Sage 300 Web Screens SDK

AR Invoice Entry Customization Tutorial

March 2021

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1. Overview

This document is intended to serve as a tutorial for creating a Sage 300 Web Screen Customization for the AR Invoice Entry Screen. This customization sample is included in the Web SDK (samples\customization\Sample4\_AR\_Invoice\_Entry\_Customization).

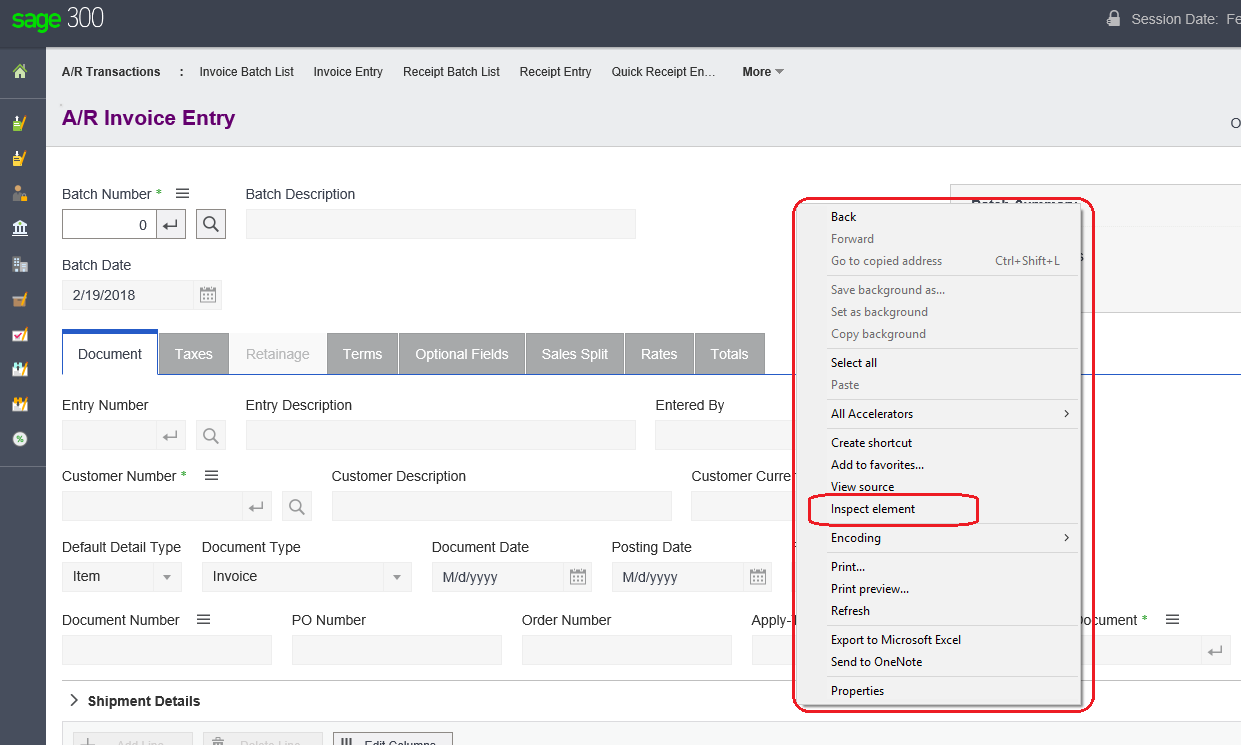
This customization will highlight the following topics:

* Adding a tab control and controls to the tab control
* Enhancing the display (via CSS) of some newly added controls
* Populating a dropdown list and grid
* Invoking Finder, Get, Save and Delete functions on the newly added controls

