

SAP MDM Data Manager: Masks



Applies to:

SAP Master Data Management (MDM) SP05. For more information, visit the [Master Data Management homepage](#).

Summary

This article describes how to save the search results into Masks format and its features in MDM Data Manager.

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Introduction

A mask is a snapshot of the set of records of a repository that is included in the mask.

By using MDM Masks, we can slice a single master MDM repository into an effectively unlimited number of custom virtual repositories which simplifies the maintenance of a single repository for multiple purposes. Each virtual repository may contain a different subset of records from the main master repository and appears as a private repository to the users.

Masks allows us to create multiple custom subset repositories from a single master repository without duplicating the underlying main repository records. So this will guarantees consistency and synchronization of the data across all the custom repositories.

By using the Masks, we can narrow down the records display with as many or few search parameters as desired.

Unlike SQL views, masks won't give any performance issues , so we can define the masks individually at product level rather than the query level .But for any MDM user, masks can be appear as a another dimension of the multidimensional search data .

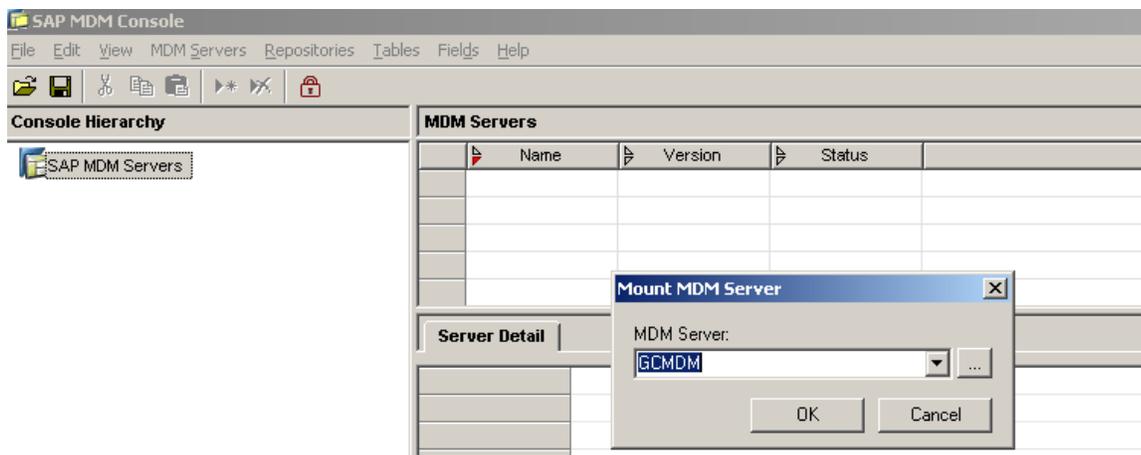
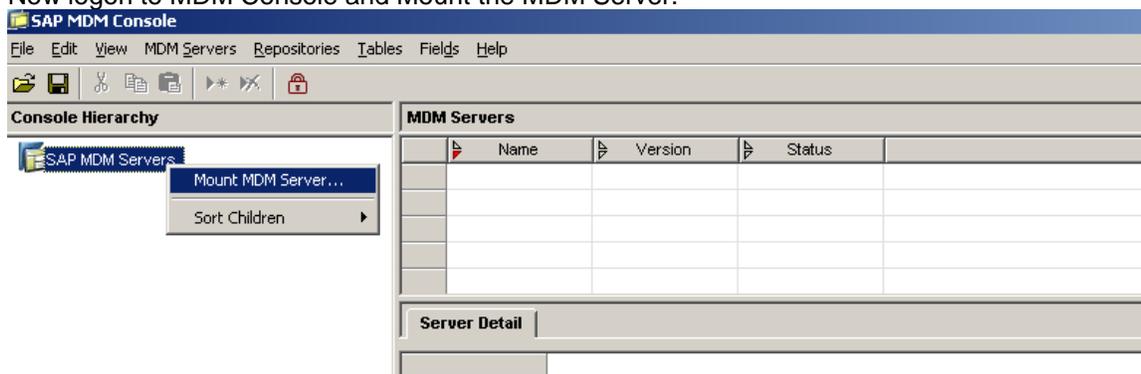
The main usage of Masks are to edit an arbitrary subset of records as a group, and to publish custom "subset catalogs."

