

Oracle HCM Data Model Training

Agenda

- Overview of Oracle HCM Table Types
- Data Model and Reporting in Oracle Fusion
- BI Roles
- Core HCM Tables
- Core Absence Tables
- Core Payroll Tables

Overview of Oracle HCM Table Types

- **Type of Tables in Oracle HCM**

- **1. Base Table**

- Stores the core data for HCM object.

- **2. Translation Table**

- Stores the name or description from the base table in multiple languages.
- **Identification:** Table name ends with **_TL**.

- **3. Date Effective Table**

- Contains transactional data for all periods: history, present, and future.
- Does not allow date breaks; new records start immediately after the previous ends.
- **Identification:** Table name ends with **_F** and has primary keys:
 - Effective_start_date
 - Effective_end_date.

Overview of Oracle HCM Table Types

- **4. Data Tracked Table**
- Similar to date-effective tables but allows breaks between records.
- **Identification:** Contains columns:
 - Date_from
 - Date_to.

- **5. Audit Table**
- Stores audit records for objects and tracks every transaction.
- Requires audit to be enabled in Fusion application.
- **Identification:** Table name ends with _.

Overview of Oracle HCM Table Types

- **Type of Views**
 - **1. Present Day Data with User Language defaulted**
 - Displays data as of today in the user's login language.
 - **Identification:** Table name ends with **_VL** or does not end with **F_VL**.
 - **2. All Ranges with User Language defaulted**
 - Displays name and description in the user's login language for all date ranges.
 - **Identification:** Table name ends with **F_VL**.
 - **3. Secured Views**
 - Data security is applied on data by default based on user roles and data access.
 - **Identification:** Contains **SECURED_LIST**.

Data Model and Reporting in Oracle Fusion

- **1. Data Model**
- The **Data Model** defines the structure and source of the data for your report.
- It includes:
 - **Data Sets:** SQL queries to fetch data.
 - **Parameters:** User inputs for filtering (e.g., date range, employee ID).
 - **Bursting:** Rules for splitting and delivering reports to multiple recipients.
- **2. Report (Layout)**
- The **Report** defines how the data is presented to the user.
- It includes:
 - **Layouts:** Created using RTF (Word), Excel, eText and XSL templates
 - **Formatting:** Charts, tables, conditional formatting, and branding.
 - **Multiple Layouts:** A single data model can have multiple layouts for different audiences.
- BI Publisher allows exporting reports in formats like PDF, Excel, CSV, and scheduling them for delivery

Data Model and Reporting in Oracle Fusion

- Data Model:
- Parameter:
- Adding parameters to your data model enables users to interact with data when they submit or view reports.
- To Add Parameters you need to add “:” at start:
- e.g. :P_PERSONNUMBER

Data Model and Reporting in Oracle Fusion

- Type of Parameters:
- Text - enter a text entry to pass as the parameter.
- Menu - pass parameters by making selections from a list of values. This option supports multiple selections, a "Select All" option, and partial page refresh for cascading parameters. Define the properties for the list of values in the report definition. A list of values can contain fixed data that you specify or the list can be created via a SQL query executed against any of the defined data sources.
- To create a menu type parameter, define the list of values first; then define the parameter and associate it to the list of values
- If the menu list is very long, consider using the Search type parameter.
- Date - enter a date as a parameter. Note that the data type must also be "Date" and the format must be Java date format.
- Search - use the search parameter type to enable your users to search for the parameter value from a defined list. Define the list of values first; then define the parameter and associate it to the list of values.

Data Model and Reporting in Oracle Fusion

- List of values:
- Fixed:
- Manually entered label/value pairs, useful for static lists.
- SQL:
 - Retrieves dynamic values from the database.
 - Uses SQL to display LOV values.
 - Columns Sequence matter in SQL query, you can pass upto 2 columns in Select clause, 1st column will be displayed on LOV of Data model, 2nd columns value will be passed into the data model.

Data Model and Reporting in Oracle Fusion

Bursting:

A bursting definition is a component of the data model. After you have defined the data sets for the data model, you can set up one or more bursting definitions. When you set up a bursting definition, you define the following:

The **Split By** element is an element from the data that governs how the data is split. For example, to split a batch of invoices by each invoice, you may use an element called CUSTOMER_ID. The data set must be sorted or grouped by this element.

The **Deliver By** element is the element from the data that governs how formatting and delivery options are applied. In the invoice example, it is likely that each invoice has delivery criteria determined by customer; therefore, the Deliver By element would also be CUSTOMER_ID.

