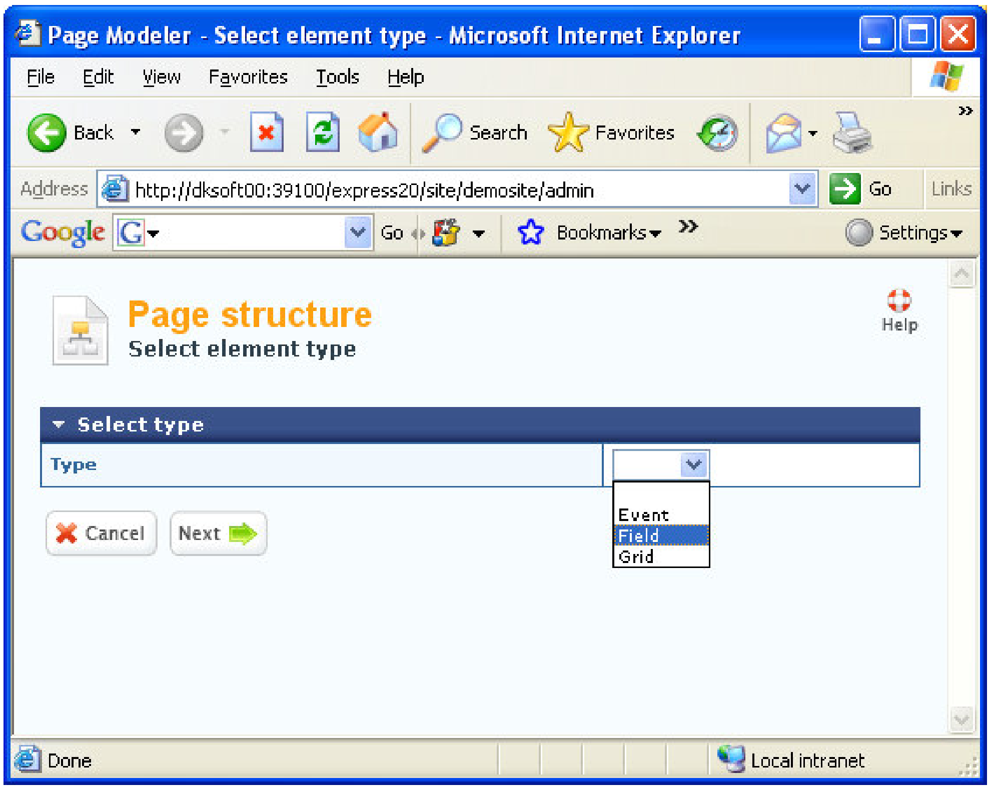
Enter the values shown and press Finish.

- The replacement marker is the name used to refer to the field in the program generating the HTML page.
- The field label is the label for the input field.
- The field length determines the length of the input field.
- The test data is used when viewing the generated template.