Masks is a MDM special table and available in MDM Console. Once we created a repository then by default Mask table will be created automatically. But Masks records can be created in Record Mode of MDM Data Manager.

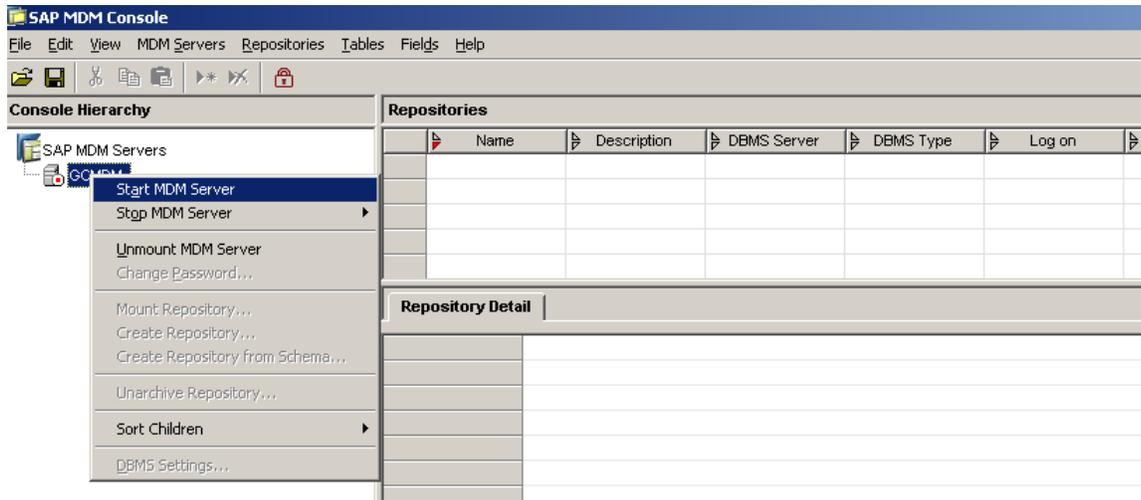
MDM Console Configuration:

Here in order to work with the MDM Data Manager, first we need to start the MDM server and then connect the required repository to the DBMS system in MDM Console .