The **Delivery Query** is a SQL query that you define for BI Publisher to construct the delivery XML data file. The query must return the formatting and delivery details.

Data Model and Reporting in Oracle Fusion

Types of Bursting:

1. Email

Used to send data to Email

Format:

PARAMETER1: Email address

PARAMETER2: cc

PARAMETER3: From

PARAMETER4: Subject

PARAMETER5: Message body

PARAMETER6: Attachment value ('true' or 'false'). If your output format is PDF, you must set this parameter to "true" to attach the PDF to the e-mail.

PARAMETER7: Reply-To

PARAMETER8: Bcc (PARAMETER 9-10 are not used)

Data Model and Reporting in Oracle Fusion

Types of Bursting:

2. FTP/SFTP

Used to send Data to FTP or SFTP server

Prerequisites : FTP/SFTP details needs to be setup on BI administer for Delivery method

Format:

PARAMETER1: Server name

PARAMETER2: Username (Pass only when you want to override the credentials attached to server)

PARAMETER3: Password (Pass only when you want to override the credentials attached to server)

PARAMETER4: Remote Directory

PARAMETER5: Remote File Name

PARAMETER6: Secure (set this value to 'true' to enable Secure FTP)

(PARAMETER 7-10 are not used)

Data Model and Reporting in Oracle Fusion

Types of Bursting:

3. Oracle Content Server

Send files to Oracle SAAS content server

Format:

PARAMETER1: Server Name

PARAMETER2: Security Group

PARAMETER3: Author

PARAMETER4: Account (Optional)

PARAMETER5: Title

PARAMETER6: Primary File (or File Name)

PARAMETER7: Comments (Optional)

PARAMETER8: Content ID (Optional. Content ID must be unique.)

PARAMETER9: Custom Metadata

Data Model and Reporting in Oracle Fusion

Encryption in FTP/SFTP bursting:

While bursting the Data, it give option to encrypt you data.

Using PGP keys you can encrypt the Data, the Public key needs to be uploaded on the Oracle Fusion BI Administration. The same PGP key need to be attached to the server to encrypt the data.

BI Roles for reporting

1. BI Consumer Role

Purpose: For end-users who only need to **view and run reports**.

Capabilities:

Access pre-built reports and dashboards.

Run reports with parameters and export results (PDF, Excel, etc.).

Cannot create or modify data models or layouts.

Typical Users: HR managers, payroll clerks, business users.

2. BI Author Role

Purpose: For users who need to **create and customize reports**.

Capabilities:

Create new reports using existing **data models**.

Design layouts (RTF, Excel, HTML) and apply formatting.

Schedule reports and set delivery options.

Cannot create new data models from scratch (limited to report design).

Typical Users: Reporting specialists, HR analysts.

BI Roles and Responsibilities

3. BI Administrator Role

Purpose: Full control over **BI Publisher configuration and security.**

Capabilities:

Create and manage **data models.**

Define **data sources**, bursting rules, and security policies.

Manage roles, permissions, and report catalog structure.

Monitor performance and troubleshoot BI issues.

Typical Users: System administrators, technical consultants.

BI Roles and Responsibilities

Folder Security:

Folder security in Oracle BI Publisher controls access via roles and permissions set in the Security Console and the BI Catalog, typically by creating custom roles, assigning them to folders (Shared Folders > [Your Folder] > Permissions), and granting specific access levels (Read, Write, Delete) to users or roles, often removing default roles like BI Consumer for restricted folders. The key steps involve defining roles, assigning permissions at the folder/subfolder level, and ensuring inheritance for items within.

Core HCM Tables

1. PER_LOCATION

Stores information about physical locations such as work sites or offices, including address details.
Used for assigning locations to organizations, positions, or employees.

2. PER_JOBS_F

Contains job definitions and related attributes like job code and description.
Supports effective dating for job changes over time.

3. PER_GRADES_F

Holds grade structures that define compensation levels or classifications.
Includes effective dates for grade validity.

4. PER_GRADE_STEPS_F

Stores grade step details within a grade, often used for incremental pay progression.
Includes step number, value, and effective dates.

5. HR_ALL_ORGANIZATION_UNITS_F

Maintains organizational hierarchy details such as departments and business units.
Includes effective dates for organizational changes.

Core HCM Tables

6. HR_ALL_POSITIONS_F

Contains position details like position name, number, and reporting relationships.
Supports effective dating for position lifecycle management.

