



Kendo UI® Builder by Progress®: Sample Workflow

Notices

© 2016 Progress Software Corporation and/or one of its subsidiaries or affiliates. All rights reserved.

These materials and all Progress® software products are copyrighted and all rights are reserved by Progress Software Corporation. The information in these materials is subject to change without notice, and Progress Software Corporation assumes no responsibility for any errors that may appear therein. The references in these materials to specific platforms supported are subject to change.

Business Making Progress, Corticon, DataDirect (and design), DataDirect Cloud, DataDirect Connect, DataDirect Connect64, DataDirect XML Converters, DataDirect XQuery, Deliver More Than Expected, Icenium, Kendo UI, Making Software Work Together, NativeScript, OpenEdge, Powered by Progress, Progress, Progress Software Developers Network, Rollbase, RulesCloud, RulesWorld, SequeLink, Sitefinity (and Design), SpeedScript, Stylus Studio, TeamPulse, Telerik, Telerik (and Design), Test Studio, and WebSpeed are registered trademarks of Progress Software Corporation or one of its affiliates or subsidiaries in the U.S. and/or other countries. AccelEvent, Analytics360, AppsAlive, AppServer, Arcade, BravePoint, BusinessEdge, DataDirect Spy, DataDirect SupportLink, DevCraft, DigitalFactory, Fiddler, Future Proof, High Performance Integration, JustCode, JustDecompile, JustMock, JustTrace, OpenAccess, ProDataSet, Progress Arcade, Progress Profiles, Progress Results, Progress RFID, Progress Software, ProVision, PSE Pro, SectorAlliance, Sitefinity, SmartBrowser, SmartComponent, SmartDataBrowser, SmartDataObjects, SmartDataView, SmartDialog, SmartFolder, SmartFrame, SmartObjects, SmartPanel, SmartQuery, SmartViewer, SmartWindow, WebClient, Who Makes Progress, and Xervo are trademarks or service marks of Progress Software Corporation and/or its subsidiaries or affiliates in the U.S. and other countries. Java is a registered trademark of Oracle and/or its affiliates. Any other marks contained herein may be trademarks of their respective owners.

Please refer to the Release Notes applicable to the particular Progress product release for any third-party acknowledgements required to be provided in the documentation associated with the Progress product.



September 2016

Last updated with new content: Version 1.0

Table of Contents

Chapter 1: Overview	7
Prerequisites.....	8
 Chapter 2: Creating a sample web app using Kendo UI Builder by Progress	 9
Creating a new project.....	11
Creating an ABL Service of Data Object type.....	12
Configuring a database connection.....	12
Creating and annotating a Business Entity.....	13
Editing the Data Object Service	14
Publishing the Data Object Service.....	15
Accessing the catalog details.....	15
Creating the web app in Kendo UI Designer.....	16
Creating the web app	16
Adding the data provider	16
Modifying a data source.....	16
Creating a module	17
Creating a view	17
Viewing the metadata	18
Previewing the web app.....	18
Creating a Web UI project.....	18
Customizing the Web UI project.....	19
Launching the web app	23

Overview

Using Progress Developer Studio for OpenEdge® (Developer Studio) and Kendo UI® Builder by Progress® (Kendo UI Builder), you can separate the user interface (UI) from the business logic that can together be deployed and run on a Progress Application Server (PAS) instance.

You can use Kendo UI Builder to design and develop a web UI for an OpenEdge application using in-built templates. These templates use a data source definition, Data Service Catalog, that is implemented through a Data Object Service. The OpenEdge application architecture provides a service interface for the CRUD operations in the Data Service Catalog. These templates then generate the UI metadata for CRUD support without requiring detailed input from you.

The layout and properties of web pages that is saved as metadata is used to generate the web app. When you use metadata and templates, the amount of JavaScript code that you need to write is minimized.

You can upgrade the UI for future versions of the web app, using the customizable templates and metadata from which the web app is generated.

Note: For more information on the architecture and components of OpenEdge and Kendo UI Builder, see the [Kendo UI Builder by Progress: Modernizing OpenEdge Applications](#).