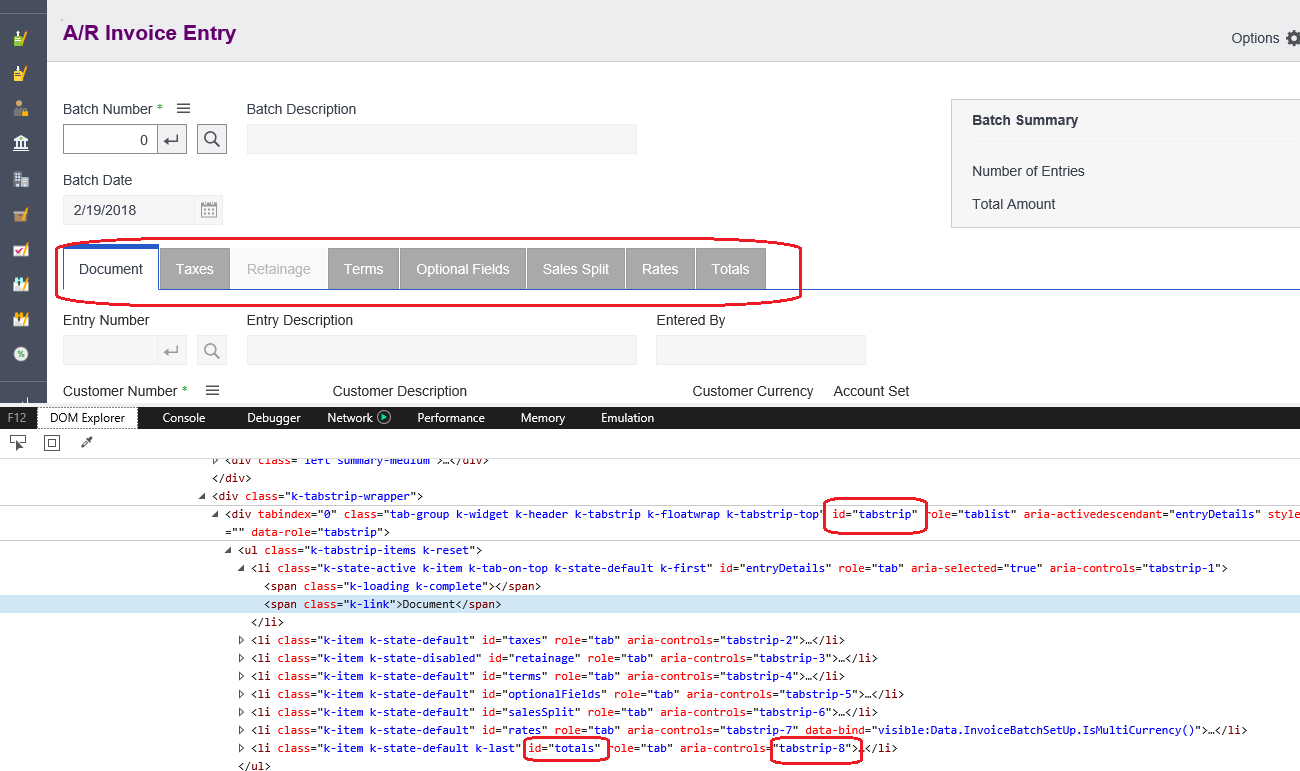
1. AR Invoice Entry Screen

The AR Invoice Entry screen is the web screen that will be customized in this tutorial. Since this customization will be adding a new tab page to the web screen, we must know the name of the existing tab control and where in the tab control we will place our new tab page.

To find the element ID of the tab control, bring up the AR Invoice Entry screen and use your browser’s **Inspect element** feature (right-click and select **Inspect element**).



To find the element ID for the tab control and tab page, right click the tab control and select **Inspect element**:



We can now inspect the element and determine that the tab control is named “**tabstrip**” the page we want to add our tab page after is “**tabstrip-8**”.

We now have enough information from the AR Invoice Entry screen is create the customization manifest and related files before writing any code.

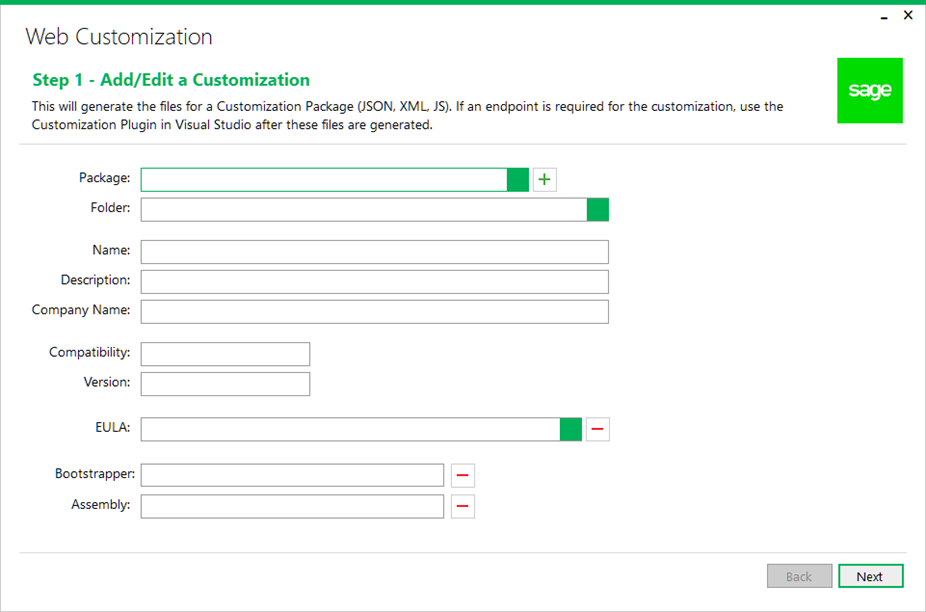
1. Creating the Customization
   1. Standalone Customization Wizard

Create the JSON, XML and JavaScript files for the AR Invoice Entry Customization.

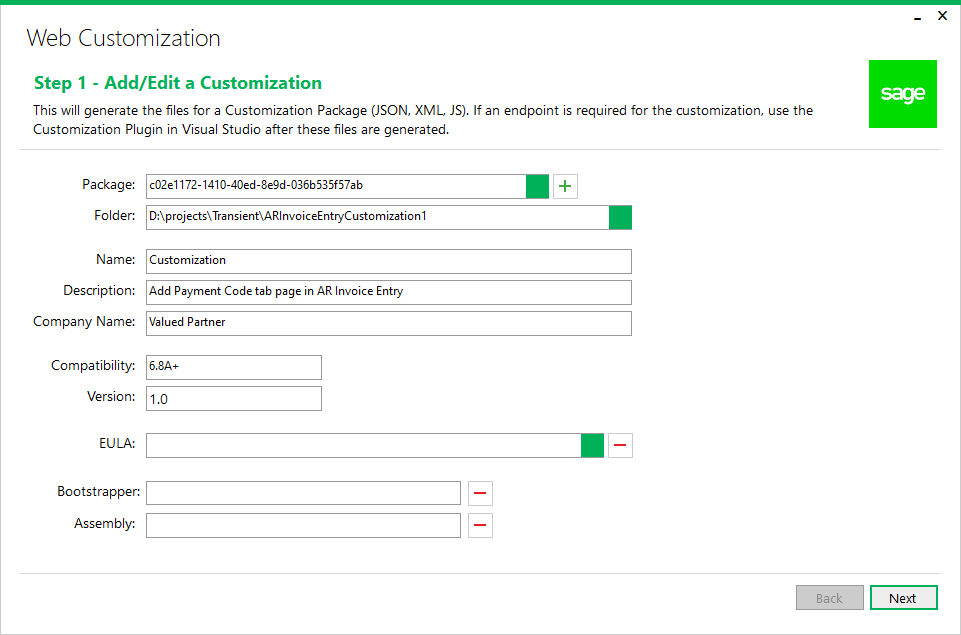
Locate the standalone customization wizard (located in the SDK’s bin folder (bin\Sage.CA.SBS.ERP.Sage300.CustomizationWizard.exe).

* + 1. Step 1 – Add/Edit a Customization

Create a new customization for the AR Invoice Entry screen.

