Database Administration (DBA) Migration Package Template

How to Use This Template

This template is used to identify the kinds of scripts that may be run during a Beta or Production database move of an application. Instructions within the template are *italicized* and should be removed before submitting the package.

The database developer must:

* Identify and write all scripts (except for CREATE USER and CREATE TABLESPACE) to set up the database objects needed for the application
* Determine the order in which the scripts must be run
* Provide full instructions and the expected outcome for each script:
	+ Include instructions where you want the DBA to “pause” and wait for the developer to verify the output
	+ Include instructions to turn on SERVEROUTPUT or SET SCAN OFF
* Ensure that data load/manipulation scripts contain:
	+ Proper documentation (PROMPT with expected counts)
	+ **No** COMMIT statements so that a rollback can be performed if necessary
	+ **No** SPOOL statements, spooling may be enabled by DBA to log migration
	+ **No** QUOTE MARKS around database object names
* Ensure that scripts are labeled appropriately and follow the proper syntax:
	+ Do not separate scripts into folders by schema name
	+ Use lower case and do not use special characters (except for underscore) or spaces
	+ Naming scripts:
		- Begin scripts with a number indicating the order in which they are to be run (01\_, 02\_, 03\_)
		- Include the schema name under which it is to be run
		- Include a brief description of what is in the file
		- Examples: 01\_fdm\_create\_tables.sql, 02\_essa\_create\_views.sql, 03\_fdm\_grant\_tables.sql
	+ Make sure that PL/SQL scripts end with a slash (/) and that each ddl ends with either a slash (/) or a semi-colon (;).
* Create one script for each Oracle executing schema and object type:
	+ One script for tables
	+ One for views
	+ One for constraints
	+ One for sequences
	+ One for indexes
	+ One for functions
	+ Triggers may be separated into individual scripts if large or placed in one
	+ Procedures may be separated into individual scripts if large or placed in one
	+ Packages may be separated into individual scripts if large or placed in one
	+ Grants may be separated into one script or included directly beneath the object (table, view, or sequence)

If your package contains a lot of scripts, you may choose to create a “master” for each type that runs the entire set. In this case, you should also separate the group of scripts into a sub-directory for easier review.

**Office of Technology & Information Services**

**[Schema Name]**

***DBA Migration package***

|  |  |
| --- | --- |
| Prepared By: | [Author’s Name] |
| Date: | [mm/dd/yyyy] |

|  |  |
| --- | --- |
| Responsible Analyst: | [Analyst Name] |
| Analyst Phone Number: | [Analyst Phone Number] |
| For Migration to: | [BETA or PRODUCTION] |

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# PROJECTED BETA AND PRODUCTION DATES

### **Approximate Date of move to Beta Testing**

Database scripts to be executed on: [mm/dd/yyyy or N/A]

### **Approximate Date of move to Production**

Database scripts to be executed on: [mm/dd/yyyy or N/A]

Changes affect existing production objects
and should be scheduled after hours: [Yes/No]

# LOCATION OF DATABASE SCRIPTS/FILES

*Document how you will provide the scripts for this migration package to the DBA section. If there are less than 10 scripts, you may attach them unzipped directly to an email. For more than 10 scripts you may either provide a link to a network directory containing the scripts or attach a zip file containing all scripts and files.*

Scripts are provided via (*remove the options that do not apply to your package*):

Directly Attached to Email

Zipped File

Network Link

# PHYSICAL DATABASE REQUIREMENTS

## Tablespace Requirements

*Complete this section only if this package is for:*

* *a setup of a new database schema,*
* *a request for the existing schema tablespaces to be increased in size, or;*
* *a request for a new tablespace for an existing schema*

### TRANSACTIONAL INSTANCES (bETA/PROD)

| **DISK SPACE REQUIRED** |
| --- |
| **Database Instance** | **Tablespace** | **Size** |
|  | **[SCHEMA NAME]**\_DATA | ### mb |
|  | **[SCHEMA NAME]**\_INDEX | ### mb |