For details, see the following topics:

- [Prerequisites](#)

Prerequisites

Here are the prerequisites for creating a sample web app:

- OpenEdge 11.6.3 (64-bit) and Kendo UI Builder 1.0 must be installed on your machine.

Note: If you do not have OpenEdge and Kendo UI Builder on the same machine, you have to copy the web app folder into the associated Web UI project location. For more information on working with a Web UI project, see the *OpenEdge Service Pack 11.6.3: New Information* guide.

- A copy of sports2000 database in C:\OpenEdge\WRK\db with name sports2000 must be created.
- AdminServer must be started. To start the AdminServer:
 - Enter `PROADSV -start` in the Proenv command line, or
 - Select **Control Panel > Administrative Tools > Services** and then set the AdminService for OpenEdge to **Started**.
- In Developer Studio, an OpenEdge Explorer connection must be set up and the Servers view must show the Progress Application Server for OpenEdge (PAS for OpenEdge) instance, oepas1. For more information, see the Developer Studio online help.

Creating a sample web app using Kendo UI Builder by Progress

You can create your OpenEdge web app using Developer Studio and Kendo UI Builder with the following steps:

1. Create an [ABL Web App project](#) with an [ABL Service of Data Object type](#) with either the REST RPC or the WebHandler service provider. The service provider that you select, specifies the request and response transport and message protocol that accesses the annotated Business Entity used by the Data Object Service.

Note:

An ABL Service of Data Object type is an OpenEdge Data Object Service that provides web access to your ABL business logic through one or more OpenEdge Data Objects that use the ABL Business Entities. An OpenEdge web app can then access this standard interface that OpenEdge application architecture provides, using a JavaScript Data Object (JSDO). A JSDO hides the underlying details of the network request and response protocol of the web app. A Data Object Service then manages all web access between an instance of the JSDO in the web app and the Data Object running on the OpenEdge application server.

For more information on service providers, see the [Progress Data Objects Guide and Reference](#) guide. For more information on Data Objects Services, see the *OpenEdge Development: Web Services* guide. For more information on Business Entities, ABL Service of Data Object type (Data Object service), and OpenEdge projects, see the Progress Developer Studio for OpenEdge online help.

2. [Create a Business Entity](#) with semantic type field-level annotations. These annotations help you customize the options for how the Kendo UI Designer uses the table field values provided by the Data Object resource that you implement with the Business Entity.

Note: ABL Business Entities are annotated ABL class- or procedure-based objects that provide a standard web interface for your data and business logic. For an overview of OpenEdge Data Object Services and how to implement ABL Business Entities as Data Objects, see the *OpenEdge Development: Web Services* guide.

3. [Edit the ABL Service of Data Object type](#) to use the annotated Business Entity. The associated Data Service Catalog is generated. This Catalog is a JavaScript Object Notation (JSON) file that contains metadata describing the schema and operations supported by each Data Object managed by the Data Object Service.

Note: The JSDOs that the Kendo UI Designer and its generated web apps create to access Data Object resources rely on the Catalog for each Data Object Service.

4. [Deploy the Data Object Service](#) on PAS for OpenEdge.
5. [Create a web app](#) using the Kendo UI Designer

The web app you create is based on the selected Data Object Service metadata and UI templates for the supported Kendo UI components. You create each module of the web app, and each view in the module, using the built-in UI templates, such as for a grid or form, with a predefined Kendo UI Builder configuration. You then add data providers and data sources that bind data to each view by associating a Data Object resource table as a data source. You can then define app function and presentation by setting properties of the app, each module, and its views, then preview the result with real data from the data sources that are bound to the views.

Note: For more information on using Kendo UI Designer, see the [Kendo UI Builder by Progress: Using Kendo UI Designer](#) guide. For more information on the architecture and components of OpenEdge and Kendo UI Builder, see the [Kendo UI Builder by Progress: Modernizing OpenEdge Applications](#) guide.

