

# Oracle Financial Services International Financial Reporting Standards

## Cloning Reference Guide



## DOCUMENT CONTROL

Version Number	Revision Date	Changes Done
1.0	Created: December 2015	Captured steps to setup an OFSAA instance "Clone" for the 8.0.x.0.0 release.
2.0	Modified: May 2016	Added notes as per Bug 23228276 and 22554485.
3.0	Modified: Jan 2018	Updated the document for Bug 27374642 and 27374657.
4.0	Modified: Nov 2018	<ul style="list-style-type: none"> <li>▪ Added a prerequisite based on Bug 28715332.</li> <li>▪ Updated for Doc 28728073.</li> <li>▪ Updated for Doc 28929363.</li> </ul>
5.0	Modified: Apr 2019	Updated the document for Doc 29722514.
6.0	Updated: May 2019	<ul style="list-style-type: none"> <li>▪ Added OFSAA_LOG_HOME variable in section <a href="#">Copy and restore OFSAA file system</a> (Doc 29641604 ).</li> <li>▪ Added note for table batch_parameter in section <a href="#">Run Port Changer utility</a> (Doc 29448257).</li> <li>▪ Added note in section <a href="#">Run Port Changer utility for 8.0.2.2.0, 8.0.3.3.0, 8.0.4.2.0, and 8.0.5.2.0</a> for EncryptC.jar (Doc 29419498).</li> </ul>
Created by: Gitcy/Brijesh	Reviewed by: Dhaval/Suresh/Jeev	Approved by: Viru/Subhashini

---

# TABLE OF CONTENTS

- PREFACE ..... 5**
  - Background .....5
  - Assumptions .....5
  - Audience .....5
  - Conventions and Acronyms.....5
  
- 1 SETTING UP AN OFSAA INSTANCE “CLONE” FOR 8.0.X RELEASE ..... 6**
  - 1.1 Prerequisites .....6
    - 1.1.1 General ..... 6
    - 1.1.2 Source System.....6
    - 1.1.3 Target System..... 6
  - 1.2 Cloning Steps.....7
    - 1.2.1 Export the complete Configuration and Atomic Schema from Source Environment ..... 7
    - 1.2.2 Restore the complete exported dumps into the Target Environment database ..... 7
    - 1.2.3 In case of restoring the complete exported dumps in to the Target Environment database with different database user names (schemas)..... 8
    - 1.2.4 Provide select grants on `sys.v_$parameter` view to Config and Atomic Schemas of Target Environment database ..... 8
    - 1.2.5 Login to Config Schema of Target Environment database ..... 9
    - 1.2.6 Copy and restore OFSAA file system ..... 9
    - 1.2.7 In case, you have imported into different schemas, additionally modify Files under `$FIC_HOME`..... 10
    - 1.2.8 Run Port Changer utility ..... 10
    - 1.2.9 Run EncryptC.jar utility to change the key and encryption strings..... 11
    - 1.2.10 Perform Post Cloning Configurations ..... 12
    - 1.2.11 Create and deploy .ear/ .war ..... 12
    - 1.2.12 Access the UI..... 13
  
- APPENDIX A..... 14**

**LIST OF TABLES**

Table 1 ..... 14  
Table 2 ..... 14

## Preface

The purpose of this document is to serve as a reference material to OFSAA administrators with detailed steps to setup an OFSAA instance “Clone” for the 8.0.x.0.0 release.

## Background

There is a consistent need for a faster and effective approach of replicating an existing OFSAA instance for further project developments, that is, setting up OFSAA instances that are exact copies of the current OFSAA instance.

## Assumptions

This document assumes a working Source OFSAA 8.0 instance is in place. It also assumes an appropriate Target system exists for the new OFSAA setup that is being created.

## Audience

This reference guide is intended for administrators and implementation consultants who are responsible for cloning OFSAA instance.