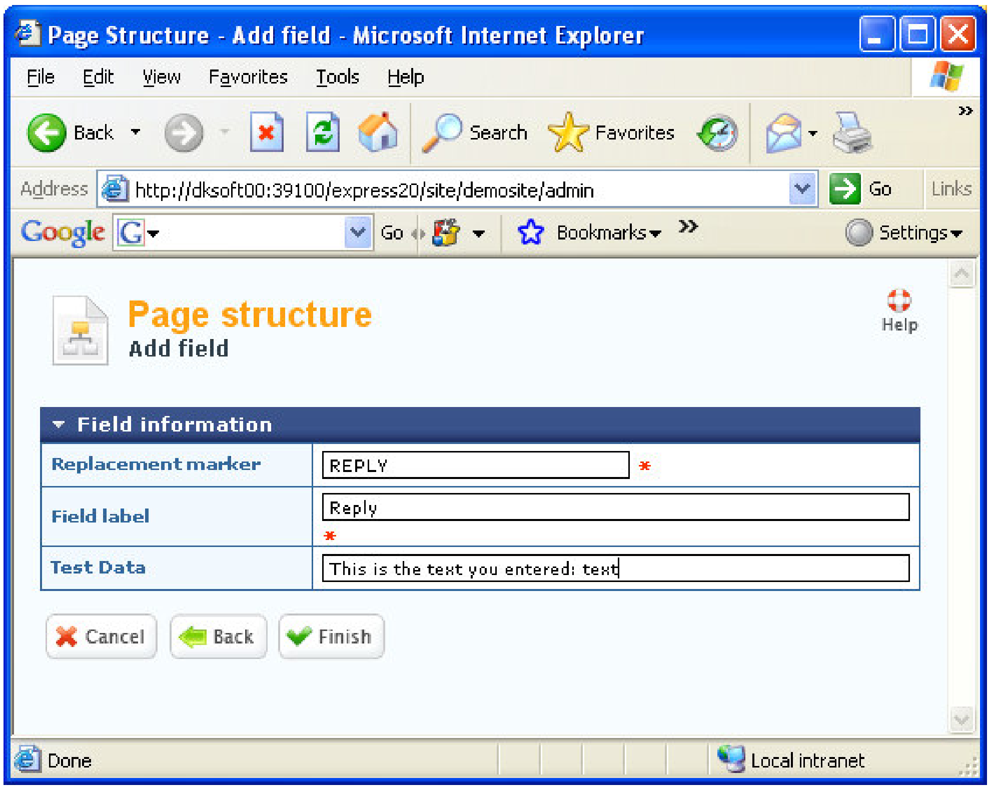


The last thing to add is an output field, which can be populated based on the entered text.

Select the "Tutorial" page and press "Add".

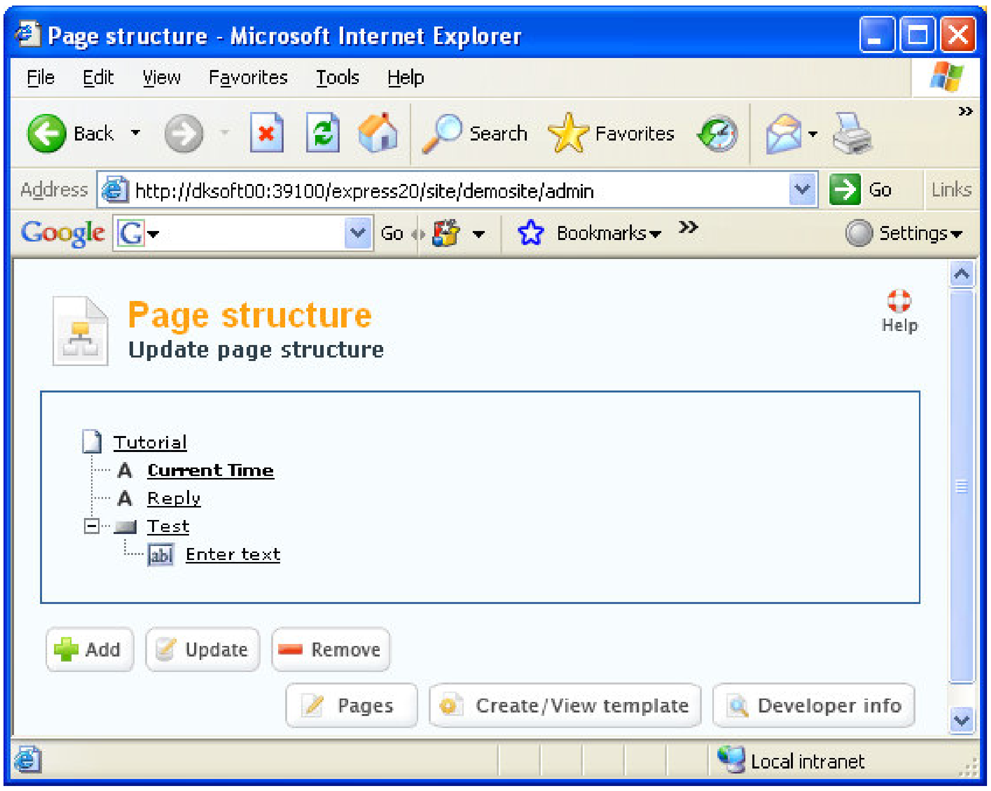

Page Modeler - Select element type - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://dksoft00:39100/express20/site/demosite/admin
Page structure
Select element type
Help
Select type
Type
Event
Field
Grid
Cancel
Next
Done
Local intranet

Select "Field".