6. [Preview and test the web app](#) by invoking the Kendo UI Generator. It takes the saved JSON UI metadata and referenced UI templates as input, and generates a deployable web app and the HTML5/CSS and JavaScript files. The HTML5/CSS and JavaScript files are then saved to the location you specified, which can be a Web UI project in Developer Studio.
7. [Create a Web UI project](#) in the same location that has your web app and deploy the contents of this project on PAS for OpenEdge. You can use this deployment as a development build for testing on a development instance of PAS for OpenEdge or as a release build for delivery on a production instance of PAS for OpenEdge. In addition, you can export the Web UI project as a Web UI application, which creates a WAR file for your web app that you can deploy to a web server.

Note: For more information on PAS for OpenEdge, see *Progress Application Server for OpenEdge: Introducing PAS for OpenEdge* and *Progress Application Server for OpenEdge: Application Migration and Development* guides. For more information on working with a Web UI project, see the *OpenEdge Service Pack 11.6.3: New Information* guide.

In the ensuing topics, we create a sample web app, named OrderEntryWebAp, for customer order entries. First, we create an ABL Web App project named OrderEntry, which contains the Data Object Service, OrderEntryService. The service uses an annotated Business Entity. The JSON file for the Data Service Catalog is generated. The data provider is then used by Kendo UI Builder when we create the web app, OrderEntryWebApp. We will also create modules containing views that we associate with (bind to) the data provider. We will finally deploy the web app on PAS for OpenEdge using a Web UI project.

Note: The steps for creating and deploying a web app oscillate between using Developer Studio and Kendo UI Builder.

For details, see the following topics:

- [Creating a new project](#)
- [Creating and annotating a Business Entity](#)
- [Editing the Data Object Service](#)
- [Publishing the Data Object Service](#)
- [Creating the web app in Kendo UI Designer](#)
- [Creating a Web UI project](#)
- [Launching the web app](#)

Creating a new project

Now we create a new ABL Web App project, OrderEntry, that contains the Data Object Service, OrderEntryService.

To create the project:

1. Launch Developer Studio.
2. Select **File > New > OpenEdge Project**. The **Create an OpenEdge Project** page opens.
3. In the **Project name** field, enter OrderEntry.
4. Clear the **Use default** check box and enter `C:\OpenEdge\WRK\OrderEntry` as the path.
5. Select **ABL Web App** from the **Project type configuration** drop-down list.
6. Click **Next**. The **Provide ABL Web App deploy details** page opens.
7. Retain the default settings; the **Deploy as WebApp** option button must be selected, OrderEntry must be the **Business Logic Module name** field and AppServer must be the **ABL Source folder** field.
8. Clear any selection in the Server name.

Note: We will publish the ABL Web App project and the Data Object Service manually after we create them.

9. Click **Next**. The **Create an ABL Service** page opens.
10. [Create an ABL Service of Data Object type](#).
11. Click **Next**. The **Select AVM and layout options** page appears.

12. Clear the **Use TTY for runtime** check box and select the **Use project-specific AVM** option button.
13. Click **Next**. The **Define PROPATH** page appears.
14. Click **Next**. The **Select Database Connections** page appears.
15. Click the **Configure database connections** link on the top right. The **Database Connections** dialog box appears.
16. [Configure a database connection for this project](#).
17. Select the **Database Connections** tab and select the **sports2000** check box.

The Project Explorer displays the new project, OrderEntry, and the ABL Service, OrderEntryService, under the Defined Services node. The AppServer directory is also created where we will add our ABL code. Notice that the ABL Console view displays messages that the AVM and the database server are started.

Note: The ABL Web App project can be deployed on PAS for OpenEdge only so we will deploy the sample web app on PAS for OpenEdge. You can create a Data Object Service with Data Object project and then deploy on classic servers (OE Web Server).

Creating an ABL Service of Data Object type

We now create an ABL Service of Data Object type using the **Create an ABL Service** page.