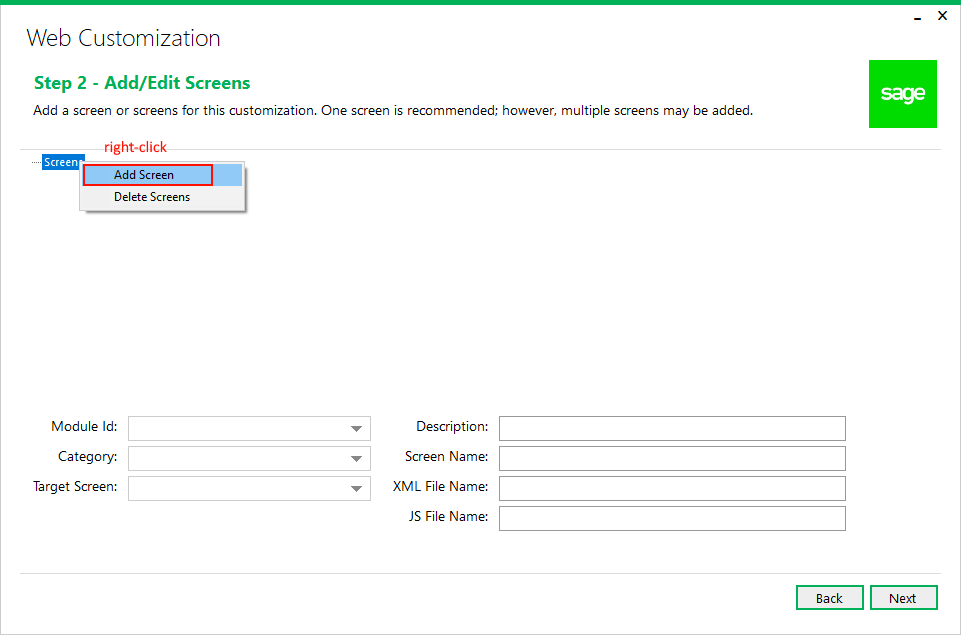


1. Click the green plus button to generate a GUID for the new customization.
2. Populate the remaining fields
   1. Select a folder name by clicking the magnifying glass of the Folder field to indicate where this customization will reside.
   2. Enter **Customization** for the Name field.
   3. Enter **Add Payment Code tab page in AR Invoice Entry** for the Description field
   4. Enter **Valued Partner** for the Company Name field
   5. Verify **6.8A+** for the Compatibility field
   6. Verify **1.0** for the Version field

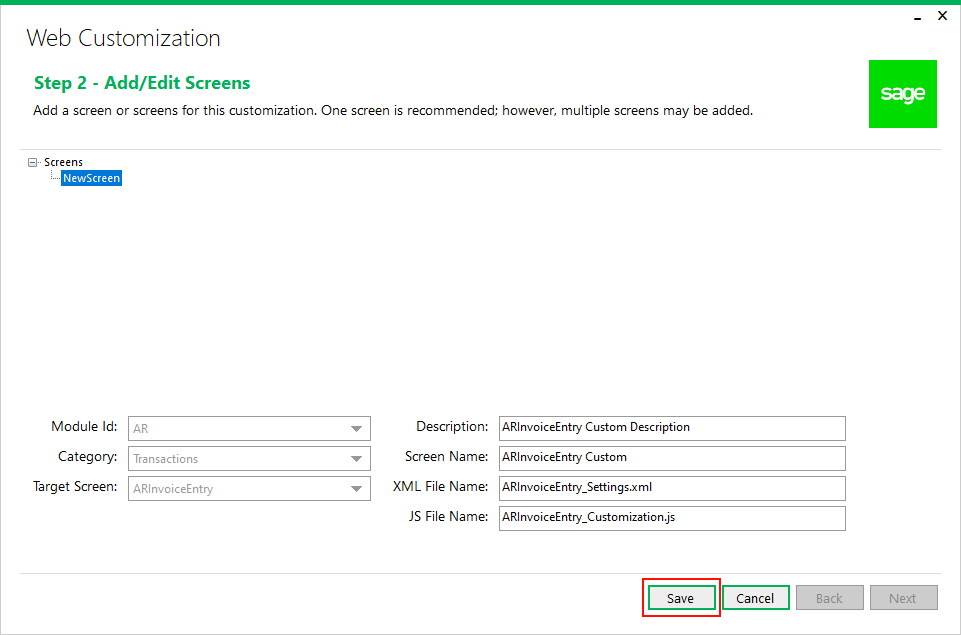


1. Click **Next** to proceed.
   * 1. Step 2 – Add/Edit Screens

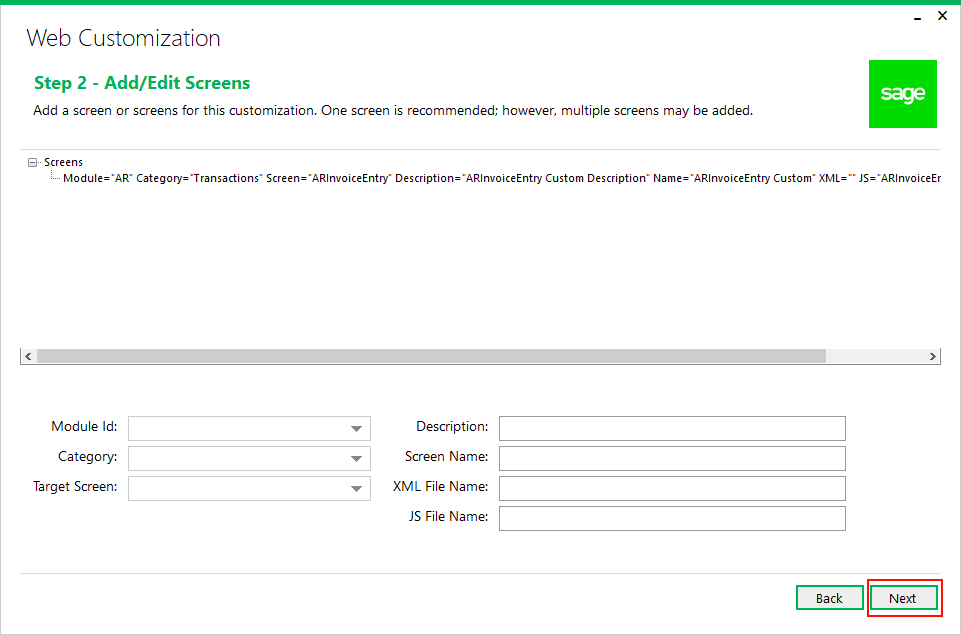
Add the AR Invoice Entry screen for the customization.