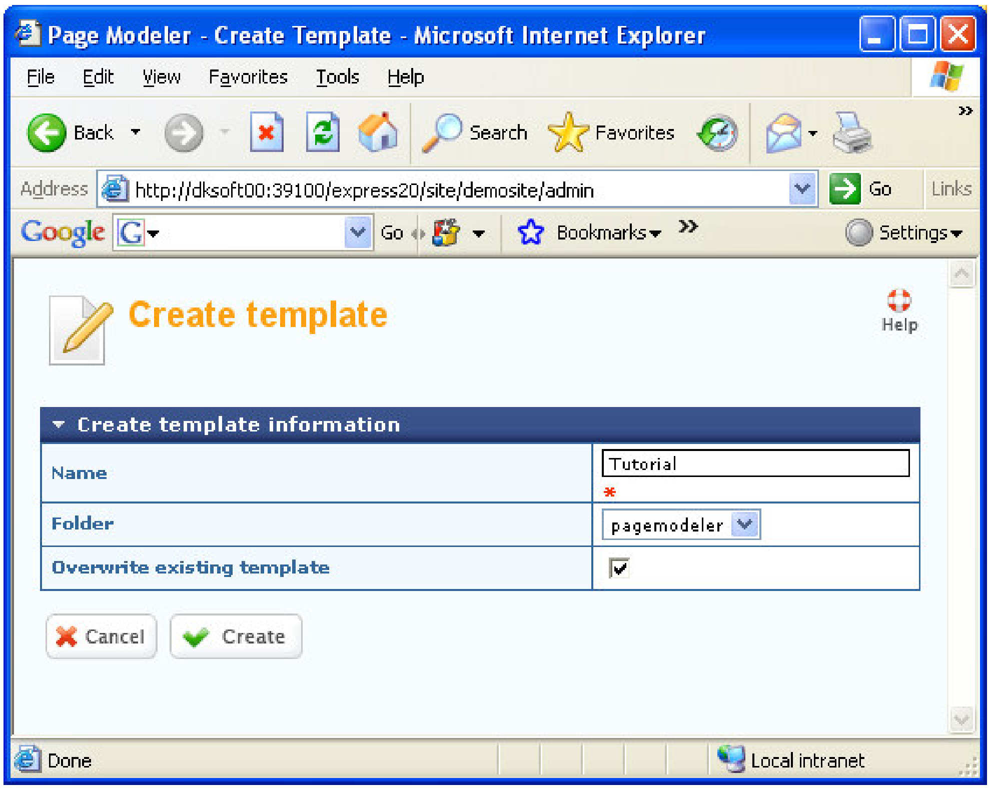

Page Structure - Add field - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin
Go Links
Bookmarks Settings
Page structure
Add field
Help
Field information
Cancel Back Finish
Done Local intranet

Replacement marker	REPLY *
Field label	Reply *
Test Data	This is the text you entered: text

Enter the values shown and press Finish.


Page structure - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin
Go Links
Bookmarks Settings
Page structure
Update page structure
Help
Tutorial
Current Time
Reply
Test
Enter text
Add Update Remove
Pages Create/View template Developer info
Local intranet

An output field and an event with an input field have been added to the page. To create the HTML template press "Create/View template".

