Oracle® Fusion Middleware

Oracle WebCenter Forms Recognition AP Project Migration Guide 12c (12.2.1.4.0)

E93584-04

September 2020

Documentation for the WebCenter Forms
Recognition AP Packaged
Project, that describes the features and use of the
Project Migration tool for upgrading earlier versions of the project.



Oracle Fusion Middleware Oracle WebCenter Forms Recognition AP Project Migration Guide, 12c (12.2.1.4.0)

E93584-04

Copyright © 2019, 2020, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

1	Intro	oduction	4
	1.1	Definitions	4
	1.2	Items of Note	4
2	Mig	ration Items	5
	2.1	Project Script	5
	2.2	Project Fields	6
	2.3	Project Settings	6
	2.4	Learnset Settings	6
3	Pre I	Migration Steps	7
	3.1	Backup the Project	7
	3.2	Upgrade the Existing Project in Designer	7
	3.3	Replace the Template Classification Engine	8
	3.4	Perform Project Analysis	9
	3.4.1	Fix Script Violation (1006D Only)	9
	3.4.2	Fix Script Violation (1007CA Only)	. 10
4	Perf	orming the Project Migration	.12
5	Post	Migration Steps	.13
	5.1	Fix Project 1007G Script Violation	13
	5.1.1	What is Script Violation?	. 13
	5.1.2	Fix Script Violation	. 13
	5.2	Remove Reference to the OracleAP Class (1007CA Only)	14
	5.3	Update the Project Configuration (.ini) File	15

1 Introduction

The Oracle WebCenter Forms Recognition Solution Migration Tool provides a convenient method for upgrading an earlier version of the AP Packaged Project to the latest version. While the Solution Migration Tool does not automatically upgrade every element of an already-implemented project, it does drastically reduce the amount of effort required, by allowing implementers to easily migrate 'core' project changes from the later version of the project to existing project.

Note: The Solution Migration Tool is provided solely for upgrading the AP Packaged Project, and should not be used with any other WebCenter Forms Recognition projects.

1.1 Definitions

- Template or Source Project: The project that acts as a template to update all other projects.
 This is typically the latest version of the AP Packaged Project.
- Target Project: The project that will be overwritten with updates from the template project. This is typically the currently implemented version of the AP Packaged Project.

1.2 Items of Note

- All in-flight batches should be reprocessed after the AP Packaged Project has been migrated using the Solution Migration Tool.
- It is the responsibility of the implementer to test the migrated project to ensure that system performance is not impacted by the update.
- The Solution Migration Tool does not perform any updates to the project configuration (.ini) file. Required updates to the project configuration file must be performed manually. See Section 5.3: Update the Project Configuration (.ini) File.
- The Solution Migration Tool does not perform any updates to the *Oracle AP* features.
 Required updates must be performed manually. See *Section 5: Post Migration Steps for the AP Packaged Project*.
- The new *Invoice_CN* and *Invoice_CN2* subclasses for processing Chinese language invoices will not be migrated to the source project. It is strongly recommended that where multi-byte language documents are being processed, a separate project be used for each language. In this case, a new instance of version 1007G of the AP Packaged Project should be implemented, which will already include the subclasses mentioned above.
- The name of the project (.sdp) file and its associated configuration (.ini) file will not be changed.

2 Migration Items

This section describes the elements of the AP Packaged Project that will be updated or otherwise modified by the Solution Migration Tool.

Note: If a project element is not explicitly described below it should be assumed that it will remain unaltered after being migrated through the Solution Migration Tool.

2.1 Project Script

Description	Comments
APPackaged Class	This script page is fully encrypted and the tool will be performing a full replacement.
Generic Class	This script page is fully encrypted and the tool will be performing a full replacement.
Global Variables Class	At the bottom of the delivered script there is a section where user customizations are permitted to be entered. This is clearly identified in the script by the following comments section: '===================================
Invoices Class	At the bottom of the delivered script there is a section where user customizations are permitted to be entered. This is clearly identified in the script by the following comments section: '========== INVOICES CLASS CUSTOM EVENTS ====================================
UserExits Class	The <i>UserExits</i> class script will be updated with new <i>UserExits</i> events from the template project. Existing events in this class will not be modified by the Solution Migration Tool.

2.2 Project Fields

Description	Comments
New Fields in the <i>Invoices</i> Class	New class fields that exist in the template project will be migrated to the target project if they do not already exist.
	Any custom fields in target project will not be removed by the Solution Migration Tool.
Field Settings	All field settings that exist in the template project will be migrated to the target project, with the exception of any ASE fields, which will remain unaltered by the Solution Migration Tool.
	Table fields should be replaced from the template project.