## Conventions and Acronyms

Conventions	Description
Source	A source OFSAA system
Target	A target OFSAA system
8.0	The OFSAA 8.0.0.0.0 release
Configuration Schema (Config Schema)	Database schema which contains setup related configurations and metadata.
Atomic Schema	Database schema where the application data model is uploaded.

# 1 Setting Up an OFSAA Instance “Clone” for 8.0.x Release

## 1.1 Prerequisites

The documented steps in the subsequent sections should be followed only after the following prerequisites are in place:

### 1.1.1 General

1. FTP/ SFTP service should be running on the OFSAA Target system. User credentials to be available prior to the subsequent activities.
2. If the OFS AAI (platform) version in use is 8.0.0.0.0, download and install patch 20422514 in Source.
3. If the OFS AAI (platform) version in use is 8.0.1.0.0, download and install patch 22329222 in Source.
4. If the OFS AAI (platform) version in use is 8.0.5.0.x or 8.0.5.1.x, upgrade the source to 8.0.5.2.0 by installing the OFS AAI 8.0.5.2.0 ML patch **27552096**.

### 1.1.2 Source System

1. All OFSAA services are brought down.
2. Database connection details such as RAC/ NON-RAC URL, SID/ Service Name, and User credentials are available.

### 1.1.3 Target System

1. All basic software required for installation of OFSAA applications (including infrastructure) are installed and working on the machine identified as the Target OFSAA instance. You can use the “Environment Check” utility to verify the system readiness.

For details on Software and Hardware Requirements, refer the respective OFSAA Application Pack Installation and Configuration Guide available in [OHC Documentation Library](#).

For details on usage of Environment Check Utility, see [OFS Analytical Applications Environment Check Utility Guide](#).

2. Web Server and Web Application Server are configured. For details on how to configure, see *Appendix A* in the 8.0.0.0.0 and 8.0.2.0.0 [OFS AAI Application Pack Installation and Configuration Guide](#).
3. OFSAA installation folder is identified as \$FIC\_HOME with permissions 750. For example, /scratch/ofsaanew/OFSAA

4. OFSAA staging/ metadata repository folder is identified as "ftpshare" with permissions 775. For example, /scratch/ofsaanew/ftpsharenew.
5. Database connection details such as RAC/ NON-RAC URL, SID/ Service Name, and User credentials are available.

---

**NOTE:** Ensure a new database instance is created that is different from the database instance used in the Source OFSAA instance.

---

6. Web Server/ Web Application Server identified for the deployment of OFSAA applications is installed and configured on the machine identified as the Web Server/ Web Application Server.

---

**NOTE:** If you intend to use the same Web Application Server, ensure you create a separate profile (WebSphere) or domain (WebLogic).

---

7. Details of WebSphere profile/WebLogic Domain/Tomcat context to be available.

---

**NOTE:** Ensure the RevLog4jConfig.xml is configured with default log paths before executing the utility.

---

## 1.2 Cloning Steps

Login to source config schema and execute the following query to get the config and atomic schemas names. You can use schema names in SCHEMAS attribute of **expdp** and **impdp** Database utility.

```
select dbuserid from db_master;
```

Perform the instructions given in the following sections:

### 1.2.1 Export the complete Configuration and Atomic Schema from Source Environment

For example:

```
expdp          SYSTEM/oracle@OFS12C2DB          DIRECTORY=data_pump_dir
DUMPFILE=ofsaaconf_ofsaaatm_%U.dmp          filesize=2G
SCHEMAS=ofsaaconf,ofsaaatm LOGFILE=ofsaaconf_ofsaaatm_exp.log
```

---

**NOTE:** Using above command will create data dumps in files of 2GB each (multiples). Any other commands/ tools as appropriate may be used to archive the schemas.