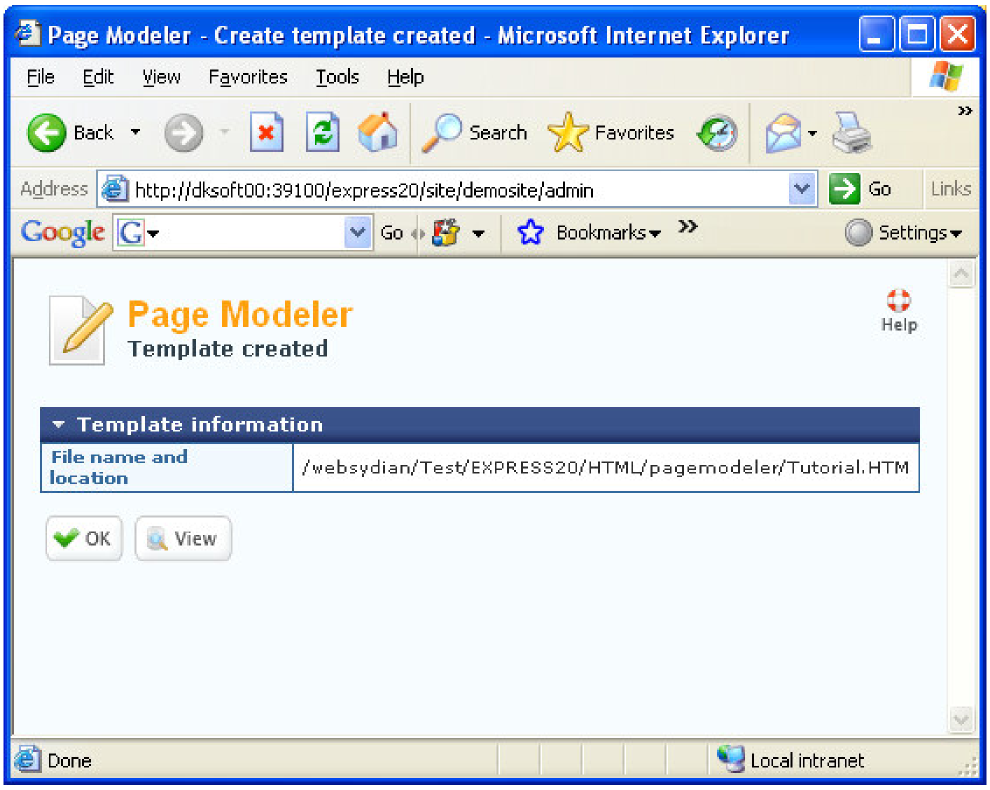

Page Modeler - Create Template - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin Go Links
Bookmarks Settings
Help
Cancel
Create
Done
Local intranet

Create template

Create template information

Name	Tutorial *
Folder	pagemodeler
Overwrite existing template	✓

Keep the existing values, but check the "Overwrite existing template" checkbox. Press "Create".


Page Modeler - Create template created - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite/admin Go Links
Bookmarks Settings
Help
OK
View
Done
Local intranet

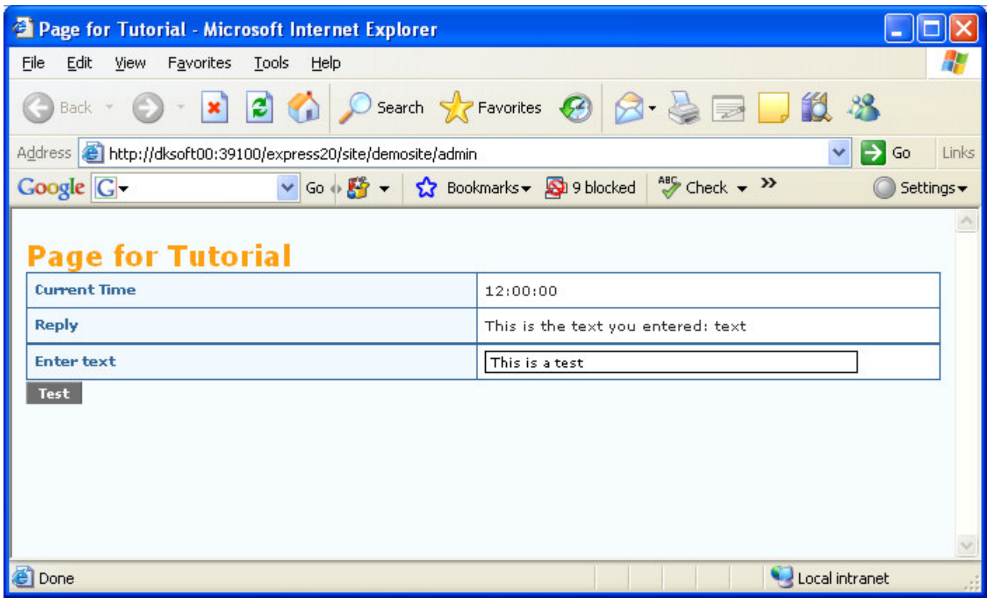
Page Modeler

Template created

Template information

File name and location	/websydian/Test/EXPRESS20/HTML/pagemodeler/Tutorial.HTM

Press View to check that the button and fields have been added.



Page for Tutorial

Current Time	12:00:00
Reply	This is the text you entered: text
Enter text	This is a test

Page for Tutorial - Microsoft Internet Explorer
http://dksoft00:39100/express20/site/demosite/admin
Test
Done
Local intranet

The template has now been changed and is ready to use.