7. PER_USERS

Stores user account information linked to HCM employees or contingent workers.
Includes login credentials and user status.

8. PER_PERSON

Captures basic person information such as date of birth.
Acts as a core entity for linking to other person-related tables.

9. PER_ALL_PEOPLE_F

Maintains primary key for person.
Supports effective dating for changes in person attributes.

10. PER_PERSON_NAMES_F

Stores multiple name formats for a person (e.g., legal, preferred).
Includes effective dates for name changes.

Core HCM Tables

11. PER_ALL_ASSIGNMENTS_F

Contains assignment details like job, position, and location for a person.
Supports effective dating for assignment changes.

12. PER_PERIODS_OF_SERVICE

Tracks employment periods for a person, including hire and termination dates.
Used for calculating service length and eligibility

Core Absence Tables

1. ANC_ABSENCE_TYPES_F

Stores definitions of absence types (e.g., Sick Leave, Vacation).
Includes effective dates and configuration details for each type.

2. ANC_ABSENCE_TYPE_PLANS_F

Links absence types to absence plans (e.g., Paid Time Off plan).
Defines eligibility and accrual rules for plans.

3. ANC_ABSENCE_TYPE_REASONS_F

Maintains reasons associated with absence types (e.g., Medical, Personal).
Used for categorizing absence entries for reporting.

4. ANC_PER_ABS_ENTRIES

Captures individual absence entries for employees.
Includes start/end dates, type, and approval status.

Core Absence Tables

5. **ANC_PER_ABS_PLAN_ENTRIES**

Stores employee-specific absence plan enrolment details.
Tracks balances and accruals for each plan.

6. **ANC_PER_ABS_MATERNITY**

Holds maternity-related absence information for employees.
Includes leave duration and compliance details.

Core Payroll Tables

1. CMP_SALARY

Stores salary details for employees, including amount and currency.
Used for compensation management and payroll processing.

2. PAY_PAY_RELATIONSHIPS_DN

Maintains payroll relationship details between a person and a payroll.
Links employees to payrolls for calculation and processing.

3. PAY_REL_GROUPS_DN

Contains payroll relationship groupings for batch processing with Assignment details.
Used to organize employees for payroll runs and reporting.

4. PAY_ELEMENT_ENTRIES_F

Stores element entries assigned to employees, such as earnings or deductions.
Includes effective dates for element applicability.

Core Payroll Tables

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Stores element entries assigned to employees, such as earnings or deductions.
Includes effective dates for element applicability.

5. PAY_INPUT_VALUES_F

Defines input values for payroll elements (e.g., hours, rate).
Used to calculate payroll element amounts.

6. PAY_ELEMENT_ENTRY_VALUES_F

Holds actual values entered for element entries per employee.
Links input values to specific element entries.

7. PAY_RUN_RESULTS

Stores results of payroll runs for each employee and element.
Includes calculated amounts for earnings, deductions, and taxes.

Core Payroll Tables

8. PAY_RUN_RESULT_VALUES

Contains detailed values for each payroll run result.
Breaks down calculations for reporting and auditing.

9. PAY_RUN_BALANCES

Maintains balance information for payroll balance.
Used for compliance, reporting, and cumulative calculations.

10. PAY_PAYROLL_ACTIONS

This table contains general details of the execution of payroll processes, including their type and all parameters supplied to them.

11. PAY_PAYROLL_REL_ACTIONS

This table contains details of the individuals processed in a payroll process.
Used to create link to get payroll process for individual person.

Core Payroll Tables

Methods to Get Balance Data using package

Using Dimension – Less Efficient

```
TABLE(pay_balance_view_pkg.get_balance_dimensions( p_balance_type_id => "Pass Balance Type ID",  
p_payroll_rel_action_id => "Pass Payroll_rel_action_id from PAY_PAYROLL_REL_ACTIONS  
", p_payroll_term_id => NULL, p_payroll_assignment_id => "Pass PARENT_REL_GROUP_ID from  
PAY_REL_GROUPS_DN"))
```

Using Balance Group – Efficient (Pre –requisites – need balance group setup in Application)

```
TABLE ( pay_balance_view_pkg.get_balance_matrix ( p_balance_group_usage_id => "Pass balance usage group id  
from PAY_BAL_GRP_USAGES" ,p_payroll_rel_action_id => "Pass PARENT_REL_GROUP_ID from  
PAY_REL_GROUPS_DN"))
```

Thanks!

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