



# Jednostavno dokumentiranje složenih mapiranja pomoću Mapper aplikacije

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- Što je Mapper aplikacija?
- Kako i zašto koristiti Mapper?
- Pregled sučelja i funkcionalnosti aplikacije
- DEMO prikaz korištenja aplikacije
- Način spremanja podataka
- Dodana vrijednost
  - sljedivost podataka
  - konzistencija tipova podataka
  - propagiranje promjena
  - reporting

# Što je Mapper?



- aplikacija razvijena u Oracle Application Express-u (APEX)
- jednostavna aplikacija za dokumentiranje mapiranja
- omogućuje:
  - import modela izvora i targeta
  - kreiranje i ažuriranje mapiranja do nivoa atributa
  - validaciju mapiranja (konzistencija tipova podataka, pokrivenost entiteta/atributa)

# Kako koristiti Mapper?



- pristup preko bilo kojeg web browsera
- preuvjeti:
  - Oracle baza podataka (repozitorij)
  - APEX 4.0 instaliran u bazi
  - Data Modeler repozitorij instaliran u bazi
- aplikacija se može vrlo jednostavno prilagođavati i mijenjati

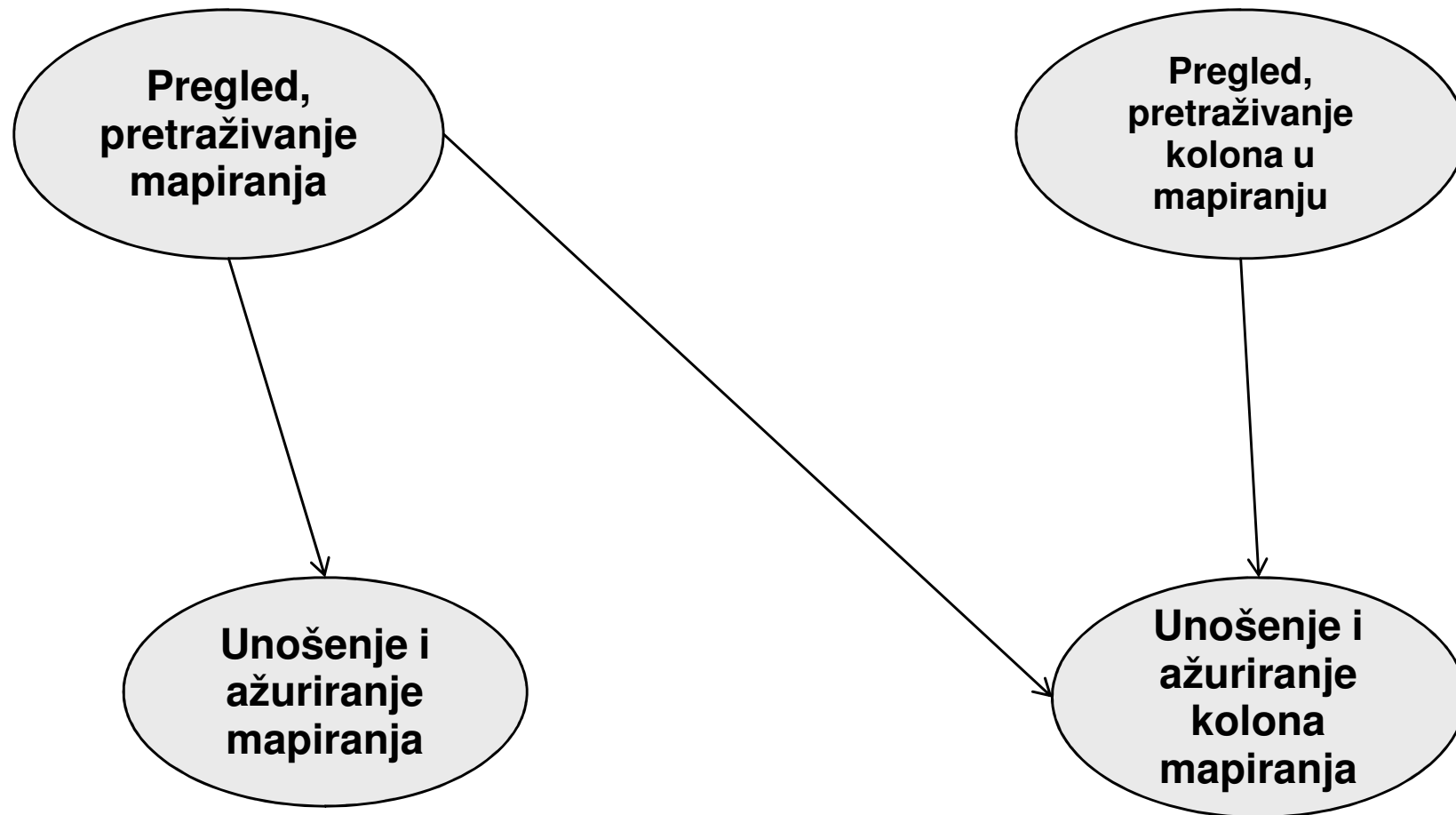
# Zašto koristiti Mapper?

