Example - Database Masking (In-Place) Exercise

- Please feel free to use your own masking engine
- For this exercise/example I used my masking engine
http://md5350dc4.dc4.delphix.com/masking/

- Prepare a target host and database or db, example below:
  - 10.43.16.18 (mdora11204.dcenter.delphix.com)

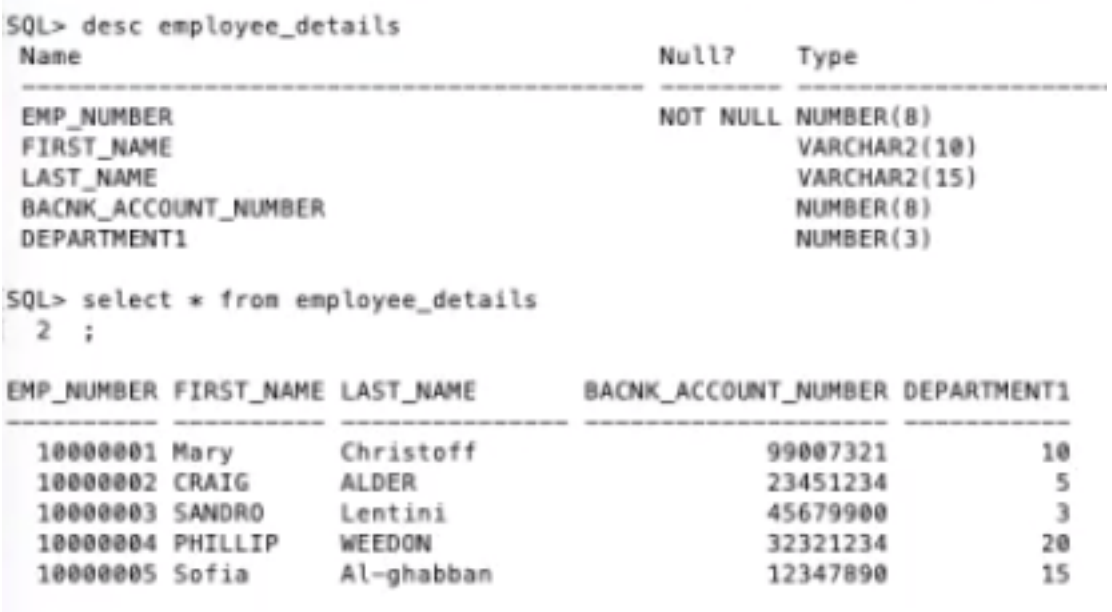
    o.s. logon = oracle/oracle
- target database information, example:
  - sid: example VDBTEST1

    db schema to be masked: SCOTT

    db masking login user: SCOTT password: scott

    Note: the db masking user does not need to be the db schema oner. The requirement is that the db masking user should have the correct update privileges to the table(s) to be masked.

In this example we are using a table , table description and test data values as shown in this screenshot:



```
SQL> desc employee_details
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
 EMP_NUMBER                                NOT NULL NUMBER(8)
 FIRST_NAME                                         VARCHAR2(10)
 LAST_NAME                                          VARCHAR2(15)
 BACNK_ACCOUNT_NUMBER                               NUMBER(8)
 DEPARTMENT1                                        NUMBER(3)

SQL> select * from employee_details
  2  ;

EMP_NUMBER FIRST_NAME LAST_NAME       BACNK_ACCOUNT_NUMBER DEPARTMENT1
---------- ---------- --------------- -------------------- -----------
  10000001 Mary       Christoff                99007321          10
  10000002 CRAIG      ALDER                    23451234           5
  10000003 SANDRO     Lentini                  45679900           3
  10000004 PHILLIP    WEEDON                   32321234          20
  10000005 Sofia      Al-ghabban               12347890          15
```

To check what the data looked like pre- and post-masking, example:

i) ssh oracle@10.43.16.18

ii) export ORACLE_SID= VDBTEST1

iii) Connect via sqlplus, e.g.

sqlplus scott/scott

To see the table definition and table data, issue:

desc employee_details

select * from employee_details

Let's try masking!