1. Select Data Object as the **Service type**.
2. Select REST RPC as the **Service provider**.

Note: For the sample web app we use a REST provider for Web transport and messaging protocol for client apps to access Data Object resources (Business Entities) on the OpenEdge application server. For more information on service providers, see the [Progress Data Objects and Reference](#) guide.

3. Retain OrderEntryService for the **Service name** field and **/OrderEntryService** for the **Service relative URI** field.

The Sample URI appears as `http://host[:port]/OrderEntry/rest/OrderEntryService/Resource URI` at the bottom of the page.

4. Click **Next**. The ABL Service of Data Object type is created.

Configuring a database connection

We now set up a database connection for the ABL Web App project.

1. Click **New...** to create a database connection. The **Add OpenEdge Database Connection** page opens.
2. In the **Connection name** field, enter sports2000.
3. In the **Physical name** field, enter `C:\OpenEdge\WRK\db\sports2000.db`.
4. In the **Host name** field, enter localhost.
5. In the **Service/Port** field, enter 6015.
6. Click **Next**. The **Define a SQL connection** page opens.
7. Click **Next**. The **Add SQL Connection Profile** page opens.

8. Click **Next**. The **Define Database Server Configuration** page opens.
9. Select the **Auto-start database server** check box.
10. In the **Service/Port** field, enter 6015.
11. Click **OK**. The database connection for the ABL Web App project is created.

Creating and annotating a Business Entity

We now create a Business Entity in the AppServer layer to access the customer data that we want to make available to our OpenEdge web app.

1. Right-click the OrderEntry project in the Project Explorer and select **New > New Business Entity**. The **Create a Business entity class** page of **New Business Entity** wizard appears.
2. Retain \OrderEntry\AppServer for the **Package root** field.
3. Enter CustomerBE in the **Business Entity name** field.
4. Click **Next**. The **Select a schema file** page opens
5. Select the **CRUD and Submit** option button in **Operations**.
6. Select the **Select database table** option button. The **Connection** field displays sports2000.
7. Click the **Table** drop-down list and select Customer.
8. Click **Finish**. The CustomerBE.cls file appears under the AppServer folder in the OrderEntry project in Project Explorer.
9. Double-click the CustomerBE.cls file to edit. The class is already annotated as a Data Object Service Interface by the **New Business Entity** wizard using the annotation:

```
@progress.service.resource FILE(name="CustomerBE", URI="/CustomerBE",
schemaName="dsCustomer", schemaFile="OrderEntry/AppServer/customerbe.i")
```

10. Scroll down to the ReadCustomerBE method definition. The Read method uses a filter (or a where clause) and returns a dataset of the records matching the filter. We use this method to retrieve the records from the Web UI project.

```
@openapi.openedge.export(type="REST", useReturnValue="false",
writeDataSetBeforeImage="true").
  @progress.service.resourceMapping(type="REST", operation="read",
URI="?filter=~{filter~}", alias="", mediaType="application/json").
  METHOD PUBLIC VOID ReadCustomerBE(
    INPUT filter AS CHARACTER,
    OUTPUT DATASET dsCustomer):

    SUPER:ReadData(filter).

  END METHOD.
```