2.3 Project Settings

Description	Comments
Analysis Templates	All core analysis templates will be overwritten. Custom templates will remain unaltered.
	All new templates will be migrated to the target project.
Evaluation Templates	All core evaluation templates will be overwritten. Custom templates will remain unaltered.
	All new templates will be migrated to the target project.
Validation Templates	All core validation templates will be overwritten. Custom templates will remain unaltered.
	All new templates will be migrated to the target project.
OCR Engine / Customization	No modification will occur.

2.4 Learnset Settings

Description	Comments
Classification Engines	Existing classification engine settings will not be modified in the target project.
Classification Learnset	No changes will be made to the classification learnset.
Extraction Learnset for the <i>Invoices</i> Class	The extraction learnset for the <i>Invoices</i> class will remain encrypted.
	The extraction learnset from the template project will be copied to the target project.

3 Pre Migration Steps

Before migrating the changes from an earlier version of the project to version 1007G of the AP Packaged Project, it is essential that the existing project is upgraded and otherwise modified to work with the current version of WebCenter Forms Recognition in its current state.

This section describes the specific pre-migration steps that should be performed for the AP Packaged Project.

3.1 Backup the Project

Before performing the AP Packaged Project migration, ensure you have a complete backup of the project in its current state. The backup should include:

- The project (.sdp) file.
- The project configuration (.ini) file.
- All learnset files and folders (e.g. the **Train** folder and all its contents).
- The VendorASSA pool and any other ASE pool data that is used in the project (e.g. the Pool folder and all its contents).
- If the existing implementation uses the file system for batch storage, backup the batch root directory and all its contents.
- If the existing implementation uses a database for batch storage, backup the database.

3.2 Upgrade the Existing Project in Designer

Follow these steps to upgrade the existing AP Packaged Project to work with the current version of WebCenter Forms Recognition:

1. Open the existing AP Packaged Project in the Designer application.

If the existing project uses a version of the FineReader OCR engine that is no longer supported by the current version of Forms Recognition you may see the following warning message when attempting to open the project:

```
Project file could not be loaded!

Error Description: Cannot load collection item with name "All", because: Zone could not be loaded, because a required engine is not installed on this computer. Name of this Engine: "FineReader8".

WebCenter Forms Recognition Designer can try to load the project file once again ignoring all errors. This may result in complete or partial loss of project information.

Do you want to retry loading the project file anyway?
```

In this case, click **Yes** to continue loading the project in Designer.

Note: The project is automatically upgraded when it is opened in Designer. There is no visual notification that this has happened.

2. If the project will be used with the Web Verifier client, it is mandatory that database authentication be enabled for the project:

- a. From the **Options** menu, select **Users**, **Groups and Roles**... The *Project Authentication Properties* dialog is displayed.
- b. On the *Project Authentication Properties* dialog, ensure that the **Allow Database Authentication** option is checked.
- c. Click the Export to Database... button. A notification is displayed when the users, groups and roles are successfully exported to the database. Click OK to dismiss this message.
- d. Click the **OK** button to save the users, groups and roles settings, and close the *Project Authentication Properties* dialog.
- e. When prompted to save the project file, click **Yes** to save the project and dismiss the prompt.
- 3. From the **Options** menu, select **Settings**.
- 4. Select **Input Mode** tab and change **Batch-Root Directory** to a valid directory. Create an empty *Batches* directory if it does not exist.
- 5. Select **Train Mode** tab and then select appropriate **Learn Set Manager Base Directory** to a valid directory. Create an empty *Train* directory if it does not exist.
- 6. Switch to Definition Mode by selecting the **Definition Mode** option from the **View** menu.
- 7. In the *Classes* tree, right-click the project node and select **Show Properties** from the popup menu. The properties pane is displayed on the right-hand side of the Designer window.
- 8. In the properties pane, click the **OCR Settings...** button. The *OCR Properties* dialog is displayed.
- 9. In the OCR Properties dialog, select the **Recognition** tab.
- 10. Select the required OCR engine from the *Available Engines* dropdown. **FineReader11** is the recommended engine for version 1007G of the AP Packaged Project.
- 11. Ensure that the **Use as Default Engine** option is checked.
- 12. Click **OK** to save the OCR settings and close the OCR Properties dialog.
- 13. Save the project.

3.3 Replace the Template Classification Engine

Projects that were created with a version of WebCenter Forms Recognition prior to 11g Release 1 (11.1.1), for example, version 1006D of the AP Packaged Project, used the Template Classification Engine as the default classification for Supervised Learning Workflow. That classification engine is no longer supported, and has been superseded by the Brainware Layout Classification Engine.