1) Login to the Masking Engine, in this example:
http://md5350dc4.dc4.delphix.com/masking/

login=admin/Admin-12

2) Provide the Masking engine the details that it needs to be able to connect and access the target data or data to be masked

i) Click on the Environments tab, then "Add Application".

ii) Create an 'Application' tag - under which Environments can be created.

For example: "HR" or "Personnel" , with the title normally representing what type of application uses the data that is to be masked

iii) Follow with "Add Environment". Environment examples could be 'UAT'/'Production"/'Development"/Final_testing'/'Training'

Note: Connectors/RuleSets/Inventory/Jobs are created under an Environment.

iv) Create a Connector to be used to access the target data

Click on Environments -> select your Environment from the List

Click on Connector Tab —> Create Connection

Connection details, example:

Type: Database - Oracle

Connection name:

Schema Name: SCOTT

Database name: VDBTest`

HostName/IP: 10.43.16.18

Port: 1521

Db masking user login Id: SCOTT <—- this user need to have update privileges on table(s) to be masked

Password: scott <—— please check that you can connect to target db with the db user id and password that you provide

Note: the details above are examples for an Oracle target database.

Test the Connection, then Save if connection successful.

v) Create a RuleSet

Click on 'Rule Set' Tab —> Create Rule Set

Use/select the connector previously created

Select the table(s) to be masked and click on 'Save'.

Note: A ruleset can be made up hundreds of tables and columns.

vi) Check table columns list via the Inventory

Environments -> Inventory -> then select your RuleSet from ruleset list

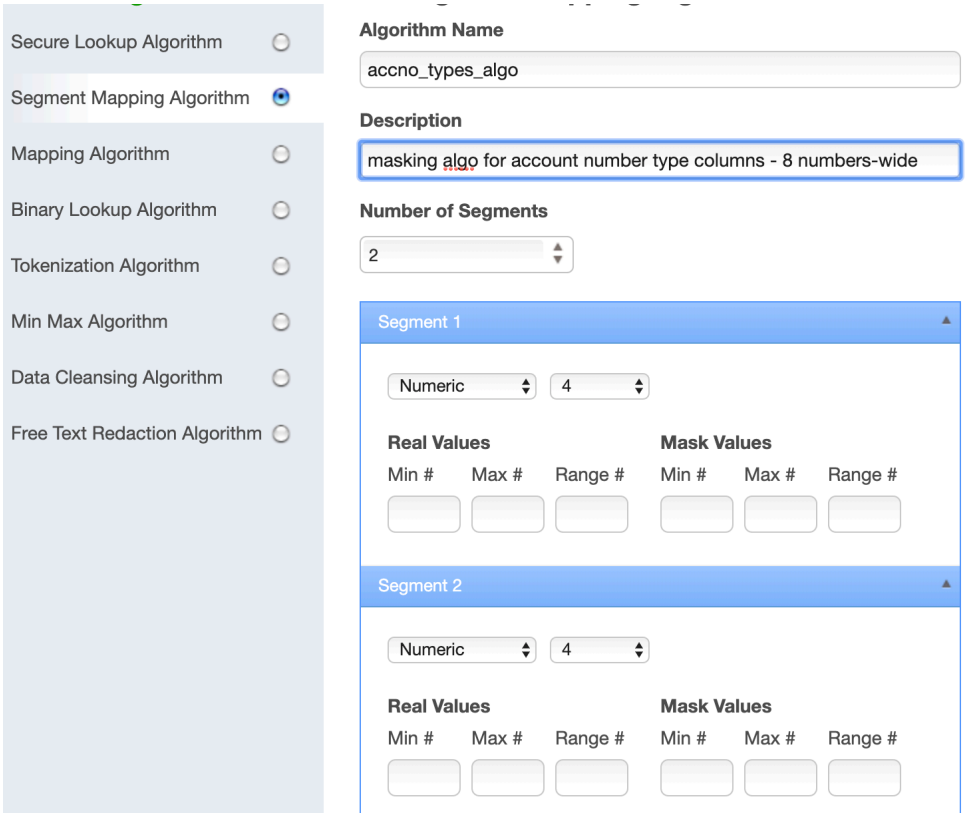
This will list the columns for each table in the ruleset