### DATA WAREHOUSE INSTANCES (BETA/PROD)

| **DISK SPACE REQUIRED** |
| --- |
| **Database Instance** | **Tablespace** | **Size** |
|  |  **[SCHEMA NAME]\_SNAP**\_DATA | ### mb |
|  | **[SCHEMA NAME]\_SNAP**\_INDEX | ### mb |

## Application Accounts

### TRANSACTIONAL INSTANCES (BETA/PROD)

*Complete this section only if this package is for:*

* *a setup of a new database transactional schema, or;*
* *a request for a new database account to be used with an existing schema.*

| **APPLICATION ACCOUNTS** |
| --- |
| **Database Instance** | **Account / User** | **Description** | **Privilege(s)** | **Password** | **Granted Role** | **Profile** | **Default Role** |
|  | [SCHEMA NAME] | This account is the schema owner and should have all privileges on the requested tablespaces. | * ALL
 | N/A | N/A | N/A | N/A |
|  | [SCHEMA NAME]\_USER | This account is used for transactional application. | * CREATE SESSION
 |  |  | DEFAULT | ALL |

### DATA WAREHOUSE INSTANCES (BETA/PROD)

*Complete this section only if this package is for:*

* *a setup of a new data warehouse schema, or*
* *a request for a new database account to be used with an existing data warehouse schema*

| **APPLICATION ACCOUNTS** |
| --- |
| **Database Instance** | **Account / User** | **Description** | **Privilege(s)** | **Password** | **Granted Role** | **Profile** | **Default Role** |
|  | [SCHEMA NAME] | This account is the schema owner and should have all privileges on the requested tablespaces. | * ALL
 | N/A | N/A | N/A | N/A |
|  | [SCHEMA NAME]\_QUERY | This account is used for transactional application. | * CREATE SESSION
 |  |  | DEFAULT | ALL |

### OCULUS/GIS/ASP TRANSACTIONAL INSTANCES (BETA/PROD)

*Complete this section only if a new account is needed for a database link to Oculus, GIS, or other special DEP database instances*.

| **APPLICATION ACCOUNTS** |
| --- |
| **Database Instance** | **Account / User** | **Description** | **Privilege(s)** | **Password** | **Granted Role** | **Profile** | **Default Role** |
|  |  | This account is used for connecting via database link | * CREATE SESSION
 |  |  | DEFAULT | ALL |

## Database Links

*Include a script name in this section only if your application requires a database link to be created during this migration, otherwise note this section as “N/A” (not applicable). The database developer is responsible for writing the script to create the database link. If a new Oracle user account needs to be created to be used in the database link, include the new account in* [**Section 2 Application Accounts**](#_Application_Accounts)*. Please document the business reason for the new Oracle account. The Database Administration section will fill in the database password needed to complete the script. Best practice is to name the link in a generic manner to maintain application portability. For example, an acceptable link name for accessing GIS data may be @SDE or for accessing the data ware house may be @DOP.*

## Database Roles

*In the current DEP development environment database roles are rarely used. They are not needed for Java or PHP applications. Include the script name here if one is required for this package otherwise note this section as “N/A”*.

## Special Export or Backup

*If the DBA needs to perform any special export action or backup on the database schema before continuing, indicate the details in this section otherwise note this section as “N/A”.*

## Migration Package Scripts

*The following section includes the main scripts needed to complete the migration. Be sure to provide concise and complete instructions on how to run the scripts and the expected output.*

### Data Files

*Some migration packages include data or processing files that must be moved to the database server before continuing on with the actual package. If your package requires a move of files, provide the list of file names here; otherwise note “N/A” for this section.*