11. Open the Customerbe.i file under the AppServer folder in the OrderEntry project in Project Explorer. All the columns from the database table sports2000.Customer including the indexes and primary key definitions are displayed as follows:

```
@openapi.openedge.entity.primarykey (fields="CustNum").

DEFINE TEMP-TABLE ttCustomer BEFORE-TABLE bttCustomer
FIELD CustNum AS INTEGER INITIAL "0" LABEL "Cust Num"
```

```
FIELD Country AS CHARACTER INITIAL "USA" LABEL "Country"
FIELD Name AS CHARACTER LABEL "Name"
FIELD Address AS CHARACTER LABEL "Address"
FIELD Address2 AS CHARACTER LABEL "Address2"
FIELD City AS CHARACTER LABEL "City"
FIELD State AS CHARACTER LABEL "State"
FIELD PostalCode AS CHARACTER LABEL "Postal Code"
FIELD Contact AS CHARACTER LABEL "Contact"
FIELD Phone AS CHARACTER LABEL "Phone"
FIELD SalesRep AS CHARACTER LABEL "Sales Rep"
FIELD CreditLimit AS DECIMAL INITIAL "1500" LABEL "Credit Limit"
FIELD Balance AS DECIMAL INITIAL "0" LABEL "Balance"
FIELD Terms AS CHARACTER INITIAL "Net30" LABEL "Terms"
FIELD Discount AS INTEGER INITIAL "0" LABEL "Discount"
FIELD Comments AS CHARACTER LABEL "Comments"
FIELD Fax AS CHARACTER LABEL "Fax"
FIELD EmailAddress AS CHARACTER LABEL "Email"
INDEX Comments Comments ASCENDING
INDEX CountryPost Country ASCENDING PostalCode ASCENDING
INDEX CustNum IS PRIMARY UNIQUE CustNum ASCENDING
INDEX Name Name ASCENDING
INDEX SalesRep SalesRep ASCENDING .
```

```
DEFINE DATASET dsCustomer FOR ttCustomer.
```

12. Right-click anywhere on the editor and select **Progress OpenEdge > Define Service Interface**. The **Define Service Interface** page opens.
13. Select all the operations in the **ABL routines** section and click **Next**. The **Edit Annotation** page opens.
14. Click the **Field Annotations** tab.
15. From the **Temp Table** drop-down list, select ttCustomer.
16. From the **Field** drop-down list, select Phone.
17. From the **Annotation** drop-down list, select Semantic Type.
18. From the **Semantic Type** drop-down list, select PhoneNumber.
19. Click **Apply** and then click **Finish**.

Notice that the Customerbe.i file is annotated.

20. Save and close the CustomerBE.cls and the Customerbe.i files.

Editing the Data Object Service

We created a Data Object Service, OrderEntryService, while creating the ABL Web App project. This service appears in the Defined Services node of the project in the Project Explorer. Now we edit the service to use the annotated Business Entity that we created.

1. Right-click the OrderEntryService service in the **Project Explorer > OrderEntry > Defined Services** and click **Edit**. The **Edit an ABL Service** page opens.
2. Click **Next**. The **Create a Data Object service** page opens.
3. Select the CustomerBE.cls resource.
4. Click **Finish**.

The .json file that contains metadata describing the schema and operations of the CustomerBE class is generated.

Note:

The `service.json` file is generated for a REST-based Data Object Service and `service.json` and `service.gen` files are generated for a WebHandler-based Data Object Service. Since we created a REST-based Data Object Service, the `.json` file and customer data is generated.

The URL in the `service.json` file for a WebHandler-based service is `web/pdo/serviceURI`, and for a REST-based service is `rest/serviceURI`.

Publishing the Data Object Service

The Data Object Service, `OrderEntryService`, uses the annotated Business Entity to implement the business logic. We now publish the service.

1. Click the **Servers** tab in the bottom pane of the **OpenEdge Server** view. The `oepas1` node is in the [Stopped] state.
2. Double-click the `oepas1` node. The **Overview** view appears in a new tab.
3. Click the **Open launch configuration** link. The **Edit launch configuration properties** page opens.
4. Click the **Databases** tab.
5. Select the **Show all** option button to display the `sports2000` database that we connected to.
6. Select `sports2000` from the list.
7. Click **Apply** and then click **OK**.
8. Select the `oepas1` node in the **Servers** view and start the server by selecting the **Start** icon.

The status is updated to `Starting oepas1...` in the bottom right corner of the page. When the server is ready, the state changes to [Started, Synchronized].

9. To add `OrderEntryService` to the `oepas1` instance, right-click the `oepas1` node and click **Add and Remove...** The **Add and Remove** dialog box appears.
10. Click **Add All** to add all the services to the `oepas1` instance.
11. Click **Finish**.

The service is added and published to the server. Expand the `oepas1` node to see the services. The status of the services appear as [Synchronized][Published].

Accessing the catalog details

To check that the Data Object service published correctly, we access the Data Object Service Catalog and the customer data.