1. Right click the **Screens** node for options and select **Add Screen**
2. Select **AR** for the Module Id field
3. Select **Transactions** for the Category field
4. Select **ARInvoiceEntry** for the Target Screen field
5. Verify **ARInvoiceEntry Custom Description** for the Description field
6. Enter **ARInvoiceEntry Custom** for the Screen Name field



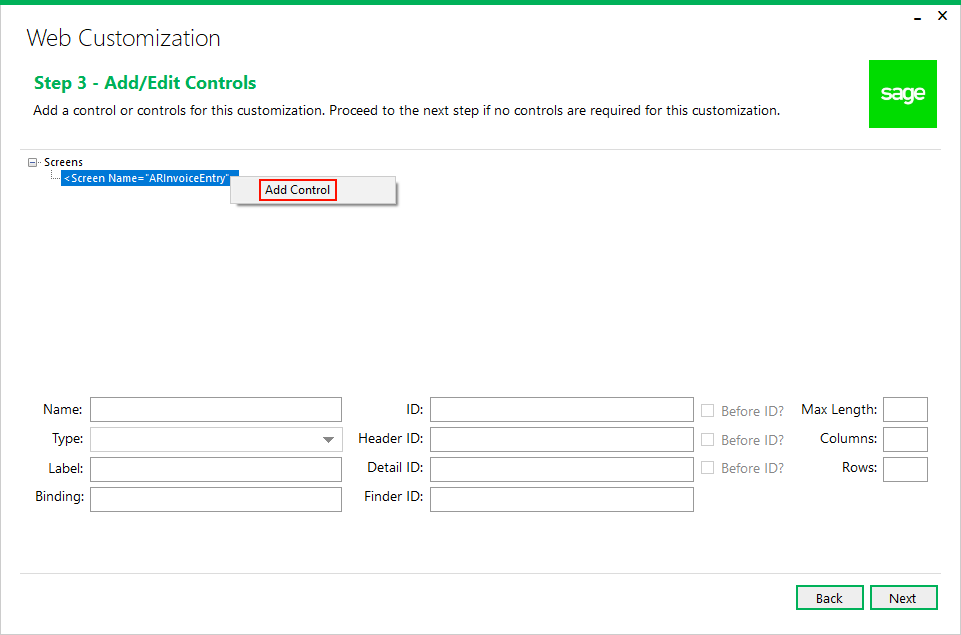
1. Click **Save** to save the screen



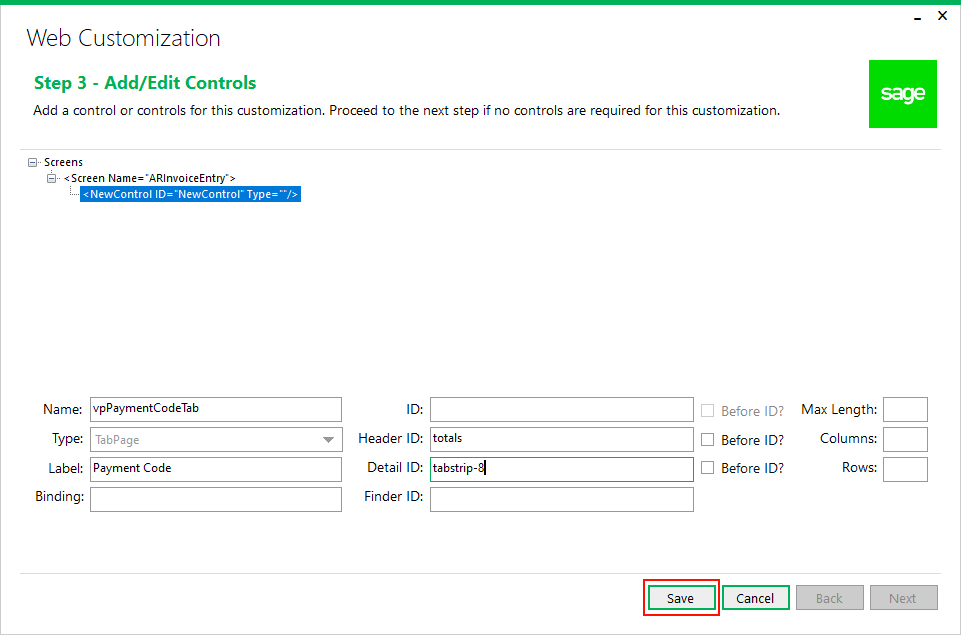
1. Click **Next** to proceed
   * 1. Step 3 – Add/Edit Controls

Add the new controls for the customization.

New Control 1: The tab page will be added after the **totals** tab page discovered when inspecting the AR Invoice Entry screen



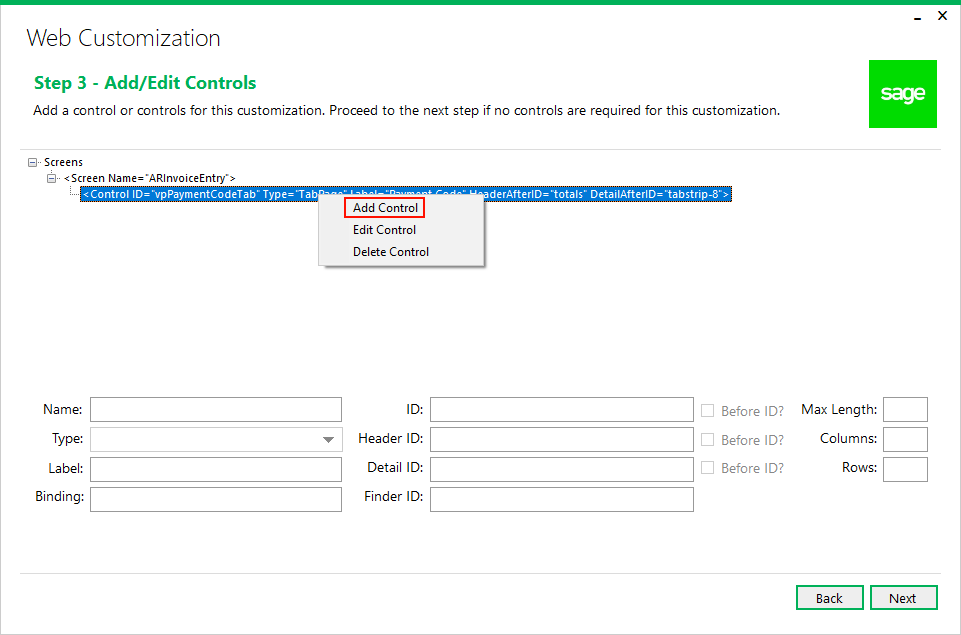
1. Right click the screen for **ARInvoiceEntry** and select **Add Control**
2. Enter **vpPaymentCodeTab** for the Name field
3. Select **TabPage** for the Type field
4. Enter **Payment Code** for the Label field
5. Enter **totals** for the Header ID field
6. Enter **tabstrip-8** for the Detail ID field