## Problemi

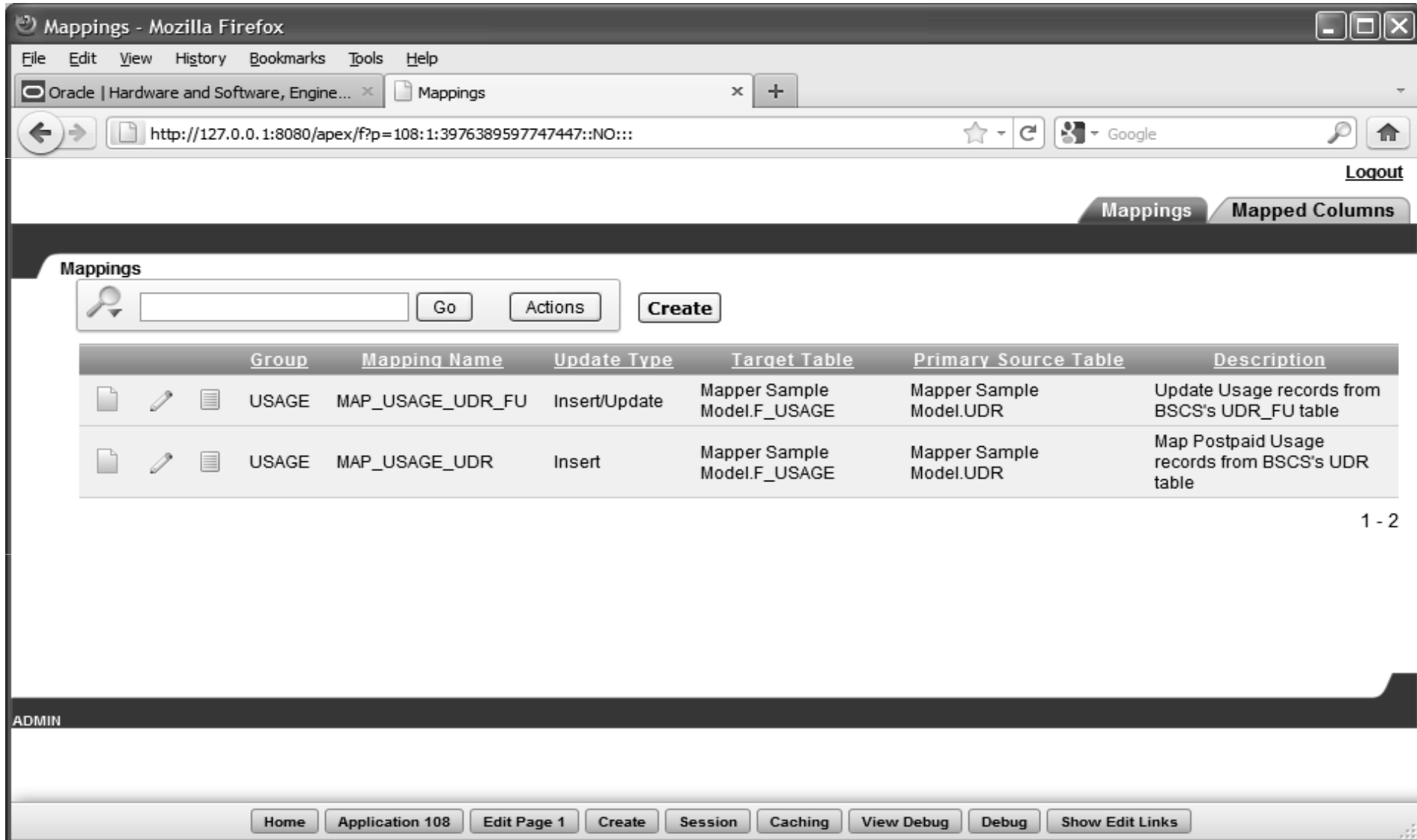
- više analitičara unosi/ažurira mapiranja
- puno CR-ova – stalne promjene modela
- administracija dokumenta tehničke specifikacije
- nekonzistentnost tipova podataka
- praćenje pokrivenosti
- praćenje podatka od izvora do krajnjih tablica

