HHS HR BizFlow Consolidated Interface Deployment Guide

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# Introduction

This project is composed of multiple interface batch jobs, such as the BITS Interface and the CapHR Interface. Each batch job is scheduled via the internal Spring Boot cron scheduler. The Cron schedule can be updated in the application.properties file.

The BITS Interface connects to a remote BITS PSC Locator database to import the appointee’s security clearance data into the HHS WHRSC database every morning.

The CapHR interface pulls the EHRP Reference/Job Requisition Data from the HHS common database into the HHS WHRSC database on daily basis.

This document describes how to deploy the consolidated interface to the HHS BizFlow HR system. It is assumed that there are 3 environments, DEV, QA and PROD for HHS BizFlow. The instructions for deployment for each environment will be the same except for configuration. Configuration should be done specifically for each target environment.

# Pre-requisites

1. Source and target database connection information
2. Java: JDK 1.7
   1. Confirm that the JAVA\_HOME system variable points to the correct JDK 1.7 path
3. Apache ANT version 1.9.1
   1. Confirm that the ANT\_HOME system variable points to the ANT path

# Development directory structure

The following directory capture will be delivered as part of the release of the system.

* whrsc-interface/src/main/java : Source code directory for interface
* whrsc-interface/src/main/resources : Resource directory for the interface which contains property files and shell scripts required to run the job
* whrsc-interface/lib : Library directory for dependency

## Root Directory Contents

The /whrsc-interface/ directory contains the build script, build.xml, required for building the source code with Apache Ant. The dependency jars will be copied into the generated executable jar file when the build script is run. A new executable jar for the interface application is created and will be stored in the /whrsc-interface/dist/ directory with the dependency jars. The root directory also stores a whrsc-interface.properties file which contains the JDK path.

## Source Code Directory Contents

The /whrsc-interface/src/main/java/ directory contains the java source code for running the interface batch job.

## Resources Directory Contents

The /whrsc-interface/src/main/resources/ directory contains the application.properties file which has configurable properties that need to be updated based on the target execution environment. The resources directory also has the shell scripts and manifest file used to execute the job.

## Library Directory Contents

The /whrsc-interface/lib/ directory contains the dependency jar files needed to run the application. These jar files will be copied onto the generated executable jar file when the code is compiled with Apache Ant.

## Logs Directory Contents

The <whrsc-interface\_installation\_dir>/logs/ directory will contain the whrsc-interface-yyyy-mm-dd.log file generated at runtime, which contains logging information for each time the code is executed.

# Methods of deployment file delivery

The following methods of deployment file delivery may be considered:

* USB drive to HHS team
* Upload to a designated ftp/sftp site in HHS network by authorized Deloitte team
* Upload from HHS issued laptop by authorized Deloitte team
* Download from the WHRSC-BizFlow GitHub site (https://github.com/HHS/WHRSC-BizFlow) by HHS personnel

## Development file location in GitHub

1. Log in to GitHub and navigate to the WHRSC-BizFlow repository
2. Review the README.md for the Consolidated Interface module
3. The database scripts are in the database folder under WHRSC-BizFlow Repository.

# Deployment Steps

## Database Deployment

Navigate to the database directory on GitHub. A DBA should perform the following steps using Oracle database client.

### Database Object Pre-requisites

* Confirm that the table, ERROR\_LOG, and stored procedure, SP\_ERROR\_LOG, exist in the WHRSC database schema.

If they do not exist then execute the following script using the HHS\_WHRSC\_HR user login:

WHRSC\_HR\_DB\_05\_create\_core\_table.sql

Then run the following script using the Oracle system user login:

WHRSC\_HR\_DB\_07\_grant\_permission\_core.sql

* Confirm that the tables required for the CapHR interface, exist in the WHRSC database schema.

If they do not exist then execute the following script using the HHS\_WHRSC\_HR user login:

WHRSC\_HR\_DB\_03\_create\_model\_objects.sql

Then run the following script using the Oracle system user login:

WHRSC\_HR\_DB\_04\_grant\_permission\_model.sql

* Using the Oracle system user login, execute the following script.

HHS\_HR\_DB\_CAPHR\_01\_table\_grants.sql

It will perform the following actions.

* Execute grants on the source tables for the CapHR interface
* Confirm that the table required for the BITS interface, exist in the WHRSC database schema.