****

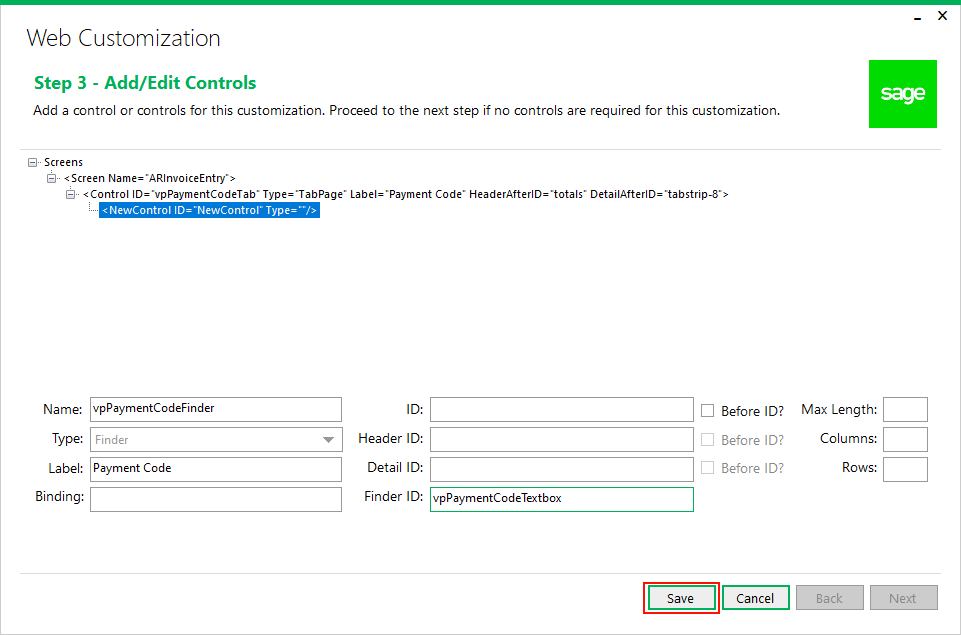
1. Click **Save** to save the control

New Control 2: Add controls to the newly added **Tab Page.**

**Note:** The controls on a new container control do not need to specify a location.



1. Right click the control for **vpPaymentCodeTab** and select **Add Control**
2. Enter **vpPaymentCodeFinder** for the Name field
3. Select **Finder** for the Type field
4. Enter **Payment Code** for the Label field
5. Enter **vpPaymentCodeTextbox** for the Finder ID field

****

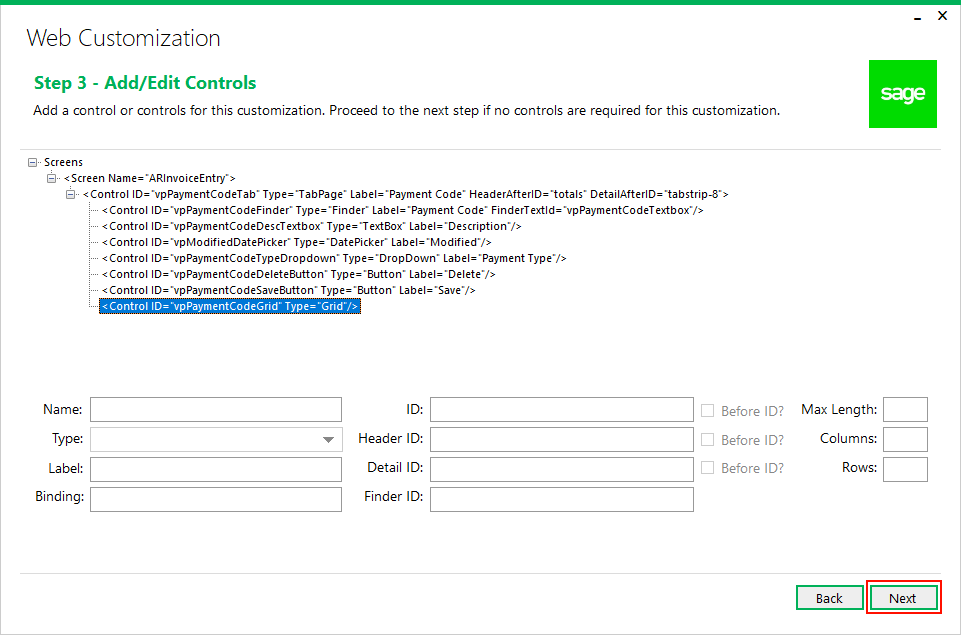
1. Click **Save** to save the control

New Controls 3-8: Add remaining controls to the newly added **Tab Page.**

The previous step just added a control to the newly created tab page. The remaining controls will be added to the tab page in the same way by Right clicking the control for **vpPaymentCodeTab** and select **Add Control.**

The controls are listed here and Click **Save** for each control to be added to the tab page.

