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| EPAM Systems, RD Dep.  MTN.\*NIX.07 Oracle DB. Introduction to DWH |
| MTN.\*NIX.07 Labs - Dimension and Facts Basics |

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# Prerequisites Task

## Passwords Index

|  |  |  |
| --- | --- | --- |
| Password Group | Login Name | Password |
| Operation System | root | “rootadmin” |
|  | oracle | “oracleadmin” |
|  |  |  |
| Oracle System | sys | “sysadmin” |
|  | system | “sysadmin” |
|  |  |  |
| Oracle Users | All DB users | “%PWD%” |
|  |  |  |
|  |  |  |

## Folder Paths Index

|  |  |  |
| --- | --- | --- |
| Path Group | Path Description | Path |
| Operation System | Oracle RDBMS – BIN | /oracle/app/oracle |
|  | Oracle Inventory | /oracle/app/oraInventory |
|  | Oracle Database Storage | /oracle/oradata |
|  | Oracle Install Directory | /oracle/install |
| Oracle | ORACLE\_BASE | /oracle/app/oracle |
|  | ORACLE\_HOME | $ORACLE\_BASE/product/11.2 |
|  |  |  |
| FTP | ftp Incoming Folder | **/ftp/incoming** |
|  |  |  |
|  |  |  |

# Create and populate Dimension of TIME DW – Layer

**Notes:**

To Populate Time dims use External Resources:

|  |  |
| --- | --- |
| File Name | Path |
| Calendars.sql | … \Topic 07 - Dimension and Facts Basics\LabScripts\ |

## Task 01: CREATE DW.T\_DAYS

**The Main Task** is to create Physical diagram and Objects on DW layer:

**Task Results:**

Create document, which contained next chapters:

* + Physical diagram store on GIT
  + Links to Scripts on GIT

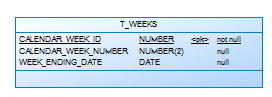
## Task 02: CREATE DW.T\_WEEKS

**The Main Task** is to create Physical diagram and Objects on DW layer:

**Task Results:**

Create document, which contained next chapters:

* + Physical diagram store on GIT



* + Links to Scripts on GIT

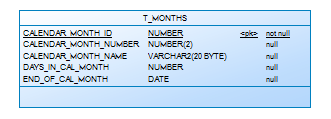
## Task 03: CREATE DW.T\_MONTHS

**The Main Task** is to create Physical diagram and Objects on DW layer:

**Task Results:**

Create document, which contained next chapters:

* + Physical diagram store on GIT



* + Links to Scripts on GIT

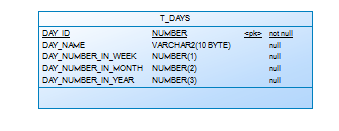
## Task 04: CREATE DW.T\_QUARTERS

**The Main Task** is to create Physical diagram and Objects on DW layer:

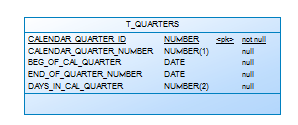
**Task Results:**

Create document, which contained next chapters:

* + Physical diagram store on GIT



* + Links to Scripts on GIT



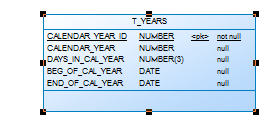
## Task 05: CREATE DW.T\_YEARS

**The Main Task** is to create Physical diagram and Objects on DW layer:

**Task Results:**

Create document, which contained next chapters:

* + Physical diagram store on GIT



* + Links to Scripts on GIT

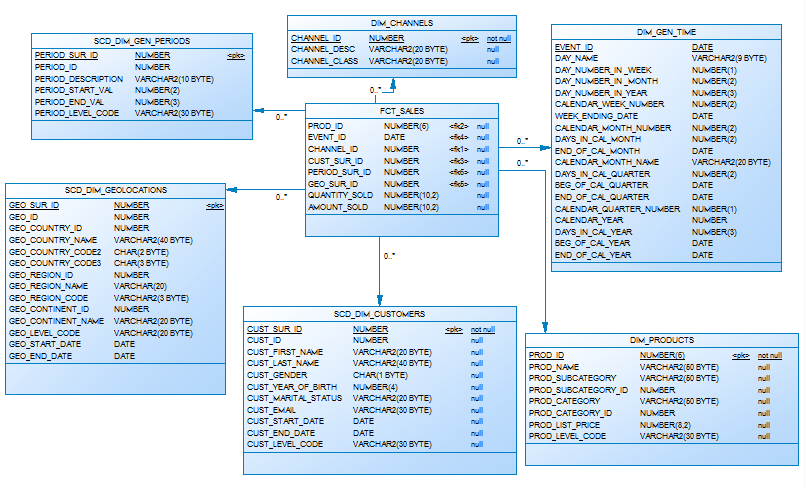
# OLAP – Business analyses task

## Task 06 – Solution concept – Add: Chapter Dimensions Types

**The Main Task** is to create summary table to describe all future STAR Dimensions:

Next points are mandatory:

* Start scheme must use no less one of SCD type 2 Dimension
* Start scheme must use prepared dimensions: DIM\_TIME, DIM\_GEO\_LOCATIONS
* Start scheme must use one of period dimensions: DIM\_GEN\_PERIODS



**Task Results:**

Create document, which contained next chapters:

* + Chapter: Dimensions Types Description

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Type | Size | DW – Merged Dimensions | Descriptions |
| DIM\_GEN\_TIME | SCD1 | BIG | DW.T\_DAYS, DW.T\_WEEKS, DW.T\_MONTHS, DW.T\_QUARTERS,  DW.T\_YEARS | Dimension describe time parameters of the business |
| SCD\_DIM\_GEOLOCATIONS | SCD2 | SMALL | DW.T\_COUNTRIES  DW.T\_CNTR\_GROUPS  DW.T\_CNTR\_SUB\_GROUPS  DW.LC\_CNTR\_GROUPS  DW.T\_GEO\_TYPES  DW.T\_GEO\_SYSTEMS  DW.LC\_GEO\_SYSTEMS  DW.T\_GEO\_PARTS  DW.T\_GEO\_REGIONS  DW.T\_GEO\_OBJECTS  DW.T\_CNTR\_GROUP\_SYSTEMS  DW. LC\_CNTR\_GROUP\_SYSTEMS  DW.LC\_CNTR\_SUB\_GROUPS  DW.LC\_ GEO\_PARTS  DW.LC\_COUNTRIES  DW.LC\_ GEO\_REGIONS | Describe locations of sales |
| SCD\_DIM\_CUSTOMERS | SCD2 | BIG | DW.T\_CUSTOMERS  DW.T\_GENDER  DW.T\_MARITAL\_STATUS  DW.T\_EMAIL | Describes customers |
| DIM\_CHANNELS | SCD1 | SMALL | DW.T\_CHANNEL\_DESC  DW.T\_CHANNEL\_CLASS | Describe channels of sales |
| SCD\_DIM\_GEN\_PERIOD | SCD2 | SMALL | DW.T\_PERIOD\_DESC  DW.T\_PER\_START  DW.T\_PER\_END  DW.T\_LEVEL\_CODE | Describe age period of customers. |
| DIM\_PRODUCTS | SCD1 | BIG | DW.T\_PRODUCT\_DESC  DW.T\_PROD\_SUBCAT  DW.T\_PROD\_CAT | Describe products of the company |

## Task 07 – Solution concept – Add: Chapter Dimensions Hierarchies

**The Main Task** is to create summary table to describe all future STAR Dimensions Hierarchies:

Next points are mandatory:

* Start scheme must use no less one of SCD type 2 Dimension
* Start scheme must use prepared dimensions: DIM\_TIME, DIM\_GEO\_LOCATIONS
* Start scheme must use one of period dimensions: DIM\_GEN\_PERIODS

**Task Results:**

Create document, which contained next chapters:

* + Chapter: Dimensions Hierarchies

**DIM\_GEN\_TIME:**

**DIM\_GEN\_TIME:**

**Hierarchy DAY-WEEK-MONTH-YEAR**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | LEVEL\_CODE | LEVEL\_DESC | LEVEL\_NATURAL\_KEY |
| DAYs | DAY | Store day at the calendar | DAY\_ID |
| WEEKs | WEEK | Store weeks at the calendar year | WEEK\_ID |
| MONTHs | MONTH | Store months at the calendar year | MONTH\_ID |
| YEARs | YEAR | Store years at the calendar year | YEAR\_ID |
|  |  |  |  |

**Hierarchy DAY--MONTH- QUARTER -YEAR**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | LEVEL\_CODE | LEVEL\_DESC | LEVEL\_NATURAL\_KEY |
| DAYs | DAY | Store day at the calendar year | DAY\_ID |
| MONTHSs | MONTH | Store months at the calendar year | WEEK\_ID |
| QUARTERs | QUARTER | Store quarters at the calendar year | QUARTER\_ID |
| YEARs | YEAR | Store years at the calendar year | YEAR\_ID |
|  |  |  |  |

**DIM\_PRODUCTS:**

**Hierarchy PRODUCTS –-SUBCATEGORY-- CATEGORY**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | LEVEL\_CODE | LEVEL\_DESC | LEVEL\_NATURAL\_KEY |
| PRODUCTS | PROD\_NAME | Store products for each category. | PROD\_ID |
| SUBCATEGORIES | PROD\_SUBCATEGORY | Store product subcategories for each category. | PROD\_SUBCATEGORY\_ID |
| CATEGORIES | PROD\_CATEGORY | Store product categories. | PROD\_CATEGORY\_ID |
|  |  |  |  |

**DIM\_GEO LOCATIONS:**

**Hierarchy COUNTRY –-SUBREGION--REGION**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | LEVEL\_CODE | LEVEL\_DESC | LEVEL\_NATURAL\_KEY |
| COUNTRIES | COUNTRY\_NAME | Store countries for each region. | COUNTRY\_ID |
| SUBREGIONS | COUNTRY\_SUBREGION | Store sub regions for each region. | COUNTRY\_SUBREGION\_ID |
| REGIONS | COUNTRY\_REGION | Store regions of the world. | COUNTRY\_REGION\_ID |
|  |  |  |  |

## Task 08 – Solution concept – Add: Chapter Facts Aggregations

**The Main Task** is to create summary table to describe all future STAR Fact Table Aggregations:

Next points are mandatory:

* Create more than one measurement
  + Summarize aggregation
  + Additional task: Not Additive measurement

**Task Results:**

Create document, which contained next chapters:

* + Chapter: Facts Aggregations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Code | Table Name | Additive | Descriptions |
| Counts amount sold products | AMOUNT\_SOLD | FCT\_SALES | + | Calculate distinct values of Sales for the event period. |
| Counts quantity sold products | QUANTITY\_SOLD | FCT\_SALES | + | Calculate values of Products for the event period. |