---

### 1.2.2 Restore the complete exported dumps into the Target Environment database

For example:

```
impdp          SYSTEM/oracle@OFS12nDB          DIRECTORY=data_pump_dir
DUMPFILE=ofsaconf_ofsaatm_%U.dmp          SCHEMAS=ofsaconf,ofsaatm
LOGFILE=ofsaconf_ofsaatm_imp.log
```

---

**NOTE:** Restoring the exported dumps creates Config and Atomic Schema(s) with the same user credentials as that of the source, along with the existing grants.

---

### 1.2.3 In case of restoring the complete exported dumps in to the Target Environment database with different database user names (schemas)

For Example:

```
impdp          SYSTEM/oracle@OFS12nDB          DIRECTORY=data_pump_dir
DUMPFILE=ofsaconf_ofsaatm_%U.dmp          REMAP_SCHEMA=
ofsaconf:newofsaconf,ofsaatm:newofsaatm
LOGFILE=new_ofsaconf_ofsaatm_imp.log
```

---

**NOTE:** Restoring the exported dumps creates Config and Atomic Schema(s) with the users mentioned under *REMAP\_SCHEMA* attribute replaced as of the source, along with the existing grants as in the Source environment.

Ignore the **ORA-39082** object type create with compilation errors which will be rectified later in subsequent steps.

---

### 1.2.4 Provide select grants on `sys.v_$parameter` view to Config and Atomic Schemas of Target Environment database

For example:

Login as sys user:

```
SQL> GRANT SELECT ON SYS.V_$PARAMETER TO ofsaconf;
```

Grant succeeded

```
SQL> GRANT SELECT ON SYS.V_$PARAMETER TO ofsaatm;
```

Grant succeeded

---

**NOTE:** In case you had imported into different schemas, you need to additionally set passwords for Config and Atomic schemas of target environment Database same as source.

---

For example:

Login as sys user

```
SQL> ALTER USER newofsaconf IDENTIFIED BY welcome1;
```

---



User Altered

```
SQL> ALTER USER newofsaatm IDENTIFIED BY welcome1;
```

User Altered

### 1.2.5 Login to Config Schema of Target Environment database

Update the Config Schema Table values as mentioned in Table 1 of Appendix A.

---

**NOTE:** This step is required only in case you have imported into different schemas.

---

### 1.2.6 Copy and restore OFSAA file system

1. Navigate to `$FIC_HOME/utility/Clone/bin` on Source environment and give 750 permissions to all files present in the folder.

2. Execute `./OFSAA_Archive.sh`.

This step will create zipped files for `$FIC_HOME` and `FTPSHARE` folders in their respective locations on Source. For example, `<FIC_HOME>.zip` and `<FTPSHARE>.zip`.

3. Copy the `<FIC_HOME>` and `<FTPSHARE>` archive files from Source to Target in respective locations, that is, as per the folders created for `$FIC_HOME` and `FTPSHARE`. (Refer points 2, 3 in the [Target System](#) section.)

---

**NOTE:** Ensure the archives are transferred in BINARY mode.

---

4. Copy the entries made by OFSAA installer in `.profile` of Source to the `.profile` of Target in respective location.
5. To unzip, navigate to the directory where the zipped folder is in *Target* and execute the following command:

```
unzip -a <<Zipped_file>>
```

For example,

```
unzip -a ftpshare.zip
```

Perform this step for both `<FIC_HOME>` and `<FTPSHARE>` zipped files. This will unzip both files in their respective locations in the Target environment.

6. Give 750 permissions recursively to `$FIC_HOME` and 775 to `FTPSHARE` folder that have been extracted in the *Target* environment.

For example:

```
chmod -R 750 $FIC_HOME
```

```
chmod -R 775 FTPSHARE
```

7. Modify the variables `FIC_HOME`, `JAVA_BIN`, `PATH`, `ORACLE_HOME`, `TNS_ADMIN`, `ORACLE_SID` and `OFSAA_LOG_HOME` in the entries made by installer in `.profile` of the *Target* environment according to the appropriate values of the *Target* Environment.

For example: Change the path to Java runtime in `JAVA_BIN` variable according to the java runtime installation on Target environment.