3) Define or create a masking algorithm that will be applied to the target data

- algorithms are independent of applications and environments and can be used on both database and file masking jobs

Click on Settings -> Algorithms -> Add Algorithm

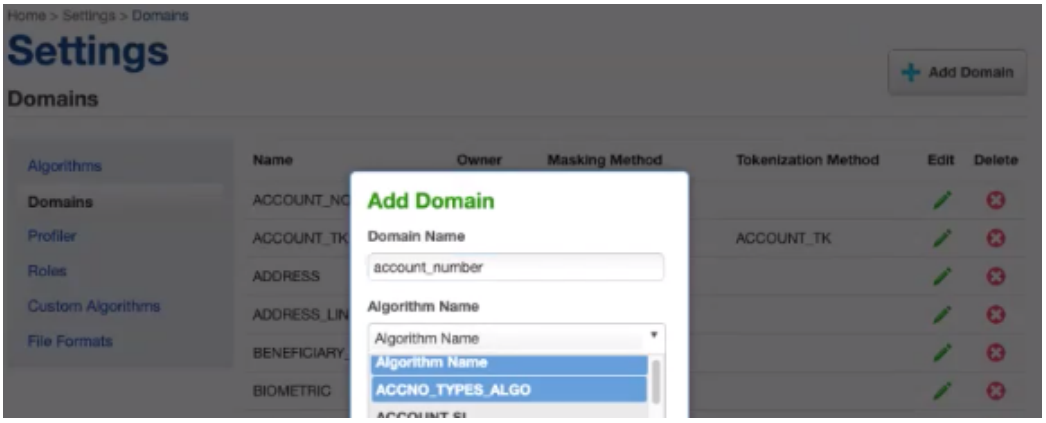
a) Create a Segment Mapping Algorithm, provide details as below



b) Define a Domain and assign the appropriate newly created algorithm to it

Domain is a way of giving a name for the type of data being masked by a particular algorithm. For example a domain name= ACCOUNT_NUMBER, possible algorithm to be used = Account_SL

Click on Settings -> Algorithms -> Add Domain



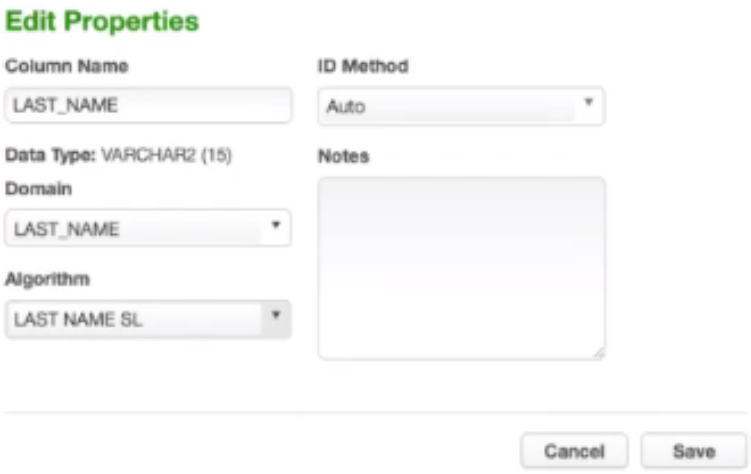
4) Assign masking algorithms to the columns to be masked