## Rješenja

- stalno ažurna specifikacija na centralnoj lokaciji
- povijest praćenja promjena
- traceability (sljedivost) – daje uvid u to odgovaraju li svi elementi sustava definiranim ciljevima; povezivanje izvora s krajnjim tablicama



# Pregled mapiranja



Mappings - Mozilla Firefox

File Edit View History Bookmarks Tools Help







Oracle | Hardware and Software, Engine... x Mappings x +

http://127.0.0.1:8080/apex/f?p=108:1:3976389597747447::NO::: Google

Logout

Mappings Mapped Columns

### Mappings

	Group	Mapping Name	Update Type	Target Table	Primary Source Table	Description
  	USAGE	MAP_USAGE_UDR_FU	Insert/Update	Mapper Sample Model.F_USAGE	Mapper Sample Model.UDR	Update Usage records from BSCS's UDR_FU table
  	USAGE	MAP_USAGE_UDR	Insert	Mapper Sample Model.F_USAGE	Mapper Sample Model.UDR	Map Postpaid Usage records from BSCS's UDR table

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# Unošenje i ažuriranje mapiranja

Edit Mappings - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Oracle | Hardware and Software, Engine... x Edit Mappings x +

http://127.0.0.1:8080/apex/f?p=108:3:3976389597747447::NO:3:P3\_MAPPING\_ID:2

Logout

**Mappings > Edit Mappings**

**Edit Mappings**

● **Mapping Group** USAGE

● **Mapping Name** MAP\_USAGE\_UDR

**Target Table** Mapper Sample Model.F\_USAGE

**Primary Source Table** Mapper Sample Model.UDR

● **Update Type** Insert Only

**Description**  
Map Postpaid Usage records from BSCS's UDR table

● **Created** 2011/06/02 12:53:55

● **Updated** 2011/06/02 13:04:54

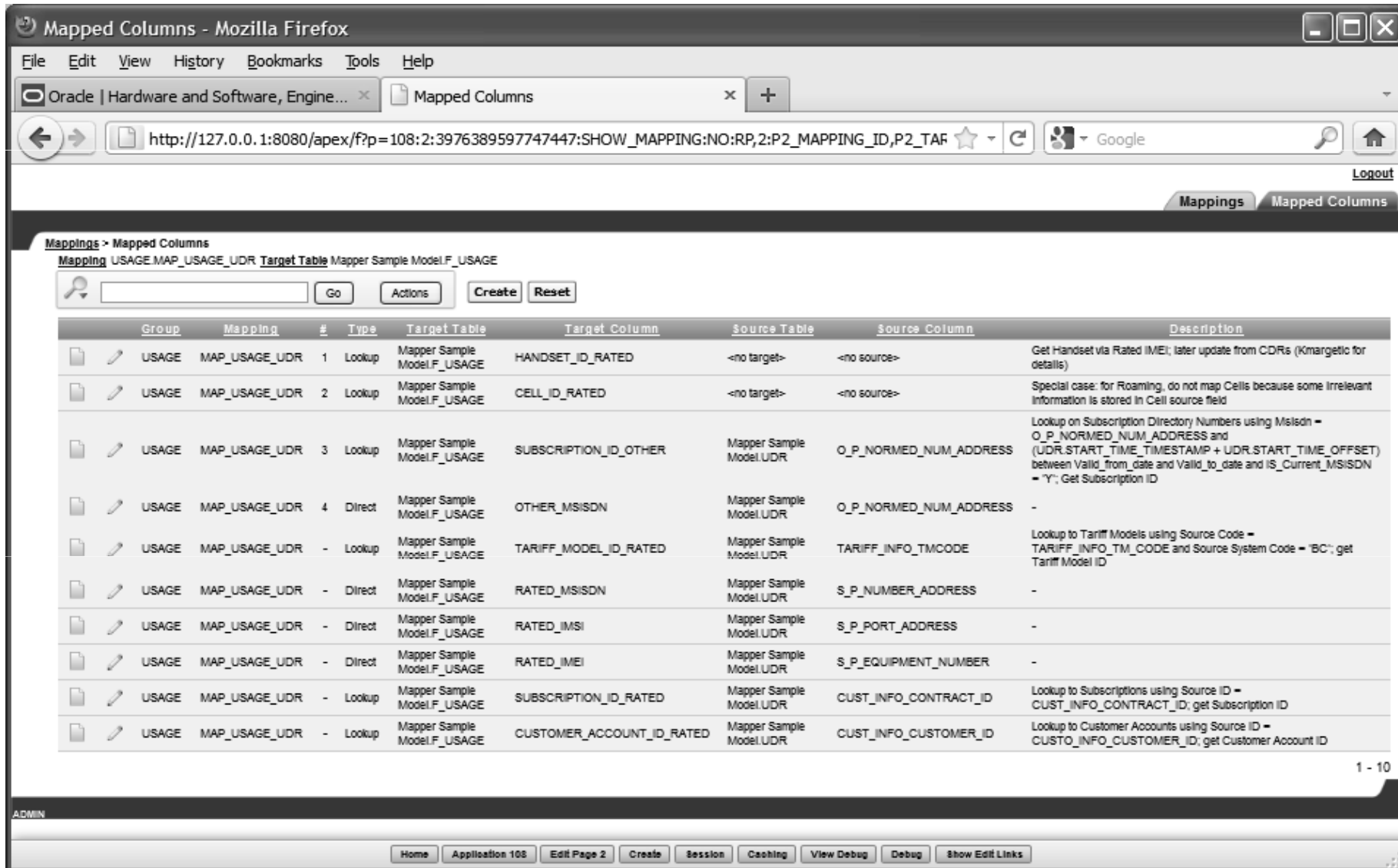
● **Created By** ADMIN

● **Updated By** ADMIN

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# Pregled mapiranih kolona



Mapped Columns - Mozilla Firefox

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Orade | Hardware and Software, Engine... x Mapped Columns x +

http://127.0.0.1:8080/apex/f?p=108:2:397638959774447:SHOW\_MAPPING:NO:RP,2:P2\_MAPPING\_ID,P2\_TAF

Logout

Mappings Mapped Columns

Mappings > Mapped Columns