If the existing project contains any classes or subclasses that previously used the Template Classification Engine, those classes must be updated to use the Brainware Layout Classification engine, and the project must be re-learned, before performing the project migration.

1. Open the existing AP Packaged Project in the Designer application and switch to Definition Mode.

- 2. In the Classes tree, select the first class or vendor subclass that previously used the Template Classification Engine. Right-click the class and select **Show Properties** from the popup menu.
- 3. On the properties pane, select the **Classification** tab.
- 4. In the list of *Used Classification Engines for This DocClass*, check the box for **Brainware Layout Classification**.
- 5. Repeat steps 2 to 4 for every class or vendor subclass that previously used the Template Classification Engine.
- 6. Switch to Document Selection Mode and use the Learn Set input mode. To do this, click the dropdown arrow beside the *Switch to Document Input Selection* toolbar button, and select **Learn Set** from the dropdown menu.
- 7. Select the first class or vendor subclass in the *Learn Set* tree that previously used the Template Classification Engine. Right-click the class or vendor subclass and ensure that the **View Classification Learn Set** option is checked in the popup menu.
- 8. For every document listed in the bottom pane, check the box in the **Brainware Layout Classification** column.
- 9. Repeat steps 7 and 8 for every class or vendor subclass that previously used the Template Classification Engine.
- 10. Switch to Definition Mode.
- 11. Re-learn the upgraded project by selecting the **Learn Documents** option from the **Run** menu.
- 12. When learning is complete, save the project.

3.4 Perform Project Analysis

Analyzing the current project by the Solution Migration Tool ensures that it is ready for upgrade. If there is any error or violation is reported, then it has to be fixed.

- 1. Start the Solution Migration Tool as an Administrator using the option *Run As Administrator*.
- 2. Import package either **Invoices 1006D.zip** or **Invoices 1007CA.zip** using the menu option. Refer to *Solution Migration Tool User Guide* for more information.
- 3. Click the **Select Source Project** button for the *Source Project*, then browse to and select it.

Note: The existing AP Project will be scanned for any issues. Please resolve any item flagged in red color.

4. Fix the Custom Script Violation as mentioned either in the Section 3.4.1 or Section 3.4.2 below as per the current AP Packaged Project version.

3.4.1 Fix Script Violation (1006D Only)

- 1. Open the existing AP Packaged Project in the Designer application.
- 2. Right click **GlobalVariables** and select **Show Script**. This will open **Script View** window.
- 3. Click **Macro** and then **End** to end the script debugger.

- 4. Select fnWriteXMLField on the **Proc**: drop down on the right hand side.
- 5. Replace the function with the following code:

```
Public Function fnWriteXMLField(strAttribute As String, ByVal strValue As String)
   As String
     Dim lngArray As Long
     Dim blFound As Boolean
     Dim bytConvert() As Byte
     Dim strOutput As String
     Dim intCounter As Integer
     hlFound = False
     bytConvert = strValue 'Convert the string value to bytes for comparison
     For intCounter = 0 To UBound(bytConvert) Step 2
       If bytConvert(intCounter) >= 32 And bytConvert(intCounter) <= 126 Then
    'Printable ASCII characters should be in the range of 32-126
         strOutput = strOutput & Chr(bytConvert(intCounter)) 'If printable, add to
   output String
       Else
         strOutput = strOutput 'If not a printable char, do not add to output string
       End If
     Next intCounter
     strValue = strOutput
     strValue = Replace(strValue, "</", "")</pre>
     strValue = Replace(strValue, "/>", ""
strValue = Replace(strValue, ">", "")
     strValue = Replace(strValue, "<", "")</pre>
     strValue = Replace(strValue, "&", "")
     If DicVal("XML" & strAttribute, "EXP") <> "" Then
       If Left(strAttribute, 2) = "HC" Then
          For lngArray = 1 To UBound(XMLArray)
           If Left(XMLArray(lngArray), Len("<" & DicVal("XML" & strAttribute, "EXP") &
   ">")) = "<" & DicVal("XML" & strAttribute, "EXP") & ">" Then
             XMLArray(lngArray) = "<" & DicVal("XML" & strAttribute, "EXP") & ">" &
   strValue & "</" & DicVal("XML" & strAttribute, "EXP") & ">"
             blFound = True
             Exit For
           End If
         Next lngArray
       End If
       If Not blFound Then
         ReDim Preserve XMLArray(UBound(XMLArray)+1)
         XMLArray(UBound(XMLArray)) = "<" & DicVal("XML" & strAttribute, "EXP") & ">"
   & strValue & "</" & DicVal("XML" & strAttribute, "EXP") & ">"
       End If
     End If
   End Function
6. Select fnEscapeXMLOutput from the Proc: drop down and delete this function.
   Public Function fnEscapeXMLOutput (ByVal pstrOriginal As String) As String
```

```
End Function
```

- 7. Close the **Script View** window and **Save** the Project.
- 8. Close the *Designer* application.