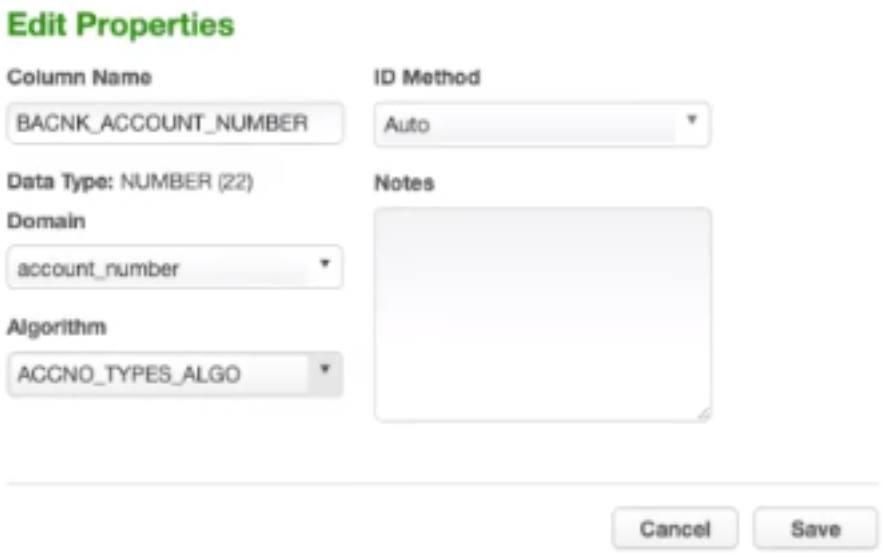
Environments -> Inventory -> then select your RuleSet from ruleset list

This is the list of tables and the candidate columns for masking, and here you can assign appropriate algorithm to the columns to be masked. Our example has only one table in the ruleset.

Click on the Green Pencil Icon (Edit icon) against the following columns and assign the algorithms as in the following screenshots and click on Save.

LAST_NAME, BACNK_ACCOUNT_NUMBER

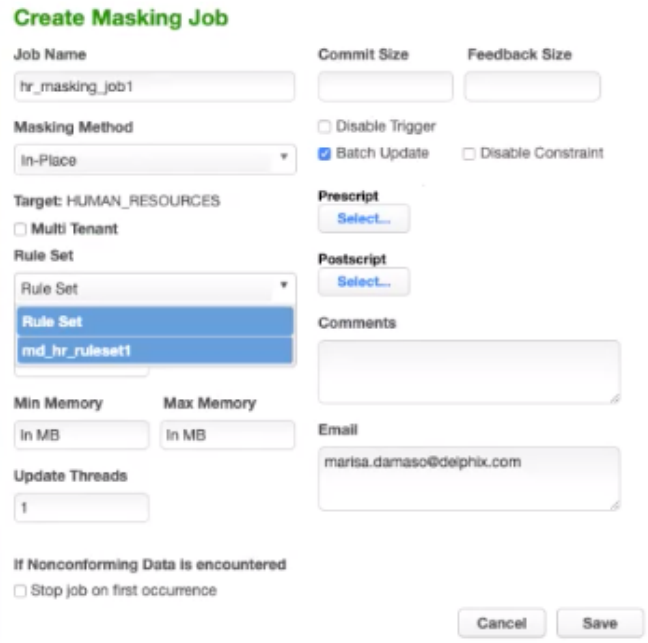




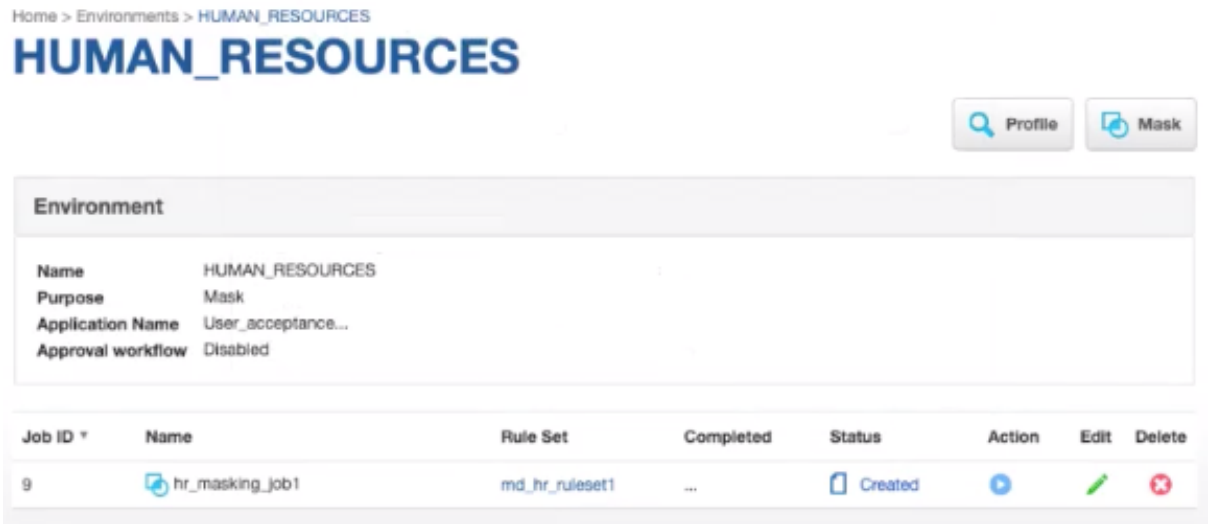
5) You are now ready to create and run a masking job