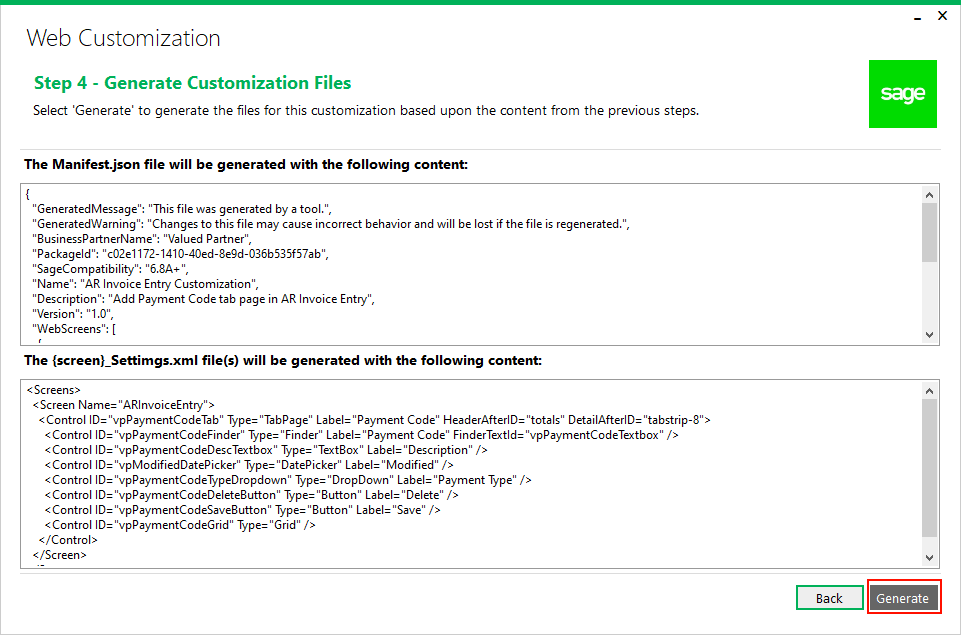
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Label** | **Binding** | **MaxLength** | **Cols** | **Rows** |
| vpPaymentCodeDescTextbox | TextBox | Description |  |  |  |  |
| vpModifiedDatePicker | DatePicker | Modified |  |  |  |  |
| vpPaymentCodeTypeDropdown | DropDown | Payment Type |  |  |  |  |
| vpPaymentCodeDeleteButton | Button | Delete |  |  |  |  |
| vpPaymentCodeSaveButton | Button | Save |  |  |  |  |
| vpPaymentCodeGrid | Grid |  |  |  |  |  |



All controls have been added, Click **Next** to proceed.

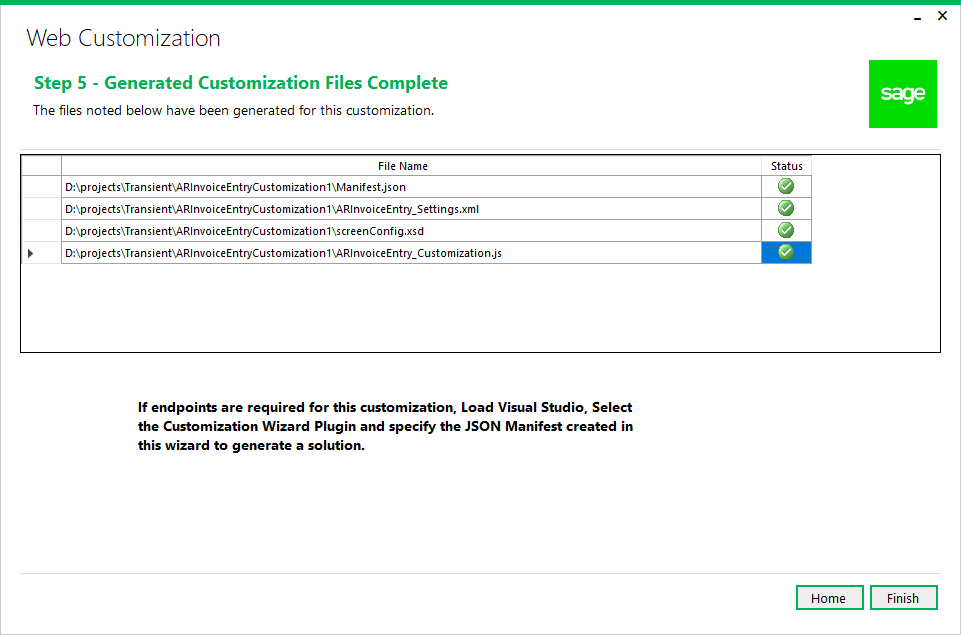
* + 1. Step 4 – Generate Customization Files

Preview the manifest before creation of customization.



1. If there are any corrections to be made, press **Back** to return to the previous step otherwise press **Generate** to generate the customization files.
   * 1. Step 5 – Generated Customization Files Complete

Files have been generated!



* Manifest
  + **Manifest.json**
* Control Settings file
  + **ARInvoiceEntry\_Settings.xml**
* JavaScript file
  + **ARInvoiceEntry\_Customization.js**
* XML Schema file
  + **ScreenConfig.xsd**

This customization does not require an endpoint and we will now start adding JavaScript code to our generated JavaScript template.

1. JavaScript Modifications

The standalone customization wizard generated the JavaScript for this customization.

However, the generated file is only a template and now requires modifications specific to this customization.

Load the **ARInvoiceEntry\_Customization.js** in the editor of your choice to perform the modifications in the following sections.

* 1. Control Initialization

Some Kendo UI controls require initialization in JavaScript.

* + 1. initButtons Function

Add the following code snippet in the **initButtons** function to add some styling and the click events for the Save and Delete buttons:

|  |
| --- |
| // This is an example of adding some space after the newly added Delete button  $("#vpPaymentCodeDeleteButton").css('margin-right', 20);  // Initialize the Delete button's click event  $("#vpPaymentCodeDeleteButton").on('click', function (e) {  // Get value from Payment Code textbox  var value = $("#vpPaymentCodeTextbox").val();  // If a value is in the textbox, issue a call to the delete method  if (value) {  // Assign url (module, controller, action) to delete  var url = sg.utls.url.buildUrl("AR", "PaymentCode", "Delete");  // Assign model for parameter(s) of Delete action  var model = { id: value };  // Post delete and specify call back  sg.utls.ajaxPost(url, model, ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback.delete);  }  });  // Initialize the Save button's click event  $("#vpPaymentCodeSaveButton").on('click', function (e) {  // Get value fom Payment Code textbox  var value = $("#vpPaymentCodeTextbox").val();  if (!value) {  return;  }  // Locate the payment code grid  var grid = $("#vpPaymentCodeGrid").data("kendoGrid");  // Get list of payment codes in grid  var list = grid.dataSource.data();  // Filter the list based upon value in present in the textbox  var filteredList = list.filter(function (item) { return item.PaymentCode == value; });  // Determine if the Save will perform an add or update  if (filteredList.length == 0) {  // Not in list and therefore a new code  ValuedPartnerCustomizationARInvoiceEntryCustomizationUI.add();  } else {  // For update, we will get record first for concurrency check (ETag)  // Assign url (module, controller, action) to get  var url = sg.utls.url.buildUrl("AR", "PaymentCode", "Get");  // Assign model for parameter(s) of Get action  var model = { id: value };  // Post get and specify call back  sg.utls.ajaxPost(url, model, ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback.update);  }  }); |