Mapping USAGE\_MAP\_USAGE\_UDR Target Table Mapper Sample Model.F\_USAGE

Go Actions Create Reset

Group	Mapping	#	Type	Target Table	Target Column	Source Table	Source Column	Description
USAGE	MAP_USAGE_UDR	1	Lookup	Mapper Sample Model.F_USAGE	HANDSET_ID_RATED	<no target>	<no source>	Get Handset via Rated IMEI; later update from CDRs (Kmarginetic for details)
USAGE	MAP_USAGE_UDR	2	Lookup	Mapper Sample Model.F_USAGE	CELL_ID_RATED	<no target>	<no source>	Special case: for Roaming, do not map Cells because some irrelevant information is stored in Cell source field
USAGE	MAP_USAGE_UDR	3	Lookup	Mapper Sample Model.F_USAGE	SUBSCRIPTION_ID_OTHER	Mapper Sample Model.UDR	O_P_NORMED_NUM_ADDRESS	Lookup on Subscription Directory Numbers using Msisdn = O_P_NORMED_NUM_ADDRESS and (UDR.START_TIME_TIMESTAMP + UDR.START_TIME_OFFSET) between Valid_from_date and Valid_to_date and IS_Current_MSISDN = 'Y'; Get Subscription ID
USAGE	MAP_USAGE_UDR	4	Direct	Mapper Sample Model.F_USAGE	OTHER_MSISDN	Mapper Sample Model.UDR	O_P_NORMED_NUM_ADDRESS	-
USAGE	MAP_USAGE_UDR	-	Lookup	Mapper Sample Model.F_USAGE	TARIFF_MODEL_ID_RATED	Mapper Sample Model.UDR	TARIFF_INFO_TM_CODE	Lookup to Tariff Models using Source Code = TARIFF_INFO_TM_CODE and Source System Code = 'BC'; get Tariff Model ID
USAGE	MAP_USAGE_UDR	-	Direct	Mapper Sample Model.F_USAGE	RATED_MSISDN	Mapper Sample Model.UDR	S_P_NUMBER_ADDRESS	-
USAGE	MAP_USAGE_UDR	-	Direct	Mapper Sample Model.F_USAGE	RATED_IMSI	Mapper Sample Model.UDR	S_P_PORT_ADDRESS	-
USAGE	MAP_USAGE_UDR	-	Direct	Mapper Sample Model.F_USAGE	RATED_IMEI	Mapper Sample Model.UDR	S_P_EQUIPMENT_NUMBER	-
USAGE	MAP_USAGE_UDR	-	Lookup	Mapper Sample Model.F_USAGE	SUBSCRIPTION_ID_RATED	Mapper Sample Model.UDR	CUST_INFO_CONTRACT_ID	Lookup to Subscriptions using Source ID = CUST_INFO_CONTRACT_ID; get Subscription ID
USAGE	MAP_USAGE_UDR	-	Lookup	Mapper Sample Model.F_USAGE	CUSTOMER_ACCOUNT_ID_RATED	Mapper Sample Model.UDR	CUST_INFO_CUSTOMER_ID	Lookup to Customer Accounts using Source ID = CUSTO_INFO_CUSTOMER_ID; get Customer Account ID