Click on ‘Environments’ tab, click on your new Environment, click on ‘Mask’

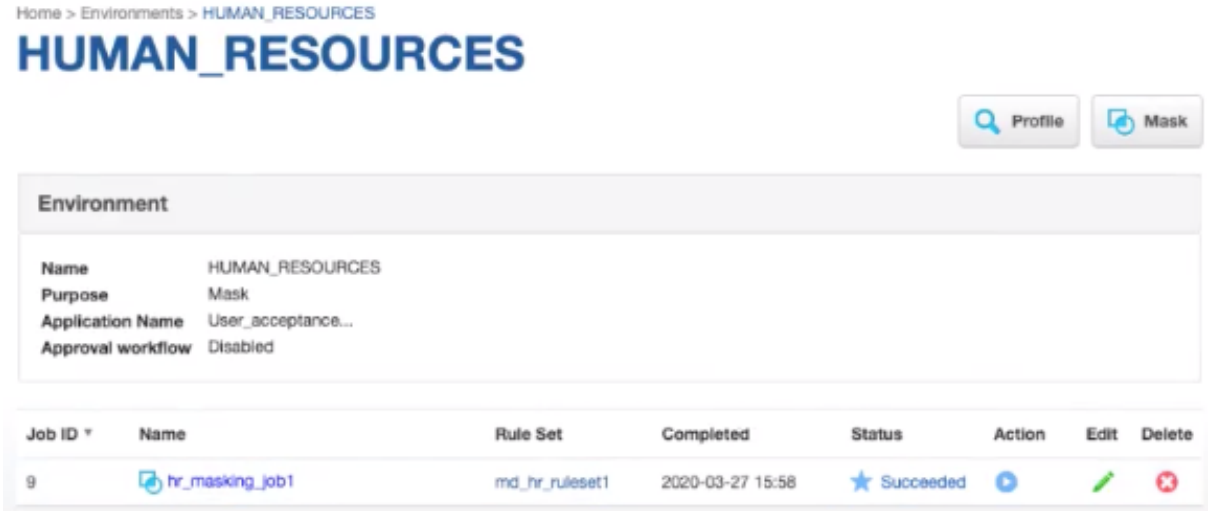
- Provide Job Name
- Masking Method: ‘In Place’
- Select the RuleSet you created from the ‘Rule Set’ list
- Leave all the fields at default