8. Execute the `.profile` file in the Target environment.
9. Edit the `tnsnames.ora` file under `$TNS_ADMIN` directory to add/edit the connection details to OFSAA schemas of Target environment.

### 1.2.7 In case, you have imported into different schemas, additionally modify Files under `$FIC_HOME`

Navigate to `$FIC_HOME` of OFSAAI server, modify values in files as specified in step 2 of Appendix A and follow subsequent steps.

### 1.2.8 Run Port Changer utility

- Ensure `RevLog4jConfig.xml` is configured with default log paths before executing the utility.
- This utility will connect to config schema to collect all the configurations, hence mandatorily edit the file `DynamicServices.xml` of `$FIC_HOME/conf` directory for the attribute `DEFAULT_CONNECTION_URL`, The VALUE should be qualified jdbc url of Target Database.

---

**NOTE:** The instructions in this step are not applicable to OFSAAI 8.0.2.2.0, 8.0.3.3.0, 8.0.4.2.0 and 8.0.5.1.0. For information on Running Port Changer Utility for the versions mentioned previously, see [Run port changer utility for 8.0.2.2.0, 8.0.3.3.0, 8.0.4.2.0, and 8.0.5.2.0](#).

---

1. Navigate to `$FIC_HOME` folder on Target.
2. Run the **PortC.jar** utility using the command:

```
java -jar PortC.jar DMP
```

A file with the name **DefaultPorts.properties** will be created under `$FIC_HOME` directory which will contain the ports, IPs and paths currently being used.

---

**NOTE:** It is mandatory to run the Port Changer utility using the DMP parameter every time before executing the utility using UPD command.

---

3. Make the necessary changes to those ports, IPs, and paths in the **DefaultPorts.properties** file as per the Target environment. Save the changes.
4. Run the **PortC.jar** utility using the command:

```
java -jar PortC.jar UPD
```

This will change the ports, IPs and paths in `.profile` (under home directory), all files under `$FIC_HOME` directory, and tables in the database according to the values mentioned in **DefaultPorts.properties** file.

---

**NOTE:** The table `batch_parameter` is not updated with the new IP after you run `portc.jar`. This table holds the batch execution details of batches that were executed earlier. The table `batch_parameter_master` holds the new IP after you run `portc.jar`.

---

### 1.2.8.1 Run Port Changer utility for 8.0.2.2.0, 8.0.3.3.0, 8.0.4.2.0, and 8.0.5.2.0

1. Navigate to `$FIC_HOME/utility/PortC/bin` folder on *Target*.
2. Run the **PortC.sh** utility using the command:

```
./PortC.sh DMP
```

A file with the name **DefaultPorts.properties** will be created under `$FIC_HOME` directory which will contain the ports, IPs and paths currently being used.

---

**NOTE:** It is mandatory to run the Port Changer utility using the DMP parameter every time before executing the utility using UPD command.

---

3. Make the necessary changes to those ports, IPs, and paths in the **DefaultPorts.properties** file as per the Target environment. Save the changes.
4. Run the **PortC.sh** utility using the command:

```
./PortC.sh UPD
```

This will change the ports, IPs and paths in `.profile` (under home directory), all files under `$FIC_HOME` directory, and tables in the database according to the values mentioned in **DefaultPorts.properties** file.

---

### 1.2.9 Run EncryptC.jar utility to change the key and encryption strings

**NOTE:** The instructions in this step are not applicable to OFSAI 8.0.2.2.0, 8.0.4.2.0, 8.0.5.2.0, 8.0.6.0.0 and later releases. For more information, see [Run EncryptC.sh utility to change the key and encryption strings for 8.0.2.2.0, 8.0.4.2.0, and 8.0.5.2.0](#) and [Run EncryptC.sh utility to change the key and encryption strings for 8.0.6.0.0 versions and above](#).