If it does not exist then execute the following script using the HHS\_WHRSC\_HR user login:

WHRSC\_HR\_DB\_BITS\_01\_table\_ddl.sql

Then run the following script using the Oracle system user login:

WHRSC\_HR\_DB\_BITS\_01\_table\_permission.sql

### Create database package

Using the HHS\_WHRSC\_HR user login, execute the following scripts.

WHRSC\_HR\_DB\_CapHR\_01\_create\_pkg\_spec\_caphr\_data.sql

WHRSC\_HR\_DB\_CapHR\_02\_create\_pkg\_body\_caphr\_data.sql

They will perform the following actions.

* Create database package called CAPHR\_DATA\_PKS. Make sure the package spec is compiled before the package body.

### Grant Package Permissions

Using the Oracle system user login, execute the following scripts.

WHRSC\_HR\_DB\_CapHR\_03\_pkg\_permission.sql

It will perform the following actions.

* Execute grants on the database package

If there are any errors, run the following query:

SELECT \* FROM DBA\_ERRORS

WHERE OWNER = ‘HHS\_WHRSC\_HR’;

## Build Instruction

1. In the build machine, download the project repository files.
2. Open a command line, and change directory to whrscinterface directory.

cd whrscinterface

1. Using a text editor, open whrsc-interface.properties file, and modify the JDK location in the following property.

jdk.home.1.7=<full\_path\_to\_jdk\_home\_dir>

1. In the command line, run ANT build script commands.

ant package.exejar

1. Capture the generated executable JAR file, configuration files, and shell scripts to run the interface.

whrsc-interface/dist/application.properties

whrsc-interface/dist/whrsc-interface-<version>.jar

whrsc-interface/dist/logback.xml

whrsc-interface/dist/run-jar.sh

whrsc-interface/dist/start-whrsc-interface.sh

whrsc-interface/dist/stop-whrsc-interface.sh

## Deployment Instruction

1. Log in to the target environment server as the BizFlow service owner (or sudo).
2. Create a directory where the Interface batch will be installed. For example:

mkdir -p <server\_dir>/whrscinterface/

1. Copy the module JAR file, configuration files, and shell script files.

From (build machine): whrsc-interface/dist/\*

To (target environment): <server\_dir>/whrscinterface/

1. Make sure the run script has correct JAVA\_HOME environment variable set. Open and edit run-jar.sh script.

JAVA\_HOME=<path\_to\_java\_runtime\_home\_dir>

1. Configure the application properties. Open and edit application.properties file for the following entries. There are many other properties, but the following entries are essential.

#BITS Source database Configuration

source.datasource.url=jdbc:sqlserver://host:port;databaseName=database

source.datasource.username=username

source.datasource.password=password

#CapHR Source & Target database and BITS Target Configuration

#Batch Job history database configuration - Tables auto-generated by Spring Batch

target.datasource.url=jdbc:oracle:thin:@host:port/service name

target.datasource.username= username

target.datasource.password= password

#Cron Schedule of Jobs : <second> <minute> <hour> <day-of-month> <month> <day-of-week> <year> -- year is optional

bits.cron.sched=0 45 06 \* \* \*

caphr.cron.sched=0 40 06 \* \* \*

#Run Batch Jobs-true or false

run.bits.job=true

run.caphr.job=true

#Email Notification properties

emailid.from=user email

emailid.to=recipient emails

## Usage

The deployed module can be run on demand or as a stand alone application.

For UNIX environment, make the following shell scripts executable.

cd <server\_dir>/whrscinterface

chmod 744 run-jar.sh

chmod 744 start-whrsc-interface.sh

chmod 744 stop-whrsc-interface.sh

For on-demand run, execute the following shell script in command line.

./start-whrsc-interface.sh

To stop the on-demand run, execute the following shell script in command line.

./stop-whrsc-interface.sh

For regular usage in server environment, it is expected to be running as a background process. Therefore, there needs to be a crontab entry to start the jar and another to stop the jar before the server goes down at night. Also, comment out the entry for CapHR job.

crontab -e

#Consolidated WHRSC Interface Batch Job(BITS 6:35am, CapHR 6:35am)

35 06 \* \* \* /bin/sh /hrts/dev/whrscinterface/start-whrsc-interface.sh

40 23 \* \* \* /bin/sh /hrts/dev/whrscinterface/stop-whrsc-interface.sh

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