3.4.2 Fix Script Violation (1007CA Only)

- 1. Open the existing AP Packaged Project in the Designer application.
- 2. Right click GlobalVariables and select Show Script. This will open Script View window.

- 3. Click **Macro** and then **End** to end the script debugger.
- 4. Select fnWriteXMLField on the Proc: drop down on the right hand side.
- 5. Replace the function with the following code:

```
Public Function fnWriteXMLField(strAttribute As String, ByVal strValue As String)
As String
 Dim lngArray As Long
 Dim blFound As Boolean
 Dim strOutput As String
 blFound = False
  strOutput = fnCleanStringForFlatFileOutput(strValue)
 strOutput = Replace(strOutput, "</", "")</pre>
  strOutput = Replace(strOutput, "/>", "")
 strOutput = Replace(strOutput, ">", "")
strOutput = Replace(strOutput, "<", "")</pre>
  strOutput = Replace(strOutput, "&", "")
 If DicVal("XML" & strAttribute, "EXP") <> "" Then
    If Left(strAttribute, 2) = "HC" Then
      For lngArray = 1 To UBound(XMLArray)
        If Left(XMLArray(lnqArray), Len("<" & DicVal("XML" & strAttribute, "EXP") &
">")) = "<" & DicVal("XML" & strAttribute, "EXP") & ">" Then
          XMLArray(lngArray) = "<" & DicVal("XML" & strAttribute, "EXP") & ">" &
strOutput & "</" & DicVal("XML" & strAttribute, "EXP") & ">"
          blFound = True
          Exit For
        End If
      Next lngArray
    End If
    If Not blFound Then
      ReDim Preserve XMLArray(UBound(XMLArray)+1)
      XMLArray(UBound(XMLArray)) = "<" & DicVal("XML" & strAttribute, "EXP") & ">"
& strOutput & "</" & DicVal("XML" & strAttribute, "EXP") & ">"
    End If
  End If
End Function
```

6. Select fnEscapeXMLOutput from the Proc: drop down and delete this function.

```
Public Function fnEscapeXMLOutput(ByVal pstrOriginal As String) As String ... ... End Function
```

- 7. Click tab **4** just below the **Object: General** drop down list on the left side, on mouseover it will show the **UserExits** tooltip and after clicking, the window title will change to **Script View for Document Class "UserExits"**.
- 8. Replace the line [13] which says '#include "OracleAP" with the following line: '#include "GlobalVariables"
- 9. Click **Edit** and then select **Find** [Ctrl] + [F] to find the all the occurrences of the string *wfr* and comment those lines, usually prefixed the line with single quote (').
- 10. Close the **Script View** window and **Save** the Project.
- 11. Close the *Designer* application.

4 Performing the Project Migration

Follow the steps below to perform the project migration:

- 1. Start the Solution Migration Tool as an Administrator using the option *Run As Administrator*.
- 2. Import package either **Invoices 1006D.zip** or **Invoices 1007CA.zip** using the menu option. Refer to *Solution Migration Tool User Guide* for more information.
- 3. Click the **Select Source Project** button for the *Source Project*, then browse to and select it.

Note: The existing AP Project will be scanned for any issues. If there is any item flagged in red, Please resolve it before moving on to the next step.

- 4. Click **Go to migration tab** after it is enabled.
- 5. Click the **Select Template Project** button for the *Template Project*, then browse to and select the migration template project (.sdp) file. This is typically located at <*Installation Folder*>**Projects\AP 1007G\Global\AP Packaged Project_1007G.sdp**
- 6. As soon as the template project is selected. The project migration activity will start, and when it is completed a confirmation message is displayed.
- 7. Click **OK** to dismiss the confirmation message.

Note: Review the log files if there is any error.

8. Click the Exit application [F10] button to close the Solution Migration Tool.

5 Post Migration Steps

After performing the project upgrade using the Solution Migration Tool, it is necessary to manually update the project script as described below.

5.1 Fix Project 1007G Script Violation

5.1.1 What is Script Violation?

A script violation is any custom code that is created above the following comment in *Global Variables* script section. That script section is known as protected area, therefore it is important that the custom code should move after the following comment which is also known as non-protected area.