Create EventHandler

The Websydian Express runtime must have a program with a specific interface to call when the test button is pressed. Such a program must be made for each new button you add to your business process.

These functions are known as EventHandlers.

Create a new ILE RPG source member named TUTORIALE entering the following source code.

```
H DFTACTGRP(*NO) ACTGRP(*CALLER) BNDDIR('QC2LE':'WIEXPRESS')
 /COPY QRPGLESRC,EXPRESS_H

D FLD_TEXT        C                   'TEXT'
D rc              S                   like(TypRC) inz(*zero)
D Text            S            256A   inz('') varying

c     *Entry        PLIST
C                   PARM                    Return            7
C                   PARM                    Action            1

C                   eval      Return = *blank

 * Handle Registration of Event
C                   if        ( Action = 'R' )
C                   Return
C                   endif

 * Retrieve User Input
C                   eval      rc =  GetInput(FLD_TEXT:Text)

 * Call Page Generator
C                   CALL      'TUTORIALPG'
C                   parm                    Text

C                   RETURN
```

Source Code explained

Parameter Interface

```
C     *Entry        PLIST
C                   PARM                    Return            7
C                   PARM                    Action            1
```

All EventHandlers MUST have this interface - otherwise the Websydian Express runtime simply can't call the function.

Handle Registration of Event

```
C                   if        ( Action = 'R' )
C                   Return
C                   endif
```

All EventHandlers MUST check for the case where the parameter "Action" is "R" (Register). If this is the case the program MUST terminate (with a blank value in the Return parameter).

Retrieve User Input

```
C                    eval      rc =  GetInput(FLD_TEXT:Text)
```

This API call returns the value entered by the user in the input field for the event. The value is returned in the second parameter of the call (in this case, the field "Text").

Call PageGenerator

```
C                    CALL      'TUTORIALPG'
C                    parm                    Text
```

All EventHandlers MUST call a PageGenerator - otherwise nothing will be sent to the browser and the user will experience a time out.

Create PageGenerator

Change the existing source member TUTORIALPG to add the functionality for populating the additional fields.

After the changes, the source member must have the following content.

```
H DFTACTGRP(*NO) ACTGRP(*CALLER) BNDDIR('QC2LE':'WIEXPRESS')
 /COPY QRPGLESRC,EXPRESS_H
D TEMPLATE        C                   'TUTORIAL'
D FLD_TIME        C                   'TIME'
D FLD_REPLY       C                   'REPLY'
D FLD_TEXT        C                   'TEXT'
D rc              S                   like(TypRC) inz(*zero)
D Time            S               8T
D Text            S             256A   varying
D Reply           S             256A   inz('')
C     *ENTRY        PLIST
C                   parm                    Text
 * Set Output
c                   eval      Time = %time()
c                   eval      rc = SetOutput(TEMPLATE :
c                                  FLD_TIME :
c                                  %char(Time))
 * Write Reply Text
C                   if        ( Text <> '')
C                   eval      Reply = 'You entered: ' +
%trim(Text)
c                   eval      rc = SetOutput(TEMPLATE :
c                                  FLD_REPLY:
c                                  Reply)
C                   endif
 * Set initial values for input field
c                   eval      rc = SetOutput(TEMPLATE :
c                                  FLD_TEXT:
c                                  Text)
 * Write the page to the browser
c                   eval      rc = WritePage(TEMPLATE)

C                   return
```

Added Source

Declarations

```
D FLD_TIME        C                   'TIME'
D FLD_REPLY       C                   'REPLY'
```

Declares the constants for the names of the two new fields.

```
D Text            S             256A   varying
D Reply           S             256A   inz('')
```

Declares the program fields used to specify the values of the two fields.

Parameter Interface

```
C      *ENTRY        PLIST
C                    parm                     Text
```

As the EventHandler needs to transfer information about the entered text to the PageGenerator, this field is added to the parameter interface.

Set output values

```
C                    if         ( Text <> '')
C                    eval       Reply = 'You entered: ' +
C                               %trim(Text)
C                    eval       rc = SetOutput(TEMPLATE :
C                                              FLD_REPLY:
C                                              Reply)
C                    endif
```

If the user has entered any text, a reply text is generated and written to the template.

