

Configuring Oracle Business
Intelligence Enterprise Edition to
work with BI Publisher when
integrated with E-Business Suite
Security

*An Oracle White Paper
August 2014*

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Oracle BI Enterprise Edition (sometimes simply referred to as Oracle Business Intelligence) provides a full range of business intelligence capabilities that allow you to:

- **Collect up-to-date data from your organization**
- **Present the data in easy-to-understand formats (such as tables and graphs)**
- **Deliver data in a timely fashion to the employees in your organization**

Oracle Business Intelligence (BI) Publisher is an enterprise reporting solution for authoring, managing, and delivering all your highly formatted documents, such as operational reports, electronic funds transfer documents, government PDF forms, shipping labels, checks, sales and marketing letters, and much more.

Oracle E-Business Suite is a comprehensive suite of integrated, global business applications that enable organizations to make better decisions, reduce costs, and increase performance.

PURPOSE

This paper examines how to configure Oracle Business Intelligence Enterprise Edition (Oracle BI EE) 11.1.1.7.x to work with Oracle BI Publisher when Oracle BI EE is configured to integrate with E-Business Suite (EBS) Security.

The current 11.1.1.7 documentation states that *“if you set up shared authentication using the EBS ICX authentication cookie as described in this section, you cannot use single sign-on to seamlessly navigate from Oracle Business Intelligence to Oracle BI Publisher.”* The method described in this document is designed to work around this limitation.

BI Publisher integrates with Oracle BI EE using a backend impersonation approach to create user connections from BI Publisher to Oracle BI EE. However, the documented approach of integrating Oracle BI EE with E-Business Suite security is not compatible with this impersonation approach. The method described in this document enhances the approach to integrate Oracle BI EE with E-Business Suite security so that it is compatible with BI impersonation and thereby allowing BI Publisher to work in integrated mode using single sign-on.

SCOPE

The method described in this doc makes changes to the method of EBS security integration as documented in the Oracle BI Integrator’s guide.

If the method described in this document achieves the required BI certification status, then the main Oracle BI documentation may change to reflect the information in this document. Therefore it is important to check the publication status on this document as it may be superseded in the future by the official Oracle BI documentation.

This document is aimed at Oracle BI professionals familiar with Oracle BI Enterprise Edition 11g.

You should be aware that there are some limitations of this approach. The known limitations are as follows:

- Oracle BI Applications-EBS-style data security does not get picked up when creating a BI Publisher report. So a user who creates a BI Publisher report will not see as much data as they should. This is because the lists of values that this user can see when logging in with a particular EBS Responsibility is not populated when BI Publisher impersonates the user.
- Any row-wise session variables used for security filters must have an actual session variable defined with a 'null' default value. Otherwise creating the BI Publisher report on a subject area fails.

This approach has been tested against the following release versions:

- Oracle BI EE 11.1.1.7.x

PREREQUISITES

The following prerequisites must be satisfied before you configure Oracle BI 11g for SAML authentication

- Oracle Business Intelligence 11.1.1.7.x must be installed and running
- These instructions assume that the instructions in the BI Integrator's guide for configuring security with EBS have been carried out

CONFIGURING ORACLE BUSINESS INTELLIGENCE

Step 1:

Configure BI Publisher to use Oracle BI Server for authentication

Step 2:

Follow the instructions given below for setting SAW_AUTH_INIT_BLOCK_ONLY in BI Publisher.

When BI Publisher logs in to BI, it impersonates a user and runs only the Init Blocks marked 'required for authentication'. The steps below are the configuration required to change this behavior so that all Init Blocks are run when BI Publisher impersonates a user.

So for you to do this if you have important Init Blocks that need to run but are not marked 'required for authentication', here's the update.

Starting with 11.1.1.7.10Rel8, the following new JVM parameter has been added:

```
xdo.saw.auth.init.block.only
```

Customers on this release or later can set this new JVM parameter in JAVA_OPTION as

```
-D xdo.saw.auth.init.block.only=false
```

Setting the JVM parameter allows BI Publisher to work with the init-block security.

