CHANGE PROCESS: FM DATABASES

## Overview

* **Application db change standards**
  + Security: Approved PROUCTION schemas are as follows:

|  |  |
| --- | --- |
| **Schema name** | **Purpose** |
| **EPS\_OWNER** | **Owns all objects used for FM data store objects, payment objects, and springbatch\*\* objects** |
| **EPS\_APP** | **Used by the application to log into the database and access the Eps\_owner schema.** |
| **EDGE\_OWNER** | **Owns all objects used by the Edge application** |
| **EDGE\_APP** | **Used by the Edge application to log on and access objects owned by the Edge owner Schema.** |

**\*\* needs validation with spring batch.**

* Grants
  + Grants for crud must point from owner schema to the app schema
  + Grants to public are forbidden
* App schemas will access the owner schemas with synonyms so no schema declaration will be required in front of the object.
* Changes to private schemas are allowed for private development testing for which there will be no app schema separation
* No script shall reference an object or column name more than 30 characters long (it will fail).
* Tables can only have number, date, and varchar, xml\_type, declarations (no timestamp declarations please)
  + Exceptions are made for third party applications for which Accenture cannot control development.
* Partitioning will be added by discussion between DBA/DA and implemented along with maintenance jobs by DBA
* Tablespaces and physical attributes will be added by DBA

**Deployment Steps to development:**

This checklist references all the checklists in general form.

|  |  |
| --- | --- |
| **Deployment Steps** | **Purpose** |
| Implementation Checklist | To help prepare the changes for deployment |
| Capacity Checklist | Initial estimate of capacity requirements |
| Outcome Review | Review how the implementation went |

**IMPLEMENTATION DOCUMENTATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Information Required on Change Document** | **PURPOSE** | **PERSON RESPONSIBLE** | **Reason for which attachment is not provided** |
| Scripts Being Implemented | What are the scripts being implemented in the implementation plan? | Ticket Sponsor |  |
| Implementation Plan | Provide all individuals with an activity framework for running the scripts | Ticket Sponsor |  |
| Rollback Plan | Provide the rollback steps | Ticket Sponsor |  |
| Impact Analysis of object changes | Let us know if we need an outage of some kind is required and at what level | DA/DBA/ Ticket Sponsor |  |
| Physical Attributes | Provide number of simultaneous users transacting for each tables and sequence | DA/DBA |  |

**CAPACITY and ONLINE IMPACT ANALYSIS CHECKLIST**

A Capacity and ONLINE Change Impact analysis is required to implement all changes so that we know the impact of the change at the time of deployment and impact requirements with future growth.

|  |  |  |  |
| --- | --- | --- | --- |
| Capacity Analysis of new Connections required and Data Growth | Tell us the impact on capacity for either short and/or long term | DA/DBA/Ticket Sponsor/Middleware Team/Developer |  |
| Can the change be done online | What outages are required for the implementation of the change. Is it a full application outage, the stopping of a batch job, or can the change be done without issue. |  |  |

**Implementation Outcome**

Having the necessary documentation is mandatory. The next question is whether or not it’s correct and accurate. After implementation, review is performed and provided back to the development group.

Implementation Review

|  |  |  |  |
| --- | --- | --- | --- |
| **Post implementation Review** | **Accurate Yes/No** | **Next Steps if issues found** | **Person who will mitigate issue** |
| Implemented Scripts worked without issues |  |  |  |
| Does the rollback plan fully rollback all steps of the implementation plan? |  |  |  |
| Do all scripts exist and are accounted for with the implementation and rollback plans?  Are all the areas of I/O properly represented in terms of resource planning? |  |  |  |
| Is the Capacity Analysis accurate?  Is the SQL being used “resource friendly” to other sessions and database resource capacity?  Will there impact to the application when change is done (if online)?  Do we need more CPU  Do we need more Memory  Do we need more Disks? |  |  |  |

CHANGE DOCUMENTATION

## Target Database in HP EPS\_OWNER schema

SCRIPTS ARE IN GITHUB:

[**https://github.cms.gov/FFM-FM-Dev/fm-epm/tree/release/epm-26.0/dbscripts/EPM\_26.0.0**](https://github.cms.gov/FFM-FM-Dev/fm-epm/tree/release/epm-26.0/dbscripts/EPM_26.0.0)

Ensure APP SCHEMAS HAVE CREATE SESSION AND CREATE SYNONYM. IF NOT, CREATE THE USER AND GRANT CREATE SESSION AND CREATE SYNONYM.

Ensure OWNER SCHEMAS have create session, create table, create sequence, create type, create procedure, create package, create table.

* Ensure target schema has quotas for tablespaces fm\_data\_trans, fm\_data\_ref, fm\_index\_trans,fm\_data\_lob, fm\_index\_ref.

**Stage scripts on directory with access to execute sql generating sql.**

* epm\_1.01.51\_ddl\_patch.sql

**RUN- Implement scripts logged on as EPS\_OWNER**

START epm\_1.01.51\_ddl\_patch.sql

## Rollback Plan

* Flashback to before run.
* All scripts are re-runnable

## Outcome Review (filled out by APP DBA Group EXECUTING SCRIPTS)

|  |  |  |  |
| --- | --- | --- | --- |
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| Implemented Scripts worked without issues |  |  |  |
| Does the rollback plan fully rollback all steps of the implementation plan? |  |  |  |
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| Is the Capacity Analysis accurate?  Is the SQL being used “resource friendly” to other sessions and database resource capacity?  Will there impact to the application when change is done (if online)?  Do we need more CPU  Do we need more Memory  Do we need more Disks? |  |  |  |