5.1.2 Fix Script Violation

To avoid any future upgrade issues with the Solution Migration Tool for upcoming AP Project versions, it is important to fix the script violations.

- 1. Open the upgraded AP Project 1007G in **Designer** application.
- 2. From the **View** menu, select **Definition Mode**.
- 3. Right click **GlobalVariables** and select **Show Script**. This will open **Script View** window.
- 4. Click **Macro** and then **End** to end the script debugger.
- 5. Go to the end of the file and cut the following lines:

- 6. Now click *wfrEscapeXMLOutput* in **Proc:** drop down list, and paste the lines (in clipboard) above *wfrEscapeXMLOutput* function.
- 7. Search for the string *wfrOutputDataType* and cut this enum declaration.

```
Public Enum wfrOutputDataType
  odtInvoiceHeader = 1
  odtInvoiceLines = 2
End Enum
```

8. Again paste the lines (in clipboard) below the following lines:

```
'= CREATED BELOW THIS POINT
```

- 9. Click fnWriteXMLField in **Proc:** drop down list and perform the following steps:
 - a. Copy this function body and paste after the *wfrEscapeXMLOutput* enum.
 - b. Rename the current function <code>fnWriteXMLField</code> to wfrFnWriteXMLField.
- 10. Click *fnWriteXMLField* in **Proc**: drop down list, and perform the following steps:
 - a. Uncomment the following lines:

```
'strOutput = Replace(strOutput, "</", "")
'strOutput = Replace(strOutput, "/>", "")
'strOutput = Replace(strOutput, ">", "")
'strOutput = Replace(strOutput, "<", "")
'strOutput = Replace(strOutput, "&", "")</pre>
```

b. Remove the following line:

```
strOutput = wfrEscapeXMLOutput(strOutput)
```

- 11. Click fnWriteXMLDateField in Proc: drop down list and perform the following steps:
 - a. Copy this function body and paste after *wfrFnWriteXMLField* function.
 - b. Rename the function name to *wfrFnWriteXMLDateField*.
 - c. Change the occurrences of *fnWriteXMLField* to *wfrFnWriteXMLField* inside *wfrFnWriteXMLDateField* function.
- 12. Open the **UserExits** class script window and perform the following steps:
 - a. Replace all occurrences of fnWriteXMLField with wfrFnWriteXMLField.
 - b. Replace all occurrences of fnWriteXMLDateField with wfrFnWriteXMLDateField.
- 13. Close the **Script View** window.
- 14. Open **Settings** [F3] from the **Options** menu.
- 15. Open default AP Project 1007G package project which comes with the Windows Forms Recognition Installation in another **Designer** application window for reference, Open its **Settings** from the **Options** menu.
- 16. Review the upgraded AP Project settings and do changes accordingly as per the default AP Project 1007G.
- 17. **Save** the Upgraded AP Project.
- 18. Close both the **Designer** applications windows.

Note: To verify if there are no scripting errors, open the Project scripting once again in Designer application. Close the application if there are no issues.

5.2 Remove Reference to the OracleAP Class (1007CA Only)

Version 1007CA of the AP Packaged Project contains a script-only class called *OracleAP*, which is no longer used in version 1007G.

Perform the following steps to remove the reference to this deprecated class from the project script:

1. Open the upgraded project in the Designer application.

Note: It is to be expected that when you open the upgraded project in the Designer application and switch to Definition Mode you will be notified of script errors. When prompted to debug the script code, click **Yes**.

- 2. Open the **UserExits** class script window.
- 3. Select **(General)** from the *Object* dropdown, then select **(declarations)** from the *Proc* dropdown at the top of the script window.
- 4. Locate the following script line. This will be on or around line 14 of the script:
 - '#include "OracleAP"
- 5. Modify the script line to replace **OracleAP** with **GlobalVariables**, as shown below:

'#include "GlobalVariables"

Note: It is necessary to retain the apostrophe character at the start of the script line. While this may appear to be a code comment, this is the correct syntax.

- 6. Close the script window.
- 7. Delete the **OracleAP** class from the project. To do this, select it in the *Classes* tree in the main Designer window, then right-click and select **Delete DocClass** from the popup menu.
- 8. Save the project.

5.3 Update the Project Configuration (.ini) File

The project configuration file for version 1007G of the AP Packaged Project contains updated and new entries to support the updated project. The Solution Migration Tool does not update the project configuration file, so it is necessary for all required modifications to the file to be performed manually.

Refer to the *AP Packaged Project Release Notes* document for full details of the new and updated configuration settings, and ensure that the configuration file for the upgraded project is amended accordingly.