The solution in previous releases involves few extra steps to follow in BI Publisher as mentioned below:

- 1) Backup existing xmlpserver.ear file on your staging directory like:

```
<mw_home>/Oracle_BI1/bifoundation/jee/
```

- 2) Extract xmlpserver.war from xmlpserver.ear

- 3) Update web.xml in the war file as follows:

Find SAW_AUTH_INIT_BLOCK_ONLY and change the value from "true" to "false"

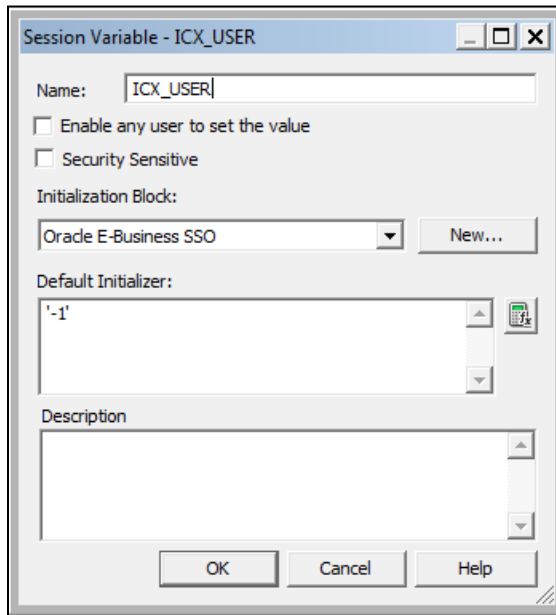
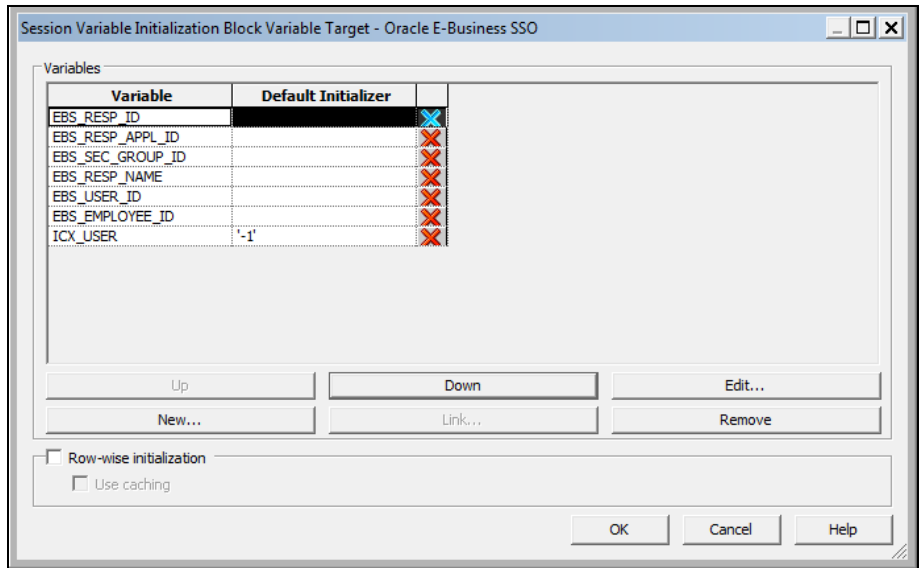
```
<servlet>
<servlet-name>xdo</servlet-name>
<servlet-
class>oracle.xdo.servlet.XDOServlet</servlet-class>
<init-param>
  <param-name>SAW_AUTH_INIT_BLOCK_ONLY</param-name>
  <param-value>>false</param-value>
</init-param>
<load-on-startup>2</load-on-startup>
</servlet>
```

- 4) Re-pack xmlpserver.ear with modified xmlpserver.war
- 5) From WLS console, find deployment from bipublisher and update the deployment with the updated .ear file.

Step 3:

Change your Init Block that sets USER so that instead of setting USER, you set a new session variable called ICX_USER

Please set a default value on the ICX_USER variable to '-1'



[You have to delete the USER session variable from your current authentication Init Block (i.e. the one that sets USER)]

This Init Block still needs to run against the connection pool that hits the EBS database and contains the on-connect script to validate the ICX cookie.

This Init Block should have no Execution Precedence defined.