Set initial value for input field

```
C                    eval       rc = SetOutput(TEMPLATE :
C                                              FLD_TEXT:
C                                              Text)
```

The text entered by the user is shown in the input field.

Change ProcessEntryPoint

As a parameter was added to the PageGenerator function, and as the ProcessEntryPoint function calls the PageGenerator, a minor change is necessary in the ProcessEntryPoint.

Change the source of the TUTORIAL source member to the following:

```
H DFTACTGRP(*NO) ACTGRP(*CALLER) BNDDIR('QC2LE':'WIEXPRESS')
 /COPY QRPGLESRC,EXPRESS_H

D Text            S             256A   inz('') varying
D RC              S                      like(TypRC) inz(*zero)
C     *ENTRY        PLIST
C                   PARM                    Return            7

 * Initialize
C                   eval      RC = 0
C                   eval      Return = *blank
C                   eval      Text = *blank

 * Call the Page Generator
C                   call      'TUTORIALPG'
C                   PARM                    Text

C                   RETURN
```

Added Source

Declarations

```
D Text            S             256A   inz('') varying
```

Declare the work field that will be used for the parameter.

Initialize

```
C                   eval      Text = *blank
```

Initialize the work field.

Call to PageGenerator

```
C                   PARM                    Text
```

Add the work field as a parameter on the call to the PageGenerator.

Compile Programs

The EXPRESS_H header file is placed in the runtime library specified at the installation (default WXP20PGM). Add this library to your library list before compiling.

For this tutorial, it is recommended that you create the objects in the library that was specified as the application library during the installation (default WXP20APP). Doing this means that the objects are immediately available for the Websydian Express runtime.

Compile the three programs.

Deploy Objects

If you have chosen not to compile the programs to the application library, you must move the two program objects to this library.

The template was generated to the pagemodeler folder. This means that it is already available for the application.

Restart application

Use the RSTAS command (on the iSeries in the library with the default name WXP20PGM) to restart the application.

```
WXP20PGM/RSTAS
```

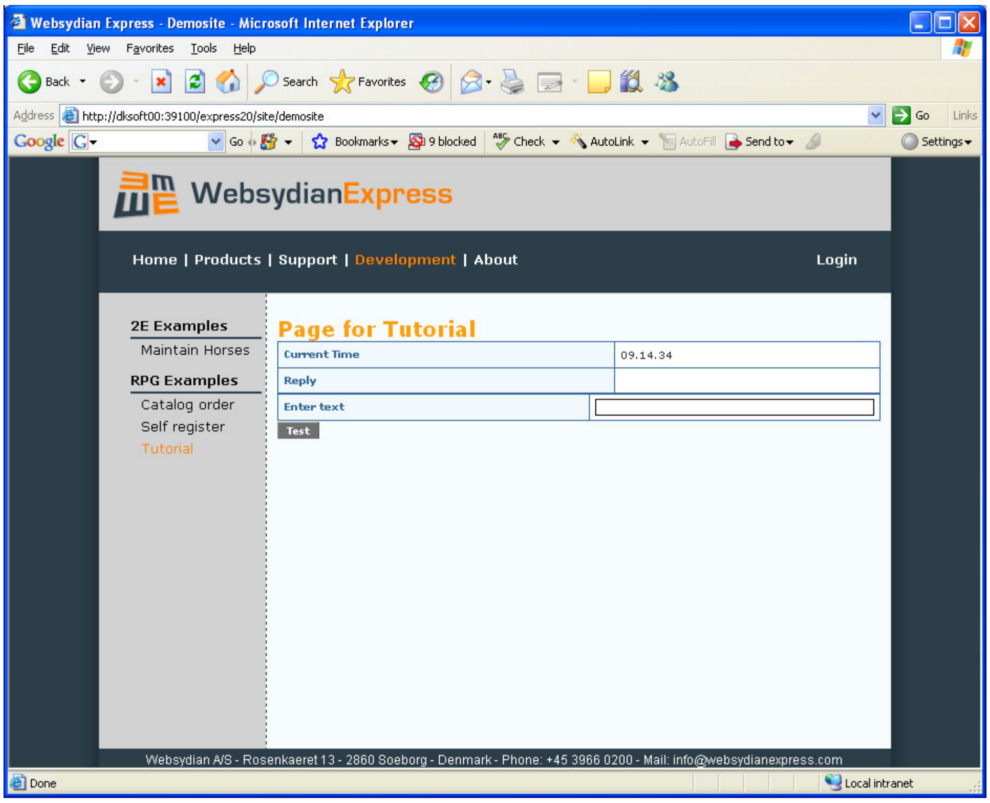
This is necessary to make the application use the new program objects.

