### **TEMA: L2. Arhitectura sistemului federativ de integrare [FDB Oracle]**

### Indicativ\_echipa: **SIA\_11**

### **IMPLEMENTARE ACCESS** surse de date externe

Descrieți modul de access pentru fiecare sursă în parte într-un fișier sintetic trimis la adresa linus@uaic.ro (adăugați în mesaj toate celelalte fișierele de implementare necesare):

* **DS\_1**: Car\_Category (XML View)
  + Format/Tip de access [ XML]
  + Implementare acces la sursa de date externă în schema de integrare/mediere:
    - descriere mecanism de access (XML External Data)
    - definiție structură de access: view local
      * Implementare comenzi SQL + alte\_comenzi\_setari\_necesare:

CREATE OR REPLACE DIRECTORY ext\_file\_ds AS 'D:\master-an2 sem2\Integrare informationala\Surse de date';

GRANT ALL ON DIRECTORY ext\_file\_ds TO PUBLIC;

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-- VIEWS from EXTERNAL FILE ----------------------------------------------------

CREATE OR REPLACE VIEW car\_category\_view AS

select x.Category\_ID, x.Label, x.Car\_Description

from XMLTABLE(

'/Car\_Category/Category'

passing xmltype(

bfilename('EXT\_FILE\_DS', 'Car\_Category.xml')

, nls\_charset\_id('AL32UTF8')

)

columns

Category\_ID integer path 'Category\_ID'

, Label varchar2(50) path 'Label'

, Car\_Description varchar2(200) path 'Car\_Description'

) x;

SELECT \* FROM car\_category\_view;

* **DS\_2** Cars
  + Format/Tip de access [ CSV]
  + Implementare acces la sursa de date externă în schema de integrare/mediere:
    - descriere mecanism de access (Oracle\_Loader)
    - definiție structură de access: tabela locala
      * Implementare comenzi SQL + alte\_comenzi\_setari\_necesare:

DROP TABLE Cars;

CREATE TABLE Cars (

Car\_ID int,

Brand varchar(50),

Model varchar(50),

Color varchar(50),

Purchase\_Date date,

Category\_ID int)

ORGANIZATION EXTERNAL (

TYPE ORACLE\_LOADER

DEFAULT DIRECTORY ext\_file\_ds

ACCESS PARAMETERS (

RECORDS DELIMITED BY NEWLINE SKIP 1

FIELDS TERMINATED BY ','

MISSING FIELD VALUES ARE NULL

(

Car\_ID,

Brand,

Model,

Color,

Purchase\_Date CHAR(10) DATE\_FORMAT DATE MASK "MM/DD/YYYY",

Category\_ID

)

)

LOCATION ('Cars.csv')

)

REJECT LIMIT UNLIMITED;

SELECT \* FROM Cars;

* **DS\_3** Curtomers (EXCEL TABLE VIEW)
  + Format/Tip de access [XLSX]
  + Implementare acces la sursa de date externă în schema de integrare/mediere:
    - descriere mecanism de access (ExcelTable Library)
    - definiție structură de access: view local
      * Implementare comenzi SQL + alte\_comenzi\_setari\_necesare:

DROP VIEW customers\_view;

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CREATE OR REPLACE VIEW customers\_view AS

select t.\*

from TABLE(

ExcelTable.getRows(

ExcelTable.getFile('EXT\_FILE\_DS','Customers.xlsx')

, 'Customers'

, '"Customer\_ID" number,

"SSN" number,

"First\_Name" varchar2(50),

"Last\_Name" varchar2(50),

"Email" varchar2(50),

"Mobile\_phone" varchar2(50),

"State" varchar2(50),

"Country" varchar2(50)'

, 'A2')

) t;

SELECT \* FROM customers\_view;

* **DS\_4** Location (EXCEL TABLE VIEW)
  + Format/Tip de access [XLSX]
  + Implementare acces la sursa de date externă în schema de integrare/mediere:
    - descriere mecanism de access (XML External Data)
    - definiție structură de access: view local
      * Implementare comenzi SQL + alte\_comenzi\_setari\_necesare:

DROP VIEW location\_view;

---

CREATE OR REPLACE VIEW location\_view AS

select t.\*

from TABLE(

ExcelTable.getRows(

ExcelTable.getFile('EXT\_FILE\_DS','Location.xlsx')

, 'Location'

, '"Location\_ID" number,

"Street" varchar2(50),

"Street\_Number" number,

"City" varchar2(50),

"State" varchar2(50),

"Country" varchar2(50)'

, 'A2')

) t;

SELECT \* FROM location\_view;

* **DS\_5** Location\_Phone\_Number (JSON View)
  + Format/Tip de access [JSON]
  + Implementare acces la sursa de date externă în schema de integrare/mediere:
    - descriere mecanism de access (JSON External Data)
    - definiție structură de access: view local
      * Implementare comenzi SQL + alte\_comenzi\_setari\_necesare:

CREATE OR REPLACE VIEW location\_phone\_number\_view AS

with json as

(select JSON\_QUERY(get\_external\_data('EXT\_FILE\_DS','Location\_Phone\_Number.json'), '$.Location\_Phone\_Numbers.Location\_Phone\_Number') doc from dual)

SELECT Phone\_ID , Phone\_Number, Location\_ID

FROM JSON\_TABLE( (select doc from json) , '$[\*]'

COLUMNS ( Phone\_ID PATH '$.Phone\_ID'

, Phone\_Number PATH '$.Phone\_Number'

, Location\_ID PATH '$.Location\_ID'

)

);

SELECT \* FROM location\_phone\_number\_view;

* **DS\_6** Rentals
  + Format/Tip de access [ SQL]
  + Implementare acces la sursa de date externă în schema de integrare/mediere:
    - descriere mecanism de access (Oracle DB Link)
    - definiție structură de access: view local
      * Implementare comenzi SQL + alte\_comenzi\_setari\_necesare:

--- Oracle DB Link to Oracle Database Schema

ROLLBACK;

ALTER SESSION CLOSE DATABASE LINK CarRental;

DROP DATABASE LINK CarRental;

CREATE DATABASE LINK CarRental

CONNECT TO CarRental IDENTIFIED BY CarRental

USING '//localhost:1521/ORCL';

select \* from user\_db\_links;

--- Check DB\_LINK

select \* from user\_tables@CarRental;

select \* from Rentals@CarRental;

--- Create views on remote tables

DROP VIEW rentals\_view;

CREATE OR REPLACE VIEW rentals\_view AS

SELECT Reservation\_ID, Amount, Pick\_up\_date, Return\_date, Car\_ID, Customer\_ID, Pick\_up\_location, Return\_location

FROM Rentals@CarRental;

SELECT \* FROM rentals\_view;