### Primary Migration Scripts

*Enter the information about each script that must be run to complete this package. The scripts must be listed in the order that they must be run and include any special instructions needed by the DBA to complete the task. Include the “order number” in the script name to ensure that the scripts are easily identifiable as the DBA works the list (example: 01\_fdm\_create\_tables.sql, 02\_fdm\_create\_views.sql, 03\_essa\_grants\_to\_fdm.sql).*

|  |  |  |
| --- | --- | --- |
| **Account to Run Script Under** | **Script Name** | **Special Instructions** |
| *EXAMPLES:**PA* | *01\_create\_tables.sql* | *This script will create tables and place database table/column comments.* |
| *FDM* | *02\_grant\_fdm\_to\_pa.sql* | *This script will place grants needed by future scripts.* |
| *PA* | *03\_update\_data.sql* | *This script will execute 3 statements that updates records. A PROMPT statement before each UPDATE gives the number of records to be updated. If the counts match, execute a COMMIT after this script is run. Stop and notify the developer – data needs to be validated before continuing with the rest of the scripts.* |
|  |  |  |
|  |  |  |

## DATA WAREHOUSE Materialized Views, Query Views

*In the following section, enter the information for creating any materialized views on DOPBETA/DOPPLER. When materialized views are created it is often a business requirement to place a corresponding view in the “Query” account (FDM\_QUERY, ESSA\_QUERY, etc.) If your package requires the DBA to include creation of views as part of the Materialized View script, please enter “Yes” next to each table that should include a view.*

*If existing materialized views are affected due to ALTER TABLE statements within this package, indicate the name of each materialized view that must be dropped and recreated and state whether or not indexes have been added or removed.*

|  |
| --- |
| **MATERIALIZED VIEW INFORMATION** |
| **Tables to be Snapped** | **Refresh Frequency** | **Create View in Query Account** | **Other Information** |
| * List each table individually
 | Daily, Weekly, Monthly, Quarterly, or Annually are all valid options. As a general rule of thumb we prefer to refresh code tables on a weekly basis unless there is a business reason which requires a more frequent refresh. | * Yes/No
 | Include instructions to create indexes as found on the parent table. The DBA section will run an Analyze All to apply statistics. |
| **EXISTING MATERIALIZED VIEW IMPACT** |
| **Existing MATERIALIZED VIEW** | **New Indexes** | **Removed Indexes** | **Other Information** |
| * List each snapshot individually
 | * Yes/No
 | * Yes/No
 | * Special Instructions
 |

## DATA WAREHOUSE Materialized View Grants

*When materialized views are created it is often a business requirement to place grants to other schemas. Please include a script containing all grants that need to be placed on the new materialized views listed in the preceding section. The DBA will transfer the grants to the appropriate materialized view script(s).*

## TRANSACTIONAL Cron Jobs

*Some migration packages include Unix jobs that are set up in the server crontab to run at a fixed time for the transactional database. If your package requires set up of cron jobs provide the relevant information below. You must include either the set of cron files for each job or reference the job that was set up in development.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Account to Run Cron Under** | **Run Frequency (daily, weekly, monthly, etc.) & Time of Day** | **Script Name** | **Special Instructions** |
|  |  |  |  |
|  |  |  |  |

## DATA WAREHOUSE Cron Jobs

*Some migration packages include Unix jobs that are set up in the server crontab to run at a fixed time for the data warehouse database. If your package requires set up of cron jobs provide the relevant information below. You must include either the set of cron files for each job or reference the job that was set up in development.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Account to Run Cron Under** | **Run Frequency (daily, weekly, monthly, etc.) & Time of Day** | **Script Name** | **Special Instructions** |
|  |  |  |  |
|  |  |  |  |

## Database Cleanup

*Enter any information (include script name(s) as appropriate) regarding all database cleanup requirements that must be completed at the end of all migration activities. Examples include checking for invalid objects, analyzing indexes and tables, running a script to drop temporary load tables, etc.*

|  |  |  |
| --- | --- | --- |
| **Account to Run Script Under** | **Script Name** | **Special Instructions** |
|  |  |  |
|  |  |  |
|  |  |  |