Run Business Process

Close the browser and start the demo site in a new instance.

Select the menu item Tutorial.

The following page should be shown.


Websydian Express - Demosite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address
Go Links
Go Bookmarks 9 blocked Check AutoLink AutoFill Send to Settings
WebsydianExpress
Home | Products | Support | Development | About
Login
2E Examples
Maintain Horses
RPG Examples
Catalog order
Self register
Tutorial
Test
Done
Local intranet

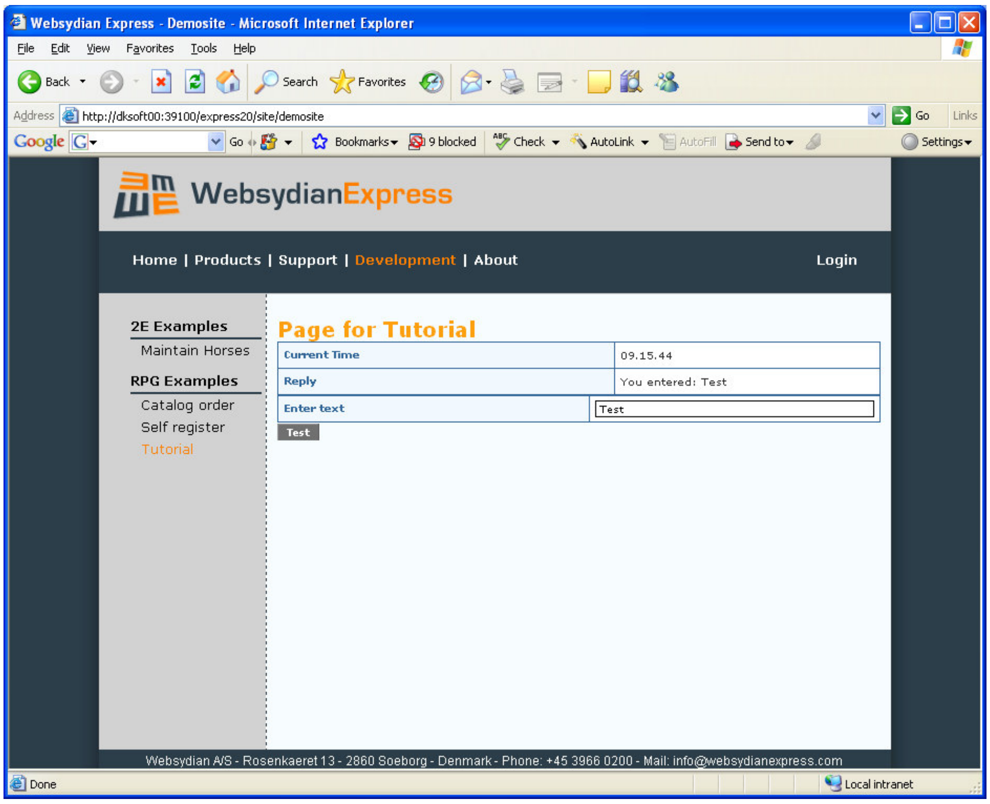
http://dksoft00:39100/express20/site/demosite

Page for Tutorial

Current Time	09.14.34
Reply	
Enter text	

Websydian A/S - Rosenkaeret 13 - 2860 Soeborg - Denmark - Phone: +45 3966 0200 - Mail: info@websydianexpress.com

Enter a text in the input field and press the Test button to test the eventhandler.


Websydian Express - Demosite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://dksoft00:39100/express20/site/demosite
Go Links
WebsydianExpress
Home | Products | Support | Development | About
Login
2E Examples
Maintain Horses
RPG Examples
Catalog order
Self register
Tutorial
Test
Done
Local intranet

Page for Tutorial

Current Time	09.15.44
Reply	You entered: Test
Enter text	Test

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If the result is as shown above, the test is successful.