1. In the **Servers** view, expand the `oepas1` server instance.
2. Right-click the `OrderEntryService` and click **Open Catalog URL**. The URL `http://localhost:8810/OrderEntry/static/OrderEntryService.json` opens and displays the content of the `CustomerBE` dataset records.

Creating the web app in Kendo UI Designer

Now we create an OpenEdge web app, OrderEntryWebApp, using the Kendo UI Designer.

Note: For more information on the architecture and components of OpenEdge and Kendo UI Builder, see the [Kendo UI Builder by Progress: Modernizing OpenEdge Applications](#) guide. For more information on using Kendo UI Designer, see the [Kendo UI Builder by Progress: Using Kendo UI Designer](#) guide.

Creating the web app

We now create a simple web app, OrderEntryWebApp.

1. Click **Start > Progress > Kendo UI Builder > Kendo UI Builder**. The Kendo UI Builder launches in the browser.
2. Click **Create App**. The **Create App** dialog box appears.
3. In the **App Name** field, enter OrderEntryWebApp.
4. In the **Location** field, enter C:\OpenEdge\WRK.
5. Click **Create App**. A new web app, OrderEntryWebApp, appears.

Adding the data provider

A data provider defines a single data service. We now add a data provider.

1. Open OrderEntryWebApp.
2. Click **Add Data Provider**. The **Add Data Provider** dialog box appears.
3. In the **Name** field, enter CustomerBE.
4. In the **Service URI** field, enter http://localhost:8810/OrderEntry.
5. In the **Catalog URI** field, enter http://localhost:8810/OrderEntry/static/OrderEntryService.json.
6. Select the **Auto-create Data Sources** check box.
7. Select **Anonymous** in the **Authentication Model** field.
8. Click **Add Data Provider**. The **Add Data Provider** dialog box closes and the CustomerBE data provider is added to the Data Providers list.

Modifying a data source

A data source represents tables from the data service, which you can bind to views. We now modify a data source that the data provider, CustomerBE, will provide.

1. Open OrderEntryWebApp.
2. Click **Edit** next to Customer BE data provider. The **Edit Data Provider** dialog box opens. The CustomerBE data source appears.
3. Click **Edit** next to Customer BE data source.

4. Click **Exclude All** to move all the fields to the **Excluded Fields** section. We will add only a few fields from the CustomerBE table. Only the selected fields appear in our view.
5. Drag and drop the CustName, Name, and State fields onto the **Included Fields** section.
6. Select **Customer** field in the **Included Fields** section.
7. In the **Properties** panel, in the **Label** field, enter Customer
8. Click **Save**. The **Edit Data Source** dialog box closes.
9. Click **Save**. The **Edit Data Provider** dialog box closes and the data source is added to the data provider.

Creating a module

A module is the basic unit of a web app. Each module contains one or more views that provide the functionality for a common set of features.

The module, Application, is added by default. It contains application-level pages, including the landing page and authentication page.

We now create a module, OrderEntry.

1. Open OrderEntryWebApp.
2. Click **Add Module**. The **Add Module** dialog box appears.
3. In the **Name** field, enter OrderEntry.
4. Change the icon and color by clicking the down arrow on the **Icon/Color** image to identify the module on the web app page. Select an icon, an icon color, and the background color.
5. Click **Add Module**. The OrderEntry module is added to the Modules list.

Creating a view

A view provides the UI for a specific function or feature within a module. We now create a view for the OrderEntry module.

1. Open OrderEntryWebApp.
2. Click **Edit** next to the **OrderEntry** module. The **Module** page opens.
3. Click **Add**. The **Add View** dialog box appears.
4. In the **Name** field, enter CustomerList. The DATA-GRID view is selected by default.
5. Click **Add View**. The data grid view is created.
6. In the **Properties** panel, do the following:
 - a) Select CustomerBE in the **Data Provider** field.
 - b) Select CustomerBE in the **Data Source** field.
 - c) Enter Customer List in the **Grid Title** field.
7. Select the **Enable Sorting** check box.
8. Click **Save** in the header. The view is created.