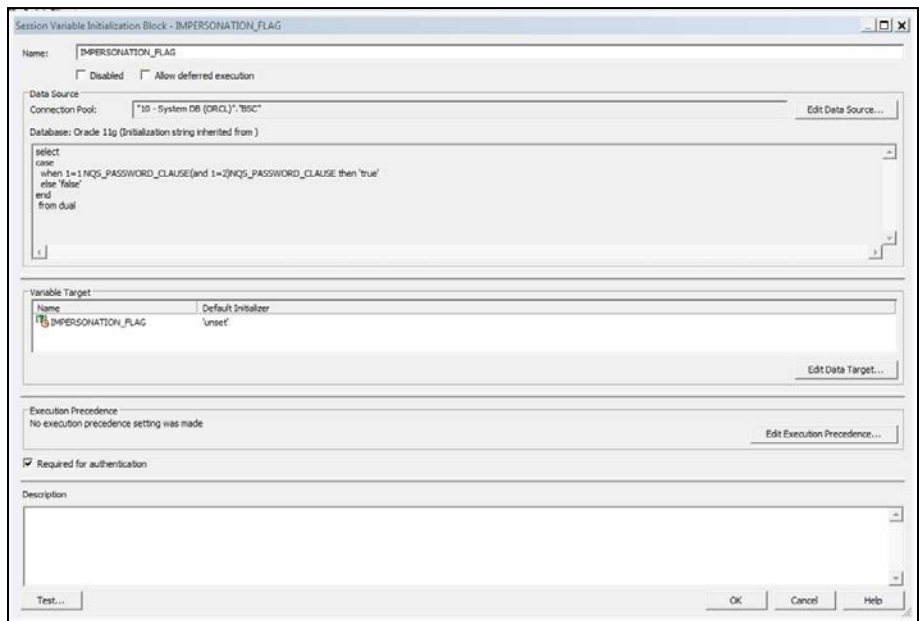
This Init Block is not marked 'required for authentication' [this is different to the 11.1.1.7.0 BI Integrator's guide]

Step 4:

Add a new Init Block called 'IMPERSONATION_FLAG'

Use this to set a new session variable also called 'IMPERSONATION_FLAG' which has a default value of 'unset'.

[The reason this works is because whatever is in the NQS_PASSWORD_CLAUSE gets ignored when the system is impersonating a user]



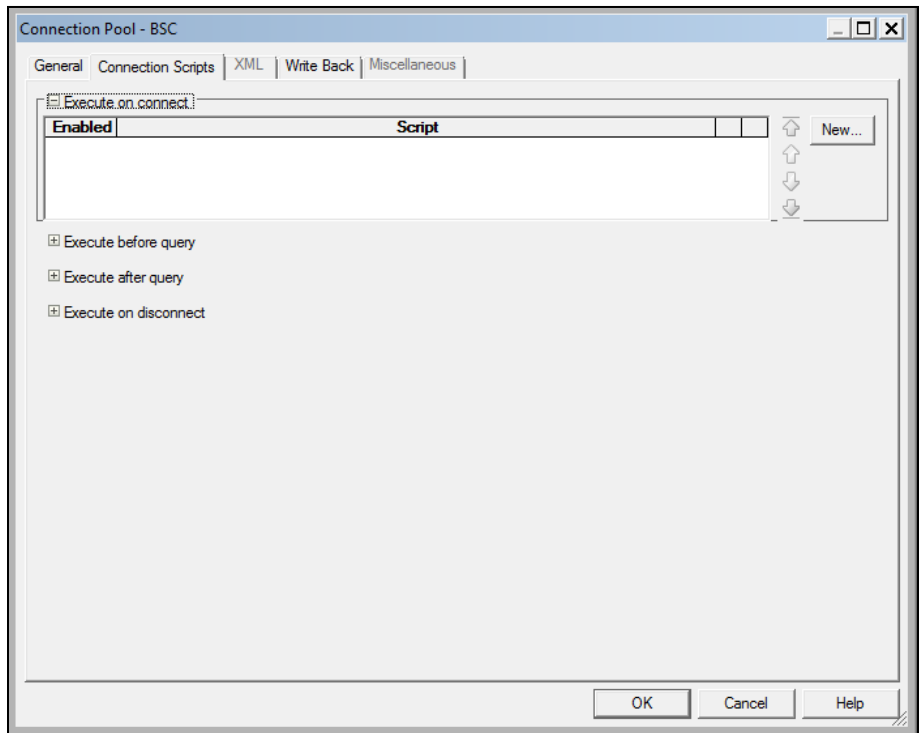
Use this SQL:

```
select
case
  when 1=1 NQS_PASSWORD_CLAUSE(and
1=2)NQS_PASSWORD_CLAUSE then 'true'
  else 'false'
end
from dual
```

Use a connection pool that does not have the on connect script to validate the ICX cookie (so use a database connection that will always work).