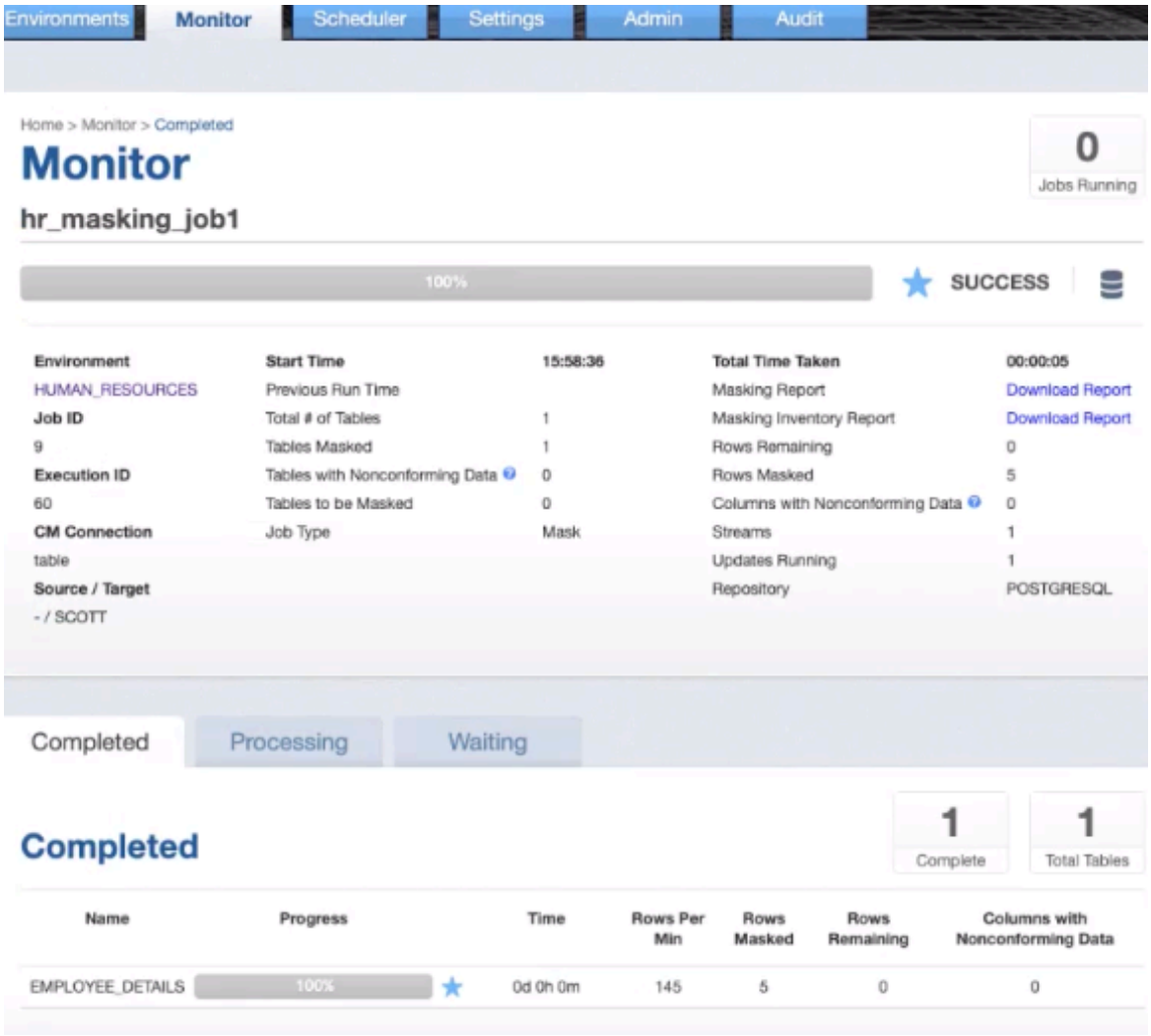
Save, then run the masking job by clicking on the Run Job icon under ‘Action’



A successful masking job run:



To see further information about that job run or execution, click on the highlighted job name, and this takes you to the Monitor page as below:



6) Check the masked data. In our example we can see that the LAST_NAME and BACNK_ACCOUNT_NUMBER columns had been masked:

```
SQL> select * from employee_details;

EMP_NUMBER FIRST_NAME LAST_NAME      BACNK_ACCOUNT_NUMBER DEPARTMENT1
---------- ---------- -------------- -------------------- -----------
  10000001 Mary       Reed                     54923357          10
  10000002 CRAIG      Theobald                 53852240           5
  10000003 SANDRO     Lawley                   78263744           3
  10000004 PHILLIP    Carwin                   86092240          20
  10000005 Sofia      Craig                     5977049          15
```