---

1. Navigate to `$FIC_HOME` folder on *Target*.
2. Execute the following command:

```
java -jar EncryptC.jar
```

---

3. See the `Encrypt_utility.log` file under `$FIC_HOME/utility/EncryptC/bin` folder for log information.

### 1.2.9.1 Run EncryptC.sh utility to change the key and encryption strings for 8.0.2.2.0, 8.0.4.2.0, and 8.0.5.2.0

1. Navigate to `$FIC_HOME/utility/EncryptC/bin` folder on *Target*.
2. Execute the following command:

```
./EncryptC.sh
```

3. See the `Encrypt_utility.log` file under `$FIC_HOME/utility/EncryptC/bin` folder for log information.

---

**NOTE:** `EncryptC.jar` is mainly to maintain new encrypt keys for a new environment, so there will not be an impact if you skip this step.

If you get the error message "Error: Could not find or load main class OFSAAI.AESCrypter" while you execute `./EncryptC.sh`, it is because the required jar file is missing in the lib folder. If you want to execute `EncryptC.jar` in 8.0.4.2.0, update `EncryptC.sh` with the following entry and proceed with execution:

Replace line

```
"JAR_FILELIST=`find ../lib \( -name "*.jar" \)` "
```

with

```
"JAR_FILELIST=`find $FIC_HOME \( -name "*.jar" \)` "
```

---

### 1.2.9.2 Run EncryptC.sh utility to change the key and encryption strings for 8.0.6.0.0 versions and above

See *Generating new AESCryptKey.ext and updating the keystore* section under *Key management* section in [OFS Analytical Applications Infrastructure Administration Guide](#).

## 1.2.10 Perform Post Cloning Configurations

As mentioned in the *Post Installation Configurations* section in the 8.0.0.0.0 and 8.0.2.0.0 [OFS AAI Application Pack Installation and Configuration Guide](#).

### 1.2.11 Create and deploy .ear/ .war

1. Navigate to `$FIC_WEB_HOME` on the *Target*.
2. Delete OFSAA application `*.war/*.ear` file present in this folder.
3. Execute the command:

```
./ant.sh
```

4. Copy the generated .ear/.war file on to the Web Application Server identified for this OFSAA instance.
5. Modify all the Database connection resources done on Web Application Server are mapped to new JDBC URL and Database User Credentials. Verify test connection to validate.
6. Deploy the .ear/.war file using the Web Application Server Admin Console.

### 1.2.12 Access the UI

Access the UI by using the new IP Address/ Host Name, new Port, and new Context Name.

For example:

```
http://<IP ADDRESS/ HOSTNAME>:<PORT>/<CONTEXT NAME>/login.jsp
```

## Appendix A

Manually modify the occurrences of source database username with new target database username (see REMAP\_SCHEMA attribute given in [Restore the complete exported dumps into the Target Environment database](#) of Cloning Steps).

1. Login to the newly imported Config Schema and update the Column values as mentioned in the following table (Ignore if there are no rows found):

**Table 1**

SI no	TABLE NAME	COLUMN NAME
1	DB_MASTER	DBUSERID
2	AAI_DB_AUTH_ALIAS	V_AUTH_USERNAME
3	AAI_DB_DETAIL	V_SCHEMA_NAME
4	AAI_ETL_SOURCE	V_TABLE_OWNER
5	ETLSOURCEDETAILS	V_SCHEMA

2. Manually modify the occurrences of source Config Database username with New Target Config Database username.

**Table 2**

SI no	Folder Path	File Name
1	\$FIC_HOME/conf/	Reveleus.SEC
2	\$FIC_HOME/utility/OFSAAGenerateRepository/conf/	Reveleus.SEC
3	\$FIC_HOME/conf/	DynamicServices.xml
4	\$FIC_HOME/MigrationUtilities/Migration_LDAP/conf/	DynamicServices.xml
5	\$FIC_HOME/utility/OFSAAGenerateRepository/conf/	DynamicServices.xml
6	\$FIC_HOME/ficweb/webroot/conf/	DynamicServices.xml
7	\$FIC_HOME/EXEWebService/Tomcat/ROOT/conf/	DynamicServices.xml