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# Unošenje i ažuriranje mapiranih kolona

**Edit Mapped Columns - Mozilla Firefox**

File Edit View History Bookmarks Tools Help

Orade | Hardware and Software, Engine... x Edit Mapped Columns x +

http://127.0.0.1:8080/apex/f?p=108:4:3976389597747447::NO:4:P4\_LINE\_ID:24

Logout

**Mappings > Mapped Columns > Edit Mapped Columns**

**Edit Mapped Columns**

**Mapping** USAGE.MAP\_USAGE\_UDR

**Sequence**

**Transformation Type** Lookup

**Target Table** Mapper Sample Model.F\_USAGE

**Target Column** TARIFF\_MODEL\_ID\_RATED - Surrogate key to Tariff Mo

**Source Table** Mapper Sample Model.UDR

**Source Column** TARIFF\_INFO\_TMCODE - Common tariff information - F

**Line Value**

**Description** Lookup to Tariff Models using Source Code = TARIFF\_INFO\_TM\_CODE and Source System Code = 'BC'; get Tariff Model ID

**Created** 2011/06/02 21:25:52  
**Updated** 2011/06/02 21:25:52  
**Created By** ADMIN  
**Updated By** ADMIN

Home Application 108 Edit Page 4 Create Session Caching View Debug Debug Show Edit Links

# Korištenje Mappera - DEMO



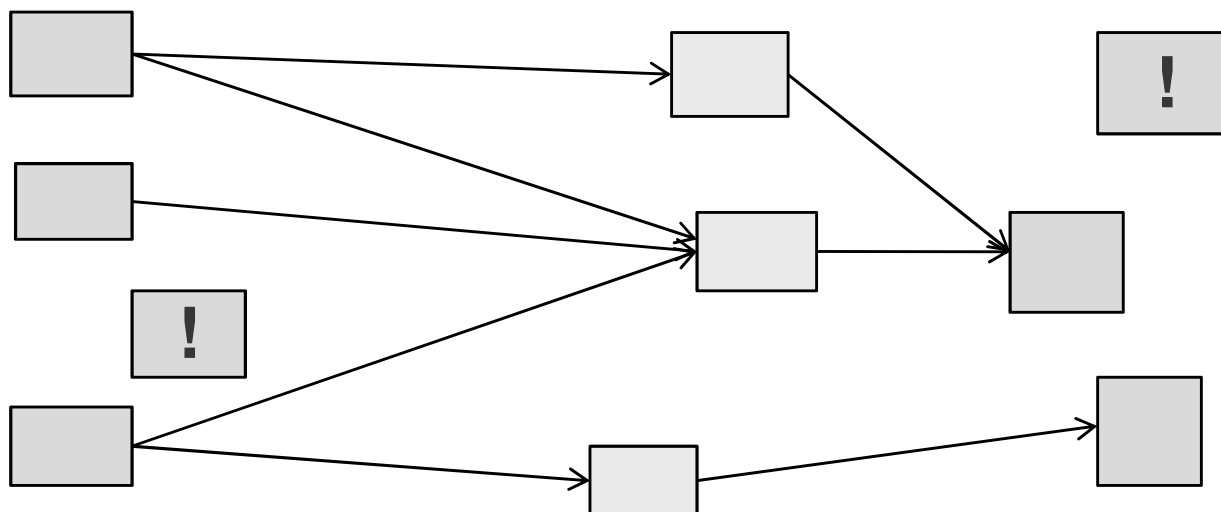
- tablica u bazi

```
create table map_mappings (  
    mapping_id            integer not null  
, mapping_name          varchar2(256) not null  
, mapping_group         varchar2(256) not null  
, mapping_desc          varchar2(1000)  
, update_type           varchar2(20) not null  
, target_schema_name    varchar2(256)  
, target_schema_id      varchar2(70)  
, target_table_name     varchar2(256)  
, target_table_id       varchar2(70)  
, source_schema_name    varchar2(256)  
, source_schema_id      varchar2(70)  
, source_table_name     varchar2(256)  
, source_table_id       varchar2(70)  
, created_dt            date not null  
, updated_dt            date not null  
, created_by            varchar2(30) not null  
, updated_by            varchar2(30) not null  
, constraint map_pk     primary key (mapping_id)  
, constraint map_ul     unique (mapping_name)  
)
```