* + 1. initTextbox Function

Add the following code snippet in the **initTextbox** function to add some styling:

|  |
| --- |
| // This is an example of changing the styling on the textbox  $("#vpPaymentCodeTextbox").removeClass("smaller").addClass("default");  // This is an example of starting a new line  $("<br/>").insertBefore($("#vpModifiedDatePicker").parent()); |

* + 1. initDropDownList Function

Add the following code snippet in the **initDropDownList** function to initialize the control:

|  |
| --- |
| // Initialize the dropdown list  $("#vpPaymentCodeTypeDropdown").kendoDropDownList({  dataTextField: "Text",  dataValueField: "Value",  change: function (e) {  var idx = this.selectedIndex;  $("#vpPaymentCodeTypeDropdown").val(this.value());  }  }); |

* + 1. initDatePicker Function

Add the following code snippet in the **initDatePicker** function to initialize the control:

|  |
| --- |
| // Initialize the date picker  $("#vpModifiedDatePicker").kendoDatePicker({});  $('#vpModifiedDatePicker').data("kendoDatePicker").value(new Date()); |

* + 1. initFinders Function

Add the following code snippet to the **initFinders** function to initialize the finder control:

|  |
| --- |
| // Init the finder  sg.finderHelper.setFinder("vpPaymentCodeFinder", sg.finder.PaymentCode,  ValuedPartnerARInvoiceEntryCustomizationUICallback.finderSuccess, null,  "Select Payment Code",  sg.finderHelper.createDefaultFunction("vpPaymentCodeTextbox",  "PaymentCode", sg.finderOperator.StartsWith), null, true); |

* + 1. initGrid Function

Add the following code snippet to the **initGrid** function to initialize the grid control and event when a row is selected:

|  |
| --- |
| // Initialize the grid  $("#vpPaymentCodeGrid").kendoGrid({  dataSource: [],  height: 300,  resizable: true,  selectable: true,  reorderable: true,  editable: false,  change: onSelectChange,  columns: [  {  field: "PaymentCode",  title: "Payment Code",  width: "100px”  },  {  field: "Description",  title: "Description",  width: "160px”  },  {  field: "PaymentTypeString",  title: "Payment Type",  width: "120px”  },  {  field: "StatusString",  title: "Status",  width: "120px”  },  ]  });  // Establish the OnSelectChange function  function onSelectChange(e) {  // Get the grid control  var grid = $("#vpPaymentCodeGrid").data("kendoGrid");  // Get the selected row  var row = grid.dataItem(grid.select());  // If a row was selected, push values into controls since this is not data bound  if (row) {  $("#vpPaymentCodeTextbox").val(row.PaymentCode);  $("#vpPaymentCodeDescTextbox").val(row.Description);  $('#vpPaymentCodeTypeDropdown').data("kendoDropDownList").text(row.PaymentTypeString);  }  } |

* 1. init Function

The **init** function is a routine that initialize Kendo UI controls when the JavaScript is loaded. It is also a place to perform additional initializations as needed.

Add the following code snippet to the **init** function (after the line that invokes the **initOtherControls** function) to populate the dropdown list with payment codes and to refresh the grid:

|  |
| --- |
| // Issuing a dummy call to get the Payment Code view model  // in order to populate the dropdown of payment codes  // Assign url (module, controller, action) to get  var url = sg.utls.url.buildUrl("AR", "PaymentCode", "Get");  // Assign model for parameter(s) of Get action  var model = { id: "CASH" };  sg.utls.ajaxPost(url, model, ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback.populateDropdown);  // Refresh the grid  ValuedPartnerCustomizationARInvoiceEntryCustomizationUI.refreshGrid(); |

* 1. refreshGrid Function

This routine will refresh the grid by borrowing the finder’s **RefreshGrid** method. This is an example of populating a grid based upon how the finder grid is populated.

Add the **refreshGrid** function to the **ValuedPartnerARInvoiceEntryCustomizationUI** object after the **initOtherControls** function:

|  |
| --- |
| // Refresh the grid utilizing the finder's RefreshGrid method  refreshGrid: function () {  // Assign url (module, controller, action)  var url = sg.utls.url.buildUrl("Core", "Find", "RefreshGrid");  // Assign the parameters  var postData = { finderOptions: { AdvancedFilter: null, PageNumber: 0, PageSize: 30, SearchFinder: sg.finder.PaymentCode, SimpleFilter: null } };  sg.utls.ajaxPost(url, postData, ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback.setGridDataSource); }, |

* 1. add Function

This routine will add a new Payment Code.

Add the **add** function to the **ValuedPartnerARInvoiceEntryCustomizationUI** object after the **refreshGrid** function:

|  |
| --- |
| // Add a new code that does not exist in the grid  add: function() {  // Assign url (module, controller, action)  var url = sg.utls.url.buildUrl("AR", "PaymentCode", "Add");  // Assign the parameters  var model = {  DateLastMaintained: new Date(),  Description: $("#vpPaymentCodeDescTextbox").val(),  DisplayIndex: 0,  InactiveDate: new Date(1970, 1, 1),  PaymentCode: $("#vpPaymentCodeTextbox").val(),  PaymentType: $('#vpPaymentCodeTypeDropdown').data("kendoDropDownList").value(),  Status: 1  }  // Post and specify call back  sg.utls.ajaxPost(url, model, ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback.save);  }, |

* 1. Callback functions

The **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object is where we will define our call back functions.