SI no	Folder Path	File Name
8	\$FIC_HOME/EXEWebService/WebSphere/ROOT/conf/	DynamicServices.xml
9	\$FIC_HOME/EXEWebService/weblogic/ROOT/conf/	DynamicServices.xml
10	\$FIC_HOME/commonscripts/	ofs_aai_create_atomic.ora

**NOTE:** Based on the Web Application Server, choose the relevant folder path from number 7, 8 or 9 from above list.

3. Execute scripts on Atomic Schemas to update new target config database user name as mentioned in the following:
  - a. On the putty console, navigate to \$FIC\_HOME/commonscripts/ on OFSAAI Server.
  - b. Create a copy of file ofs\_aai\_create\_atomic.ora as ofs\_aai\_create\_atomic\_<INFODOM>.ora.
  - c. Now replace \$INFODOM place holder with actual infodom name in the file ofs\_aai\_create\_atomic\_<INFODOM>.ora.

**NOTE:** Enclose the actual infodom name within single quote.

INFODOM is associated with each atomic schema, hence you have to create individual files for each atomic schema.

You can fetch the INFODOM value associated with each atomic schema by executing the following query logging into the newly modified config schema.

```
SQL> select h.dbuserid, g.dsnid from dsnmaster g, db_master
h where g.dbname = h.dbname and h.dbname <> 'CONFIG';
```

- d. Connect to Atomic Schemas using sqlplus utility of \$ORACLE\_HOME/bin.
- e. Execute ofs\_aai\_create\_atomic\_<INFODOM>.ora file and ignore **ORA-00001** and **ORA-02292** errors in the log file. In case, there are other errors, contact Oracle Support Services.

```
SQL> spool aai_create_<INFODOM>.log
SQL> @ofs_aai_create_atomic_<INFODOM>.ora
SQL> spool off
SQL> exit;
```

**NOTE:** Repeat this for all the atomic schemas. Once execution is complete, delete all files created as ofs\_aai\_create\_atomic\_<INFODOM>.ora.

---

4. Login into the newly imported Atomic Schemas. Perform the following steps on each Atomic Schema to modify the interdependent object:

Run the following query in each Atomic schema for verification of invalid object status:

```
select object_type, object_name from user_objects
where object_type in ('FUNCTION','PACKAGE','PACKAGE
BODY','PROCEDURE','TRIGGER','VIEW') and status = 'INVALID'
order by object_type , object_name;
```

If the above query list out the objects,

- a. Run the following anonymous block to compile invalid objects:

```
BEGIN

    FOR cur_rec IN ( select object_type, object_name from
user_objects

where object_type in ('FUNCTION','PACKAGE','PACKAGE
BODY','PROCEDURE','TRIGGER','VIEW') and status = 'INVALID'
order by object_type , object_name )

    LOOP

        BEGIN

IF cur_rec.object_type = 'PACKAGE BODY' THEN

                EXECUTE IMMEDIATE 'ALTER PACKAGE ' || ' "'
|| cur_rec.object_name || '" COMPILE BODY';

                COMMIT;

                ELSE

                EXECUTE IMMEDIATE 'ALTER ' ||
cur_rec.object_type || ' "' || cur_rec.object_name || '"
COMPILE';

                COMMIT;

        END IF;

    EXCEPTION

        WHEN OTHERS THEN NULL;

    END;
```



```
END LOOP;
```

```
END;
```