Viewing the metadata

The UI definition of the web app is stored as metadata. The metadata with the web app UI framework and component templates generates the web app.

1. Navigate to the `C:\OpenEdge\WRK\OrderEntryWebApp\meta` directory.
2. Open the `modules` folder. You see a file for each module, `Application.json` and `OrderEntry.json`. Close the `modules` folder.
3. Open the `OrderEntry.json` file. Notice that the `children` array has one child `CustomerList` which is a data-grid viewType. The `children` array within the `CustomerList` is for the properties of the data-grid view.
4. Open the `dataProviders` directory.
5. Open the `CustomerBE.json` file for the data provider we created. Notice that the `ServiceURI`, `catalogURIs`, and the `children` array that contains the data sources for `CustomerBE` are displayed.

Previewing the web app

We now preview and build `OrderEntryWebApp` so that it can be deployed on PAS for OpenEdge.

1. Open `OrderEntryWebApp`.
2. Click **Preview** in the header.
3. Click **Build & Preview**.

Note: Your browser settings may not allow pop-ups. Change the pop-up setting.

A new tab opens in your browser showing the landing page for the web app. If you click the `OrderEntry` module, you see the `CustomerList` view that you just created and configured.

Creating a Web UI project

We now create a Web UI project to customize the code for the web app and also deploy it on PAS for OpenEdge.

1. Launch Developer Studio
2. Select **File > New > OpenEdge project** from the main menu bar. The **New OpenEdge Project** wizard opens and displays the **Create an OpenEdge Project** page.
3. In the **Project name** field, enter `OrderEntryWebApp`.
4. Clear the **Use default** check box and enter `C:\OpenEdge\WRK\OrderEntryWebApp` as the path.
5. From the **Project type configuration** drop-down list, select **Web UI** and click **Next**. The **Provide Web UI deploy** details page opens.
6. Retain `OrderEntryWebApp` in the **WebApp name** field.
7. Select the `oepas1` check box in **Supported servers**. This server is the destination for your published web app and Web UI module.
8. Click **Finish**.

Customizing the Web UI project

The Web UI project is populated with many directories and content that belong to the Kendo UI Builder project we created earlier.

The /src directory contains custom files for the OpenEdge web app and its contents are picked up automatically when we build a web app in Kendo UI Builder. Do not change any files in any other directories.

Open the `/src/scripts/OrderEntry-CustomerList/view-factory.js` file in the project. This file contains sample event handlers for the OpenEdge web app. You can see default method stubs for `onInit`, `onShow`, `onHide` and `onRowSelect` events. We now add the following content to the file to add specific functions:

Function/Event	Code snippet	Functionality
onInit	<pre> onInit: function(\$stateParams) { return \$q(function(resolve, reject) { console.log("onInit"); resolve({}); }); }, </pre>	When the CustomerList view is initialized, the onInit message is displayed.
onShow	<pre> onShow: function(\$scope, customData) { var that = this; console.log('onShow'); try { \$scope.customerList.options.filterable = true; \$scope.\$on('kendoWidgetCreated', function (event, widget) { var scope, grid, dataSource, data, i; console.log("Event: kendoWidgetCreated"); if (event.targetScope.vm.grid === widget) { dataSource = event.targetScope.vm.grid.dataSource; dataSource.bind('change', function () { that.selectRecords(event.targetScope.vm.grid, 'MA', 'lightgreen'); }); } }); } catch (ex) { console.log("Exception: ", ex); } }, </pre>	When the CustomerList view is displayed, all the rows with state= MA appears in light-green color.
onHide	<pre> onHide: function(customData) { console.log("onHide"); }, </pre>	When the CustomerList view is hidden, the onHide message is displayed in console