- tablica u bazi

```
create table map_mapped_columns (  
  mapping_id          integer not null  
, line_id            integer not null  
, line_type          varchar2(20) not null  
, line_value         varchar2(256)  
, line_desc         varchar2(1000)  
, line_sequence     integer  
, target_schema_name varchar2(256)  
, target_schema_id  varchar2(70)  
, target_table_name varchar2(256)  
, target_table_id   varchar2(70)  
, target_column_name varchar2(256)  
, target_column_id  varchar2(70)  
, source_schema_name varchar2(256)  
, source_schema_id  varchar2(70)  
, source_table_name varchar2(256)  
, source_table_id   varchar2(70)  
, source_column_name varchar2(256)  
, source_column_id  varchar2(70)  
, source_alt_schema_name varchar2(256)  
, source_alt_schema_id  varchar2(70)  
, source_alt_table_name varchar2(256)  
, source_alt_table_id   varchar2(70)  
, source_alt_column_name varchar2(256)  
, source_alt_column_id  varchar2(70)  
, created_dt           date not null  
, updated_dt          date not null  
, created_by          varchar2(30) not null  
, updated_by         varchar2(30) not null  
, constraint mapcol_pk primary key (line_id)  
, constraint mapcol_map_fk foreign key (mapping_id) references map_mappings  
  (mapping_id)
```

- pokrivenost source/targeta



# Propagiranje promjena na tablicama



- promjena naziva/tipa podatka na source/target tablicama
- možemo provjeriti konzistentnost tipova podataka između source i target tablica

- fleksibilnost u dodjeljivanju prava userima
- čitanje/pisanje
- dodjela prava na nivou pojedinih stranica aplikacije



# Reporting

Mappings > Mapped Columns

Go Actions Create

Group	Mapping	#	Table	Target Column	Source Table	Source Column	Description
Pna	Customer Orders	-	FL_MODEL_4V5.POST_OFFICES	FOUNDATION_ID	FL_MODEL_4V5.POST_OFFICE_H	POST_OFFICE_CODE	-
Usage	Usage mapping	-	Mapper Sample Model.F_USAGE	DURATION	Mapper Sample Model.UDR	CUST_INFO_PORT_ID	-

Selected Columns  
Filter  
Rows Per Page  
Format  
Flashback  
Save Report  
Reset  
Help  
Download

Mappings

Go Actions Create

Download  
Choose report download format:  
CSV  
Cancel

Group	Mapping Name	Update Type	Target Table	Primary Source Table	Description	Created	Updated	Created By	Updated By
Customer	Customer Contacts	Insert/Update	DWH dim model.D_CONTACTS	FL_MODEL_4V5.CUST_ACC_CONTACTS	-	2011/10/02 06:03:59	2011/10/02 07:27:05	SNT	SNT
Usage	Usage mapping	Insert	Mapper Sample Model.F_USAGE	Mapper Sample Model.UDR	-	2011/10/02 06:36:18	2011/10/02 06:36:18	SNT	SNT
Pna	Customer Orders	Other	DWH dim model.D_POST_OFFICES	FL_MODEL_4V5.RECHARGE_TYPES	-	2011/09/17 11:37:28	2011/10/02 07:27:19	SNT	SNT

**Hvala na pažnji!**



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