* + 1. finderSuccess Callback

Add the following callback to the **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object:

|  |
| --- |
| // Populate fields based on finder selection, if any  finderSuccess: function (data) {  // Data is not null if a value is selected in the finder  if (data) {  // Populate controls  $("#vpPaymentCodeTextbox").val(data.PaymentCode);  $("#vpPaymentCodeDescTextbox").val(data.Description);  $('#vpPaymentCodeTypeDropdown').data("kendoDropDownList").text(data.PaymentTypeString);  // Set focus to textbox  sg.controls.Focus($("#vpPaymentCodeTextbox"));  }  }, |

* + 1. populateDropdown Callback

Add the following callback to the **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object:

|  |
| --- |
| // Populate the dropdown list from view model  populateDropdown: function (viewModel) {  // GetPaymentType of view model is a dynamic list  var list = viewModel.GetPaymentType;  // Get dropdown control  var dropdown = $("#vpPaymentCodeTypeDropdown").data("kendoDropDownList");  // Set list to the datasource of dropdown  dropdown.setDataSource(list);  // Select the first item  dropdown.select(0);  }, |

* + 1. setGridDataSource Callback

Add the following callback to the **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object:

|  |
| --- |
| // Callback from refreshGrid routine  setGridDataSource: function (data) {  // Get grid control  var grid = $("#vpPaymentCodeGrid").data("kendoGrid");  // Assign to datasource of grid  grid.dataSource.data(data.Data);  }, |

* + 1. save Callback

Add the following callback to the **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object:

|  |
| --- |
| // Callback from the add routine  save: function (data) {  // If the add was a success  if (data.UserMessage.IsSuccess) {  // Refresh the grid to see the new addition  ValuedPartnerCustomizationARInvoiceEntryCustomizationUI.refreshGrid();  }  // Show the success message  sg.utls.showMessage(data);  }, |

* + 1. update Callback

Add the following callback to the **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object:

|  |
| --- |
| // Callback from save click where it was determined that this is  // an existing record. Thus, it performed a Get and this is the callback from  // that Get with the record from the database (in case someone else just updated)  update: function(viewModel) {  // Assign to parameters object for Save call  var model = viewModel.Data;  // Assign values from controls  model.DateLastMaintained = new Date();  model.Description = $("#vpPaymentCodeDescTextbox").val();  model.PaymentType = $('#vpPaymentCodeTypeDropdown').data("kendoDropDownList").value();  // Assign url (module, controller, action)  var url = sg.utls.url.buildUrl("AR", "PaymentCode", "Save");  // Post and set callback  sg.utls.ajaxPost(url, model, ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback.save);  }, |

* + 1. delete Callback

Add the following callback to the **ValuedPartnerCustomizationARInvoiceEntryCustomizationUICallback** object:

|  |
| --- |
| // Callback from delete  delete: function (data) {  // If delete was a success  if (data.UserMessage.IsSuccess) {  // Clear controls  $("#vpPaymentCodeTextbox").val(""),  $("#vpPaymentCodeDescTextbox").val(""),  $('#vpModifiedDatePicker').data("kendoDatePicker").value(new Date());  $("#vpPaymentCodeTypeDropdown").data("kendoDropDownList").select(0);  // Refresh the grid  ValuedPartnerCustomizationARInvoiceEntryCustomizationUI.refreshGrid();  }  // Show message of delete action  sg.utls.showMessage(data);  } |

1. Packaging the Customization

Now that the customization is complete, it is time to package the customization files which simply entails zipping the files.

This customization package will be consumed in the Customization Admin screen. This screen will manage the import of the customization files, assignment to the applicable companies, etc.

The customization package must include for this customization:

* The **Manifest.json** file
* The **ARInvoiceEntry\_Settings.xml** file
* The **screenConfig.xsd** file
* The **ARInvoiceEntry\_Customization.js** file

* 1. Manifest.json Contents

|  |
| --- |
| {  "GeneratedMessage": "This file was generated by a tool.",  "GeneratedWarning": "Changes to this file may cause incorrect behavior and will be lost if the file is regenerated.",  "BusinessPartnerName": "Valued Partner",  "PackageId": "c02e1172-1410-40ed-8e9d-036b535f57ab",  "SageCompatibility": "6.8A+",  "Name": "Customization",  "Description": "Add Payment Code tab page in AR Invoice Entry",  "Version": "1.0",  "WebScreens": [  {  "ScreenName": "ARInvoiceEntry Custom",  "ScreenDescription": "ARInvoiceEntry Custom Description",  "Category": "Transactions",  "TargetScreen": "ARInvoiceEntry",  "ControlsConfiguration": "ARInvoiceEntry\_Settings.xml",  "ControlsBehavior": "ARInvoiceEntry\_Customization.js",  "Module": "AR"  }  ]  } |

* 1. OrderEntry\_Settings.xml Contents

|  |
| --- |
| <?xml version="1.0" encoding="utf-8"?>  <!-- This file was generated by a tool. -->  <!-- Changes to this file may cause incorrect behavior and will be lost if the file is regenerated. -->  <Screen Name="ARInvoiceEntry" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="screenConfig.xsd">  <Control ID="vpPaymentCodeTab" Type="TabPage" Label="Payment Code" HeaderAfterID="totals" DetailAfterID="tabstrip-8">  <Control ID="vpPaymentCodeFinder" Type="Finder" Label="Payment Code" FinderTextId="vpPaymentCodeTextbox" />  <Control ID="vpPaymentCodeDescTextbox" Type="TextBox" Label="Description" />  <Control ID="vpModifiedDatePicker" Type="DatePicker" Label="Modified" />  <Control ID="vpPaymentCodeTypeDropdown" Type="DropDown" Label="Payment Type" />  <Control ID="vpPaymentCodeDeleteButton" Type="Button" Label="Delete" />  <Control ID="vpPaymentCodeSaveButton" Type="Button" Label="Save" />  <Control ID="vpPaymentCodeGrid" Type="Grid" />  </Control>  </Screen> |

1. Customized AR Invoice Entry Screen

When the AR Invoice Entry screen is opened, the customization is applied and the requested controls are now visible in the screen.