Function/Event	Code snippet	Functionality
onRowSelect	<pre> onRowSelect: function(e) { var grid, dataSource, data, i; console.log('rowSelect', e); try { this.selectRecords(e.sender.\$angular_scope.vm.grid, 'MA', 'lightblue'); } catch (ex) { console.log("Exception: ", ex); } } } </pre>	When a row is selected in the CustomerList view which has state= MA then all the rows with state as MA are displayed in light-blue color.
selectRecords	<pre> selectRecords: function (grid, state, color) { var dataSource, data, i, row; try { dataSource = grid.dataSource; data = dataSource.view(); for (i = 0; i < data.length; i += 1) { if (data[i].State === state) { row = grid.tbody.find("tr[data-uid='" + data[i].uid + "']"); row.css("background-color", color); grid.expandRow(row); } } } catch (ex) { console.log("Exception: ", ex); } } </pre>	Function to support onRowSelect

After updating, the `view-factory.js` file has the following content:

```
/* global angular */
(function(angular) {

angular
  .module('viewFactories')
  .factory('orderEntryCustomerList', ['$q', function($q) {

function OrderEntryCustomerList() {
}

OrderEntryCustomerList.prototype = {

  /* The resolve method could return arbitrary data,
  which will be available in the "viewShowHandler" and "viewHideHandler" handler as the
  customData argument */

  onInit: function($stateParams) {
    return $q(function(resolve, reject) {
      console.log("onInit");//
      resolve({});
    });
  },

  selectRecords: function (grid, state, color) {
    var dataSource,
        data,
        i,
        row;

    try {
      dataSource = grid.dataSource;
      data = dataSource.view();
      for (i = 0; i < data.length; i += 1) {
        if (data[i].State === state) {
          row = grid.tbody.find("tr[data-uid='" + data[i].uid + "']");
          row.css("background-color", color);
          grid.expandRow(row);
        }
      }
    } catch (ex) {
      console.log("Exception: ", ex);
    }
  },
  /* "customData" is the data return by the viewInitHandler handler*/
  onShow: function($scope, customData) {
    var that = this;
    console.log('onShow');

    try {
      $scope.customerList.options.filterable = true;

      $scope.$on('kendoWidgetCreated', function (event, widget) {
        var scope,
            grid,
            dataSource,
            data,
            i;

        console.log("Event: kendoWidgetCreated");
        if (event.targetScope.vm.grid === widget) {
          dataSource = event.targetScope.vm.grid.dataSource;
          dataSource.bind('change', function () {
            that.selectRecords(event.targetScope.vm.grid, 'MA', 'lightgreen');
          });
        }
      });
    } catch (ex) {
      console.log("Exception: ", ex);
    }
  }
};
}
});
```

```

    },
    /* "customData" is the data return by the viewInitHandler handler*/
    onHide: function(customData) {
        console.log("onHide");
    },
    /* Kendo event object*/
    onRowSelect: function(e) {
        var grid,
            dataSource,
            data,
            i;
        console.log('rowSelect', e);
        try {
            this.selectRecords(e.sender.$angular_scope.vm.grid, 'MA', 'lightblue');
        } catch (ex) {
            console.log("Exception: ", ex);
        }
    }
};

return new OrderEntryCustomerList();
})();

})(angular);

```

Save and close the file.

[Rebuild OrderEntryWebApp](#) using Kendo UI Builder.

In the **Servers** view in Developer Studio, expand the oepas1 server instance. The oepas1 server instance displays the republish state. The modifications to the `view-factory.js` file are published. After some time, you will notice that the app, OrderEntryWebApp, is deployed on the oepas1 server instance.

Launching the web app

You can launch the web app from the Developer Studio to test it.

1. In the **Servers** view, expand the oepas1 node.
2. Right-click OrderEntryWebApp and click **Launch App**. The `http://localhost:8810/OrderEntryWebApp/#/home` URL opens and launches the app.
3. Click the OrderEntry module. It lists the customer details with the selected fields.

Observe that Row 1 and Row 5 are highlighted in light-green color and `onInit`, `onShow`, and `Event:kendoWidgetCreated` messages are displayed in the Console tab.

Select any row with state MA, observe that the color for all the rows with state MA is changed to light-blue color. This is because we customized the `view-factory.js` file in the previous section.