As :USER is not available when this connection pool is used for the method documented here, use a connection pool that has a static and explicit value for the UserID and Password.

The screenshot below is for illustrative purposes and in practice the name of the Connection Pool will be different to the one shown below. The important point is that there is no 'on connect' script against this connection pool so it will always be able to run when any user tries to login.



This Init Block should have no Execution Precedence defined.

Mark this Init Block as 'required for authentication'

Step 5:

Create or change the authentication Init Block as follows:

Session Variable Initialization Block - authentication

Name:

Disabled Allow deferred execution

Data Source

Connection Pool:

Database: Oracle 11g (Initialization string inherited from)

```
select
CASE
when 'valueof(NQ_SESSION.IMPERSONATION_FLAG)' = 'true' THEN LOWER(:USER)
when 'valueof(NQ_SESSION.IMPERSONATION_FLAG)' = 'false' and 'valueof(NQ_SESSION.ICX_USER)' <> '-1' THEN LOWER('valueof(NQ_SESSION.ICX_USER)')
END
from dual
where 'valueof(NQ_SESSION.ICX_USER)' <> '-1' or 'valueof(NQ_SESSION.IMPERSONATION_FLAG)' = 'true'
```

Variable Target

Name	Default Initializer
USER	

Execution Precedence

Name	Initialization string	Data source type
IMPERSONATION_FLAG	select case when 1=1 NQS_PASSWORD_CLAUSE(a...	Connection Pool BSC

Required for authentication

Description

Use this SQL:

```
select
CASE
when 'valueof(NQ_SESSION.IMPERSONATION_FLAG)' =
'true' THEN LOWER(:USER)
when 'valueof(NQ_SESSION.IMPERSONATION_FLAG)' =
'false' and 'valueof(NQ_SESSION.ICX_USER)' <> '-1'
THEN LOWER('valueof(NQ_SESSION.ICX_USER)')
END
from dual
where 'valueof(NQ_SESSION.ICX_USER)' <> '-1' or
'valueof(NQ_SESSION.IMPERSONATION_FLAG)' = 'true'
```

[It is important to have the LOWER statements. This effectively makes all the UserIDs lowercase. If you want something else in your displayname, you can set this separately.]

This Init Block should have Execution Precedence so that it runs after the IMPERSONATING_FLAG is set.

Step 6 – restart everything

TESTING YOUR SETUP

Following this configuration you should be able to:

1. **Login to Oracle BI EE** from EBS as an EBS user (or directly as an admin user in the WLS LDAP)
2. **Test OBIEE**
 - Create a BIEE analysis. Data security based on the user's current EBS Responsibility should be applied if configured
3. **Test BI Publisher**
 - Create a Data Model
 - Using BI Analysis as a data source
 - Using SQL as a data source with JDBC connection to BI Server
 - Create a Report
 - Using a subject area. This will allow report author to create a BI Publisher Layout only.
 - Using a data model with BI Analysis as data source
 - Using a data model with SQL as a data source with JDBC connection to BI Server

Note: In above BI Publisher tests, use EBS security without data security. Refer to limitations section of this document for details.

4. **Test the integration**
 - Configure and test an Action Link from Oracle BI EE to E-Business Suite
 - Configure and test a BI Publisher report from Oracle BI EE Dashboard

TROUBLESHOOTING

Some common problems and resolutions are listed below.

Problem	Solution
I can login to EBS and then go into analytics, but when I click on New-> reports it brings up the login and doesn't login to BI Publisher, I can get in as local super user, but not thru EBS. Now that I've made these new changes to the RPD, I now can't even get into analytics. Now I get "you are not currently signed in to the Oracle BI Server."	Please set a default value for the ICX_USER variable to '-1'
If you still see in the NQServer.log <i>"Query for Initialization Block 'Authorization' has failed."</i>	Make an additional change in your RPD - set the Execution Precedence for the Authorization Init Block so that it runs after the Authentication Init Block.

REFERENCES

- Oracle® Fusion Middleware Integrator's Guide for Oracle Business Intelligence Enterprise Edition

http://docs.oracle.com/cd/E21764_01/bi.1111/e16364/toc.htm

- 10 Integrating with Oracle E-Business Suite Security

http://docs.oracle.com/cd/E28280_01/bi.1111/e16364/ebs_actions.htm#CJADIFBA



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August 2014

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