- b. Run the following scripts to enable object registration elements:

```
spool <Validpath>/restore_owner.log
```

```
alter table REV_TABLES_TL disable constraint  
FK_REV_TABLES_TL_1
```

```
/
```

```
alter table REV_TABLE_CLASS_ASSIGNMENT disable constraint  
FK_V_TABLE_CLASS_ASSIGNMENT_2
```

```
/
```

```
alter table REV_TAB_COLUMNS disable constraint  
FK_REV_TAB_COLUMNS_1
```

```
/
```

```
alter table REV_TABLE_LOG_CLASS_ASMNT disable constraint  
FK_V_TABLE_CLASS_LOG_ASMNT_2
```

```
/
```

```
alter table REV_TAB_CONSTRAINTS disable constraint  
FK_REV_TAB_CONSTRAINTS
```

```
/
```

```
alter table REV_TAB_CONSTRAINT_COLUMNS disable constraint  
FK_REV_TAB_CONST_COLUMNS
```

```
/
```

```
alter table REV_TAB_INDEXES disable constraint  
FK_REV_TAB_INDEXES
```

```
/
```

```
update FSI_DB_INFO set owner=USER
```

```
/
```

```
update REV_COLUMN_PROPERTIES set owner=USER
```

```
/
```

```
update REV_DESCRIPTION_TABLES set owner=USER ,  
DESCRIPTION_TABLE_OWNER=USER
```

```
/
```

```
update REV_TABLES_B set owner=USER
/
update REV_TABLES_TL set owner=USER
/
update REV_TABLE_CLASS_ASSIGNMENT set owner=USER
/
update REV_TAB_COLUMNS set owner=USER
/
update REV_TAB_COLUMNS_MLS set owner=USER
/
update REV_VIRTUAL_TABLES set owner=USER
/
update REV_VIRTUAL_TABLES_MLS set owner=USER
/
update REV_VIRTUAL_TABLES_TL set owner=USER
/
update REV_TAB_CONSTRAINTS set owner=USER
/
update REV_SYNONYMS set table_owner=USER
/
update REV_TABLE_LOG_CLASS_ASMNT set owner=USER
/
update REV_TAB_CONSTRAINT_COLUMNS set owner=USER
/
update REV_TAB_INDEXES set owner=USER
/
update REV_TAB_REF_CONSTRAINTS set owner=USER
/
alter table REV_TABLE_LOG_CLASS_ASMNT enable constraint
FK_V_TABLE_CLASS_LOG_ASMNT_2
```

```
/
alter table REV_TAB_CONSTRAINTS enable constraint
FK_REV_TAB_CONSTRAINTS
/
alter table REV_TAB_CONSTRAINT_COLUMNS enable constraint
FK_REV_TAB_CONST_COLUMNS
/
alter table REV_TAB_INDEXES enable constraint
FK_REV_TAB_INDEXES
/
alter table REV_TAB_COLUMNS enable constraint
FK_REV_TAB_COLUMNS_1
/
alter table REV_TABLE_CLASS_ASSIGNMENT enable constraint
FK_V_TABLE_CLASS_ASSIGNMENT_2
/
alter table REV_TABLES_TL enable constraint
FK_REV_TABLES_TL_1
/
commit
/
spool off
exit;
```



OFSAA  
OFSIFRS Cloning Reference Guide

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200  
[www.oracle.com/us/industries/financial-services/](http://www.oracle.com/us/industries/financial-services/)

Copyright © 2019 Oracle Financial Services Software Limited. All rights reserved.

No part of this work may be reproduced, stored in a retrieval system, adopted or transmitted in any form or by any means, electronic, mechanical, photographic, graphic, optic recording or otherwise, translated in any language or computer language, without the prior written permission of Oracle Financial Services Software Limited.

Due care has been taken to make this OFSAA Cloning Reference Guide and accompanying software package as accurate as possible. However, Oracle Financial Services Software Limited makes no representation or warranties with respect to the contents hereof and shall not be responsible for any loss or damage caused to the user by the direct or indirect use of this OFSAA Cloning Reference Guide and the accompanying Software System. Furthermore, Oracle Financial Services Software Limited reserves the right to alter, modify or otherwise change in any manner the content hereof, without obligation of Oracle Financial Services Software Limited to notify any person of such revision or changes.

All company and product names are trademarks of the respective companies with which they are associated.