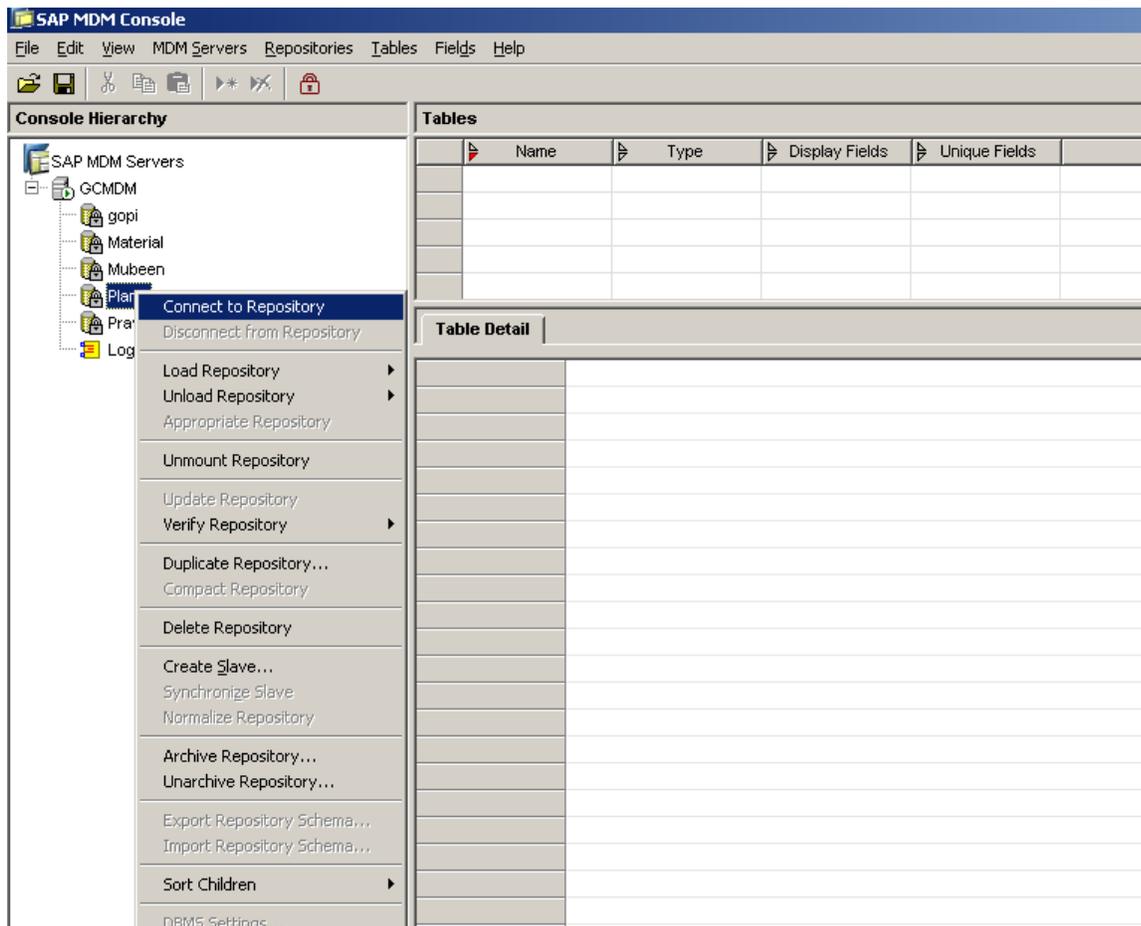
Now logon to MDM Console and Mount the MDM Server.



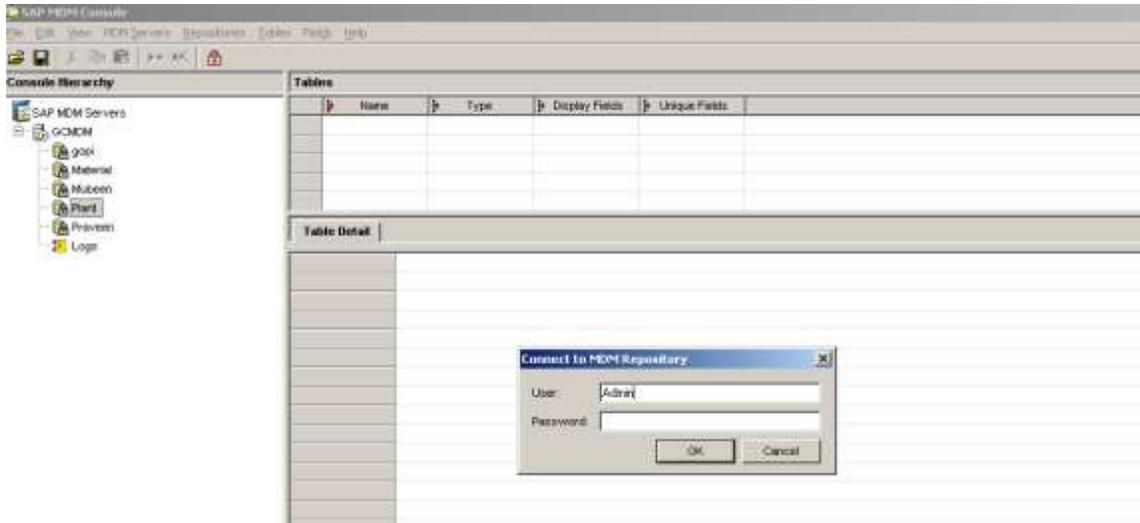
Once the mounting of server is done then start the MDM Server.



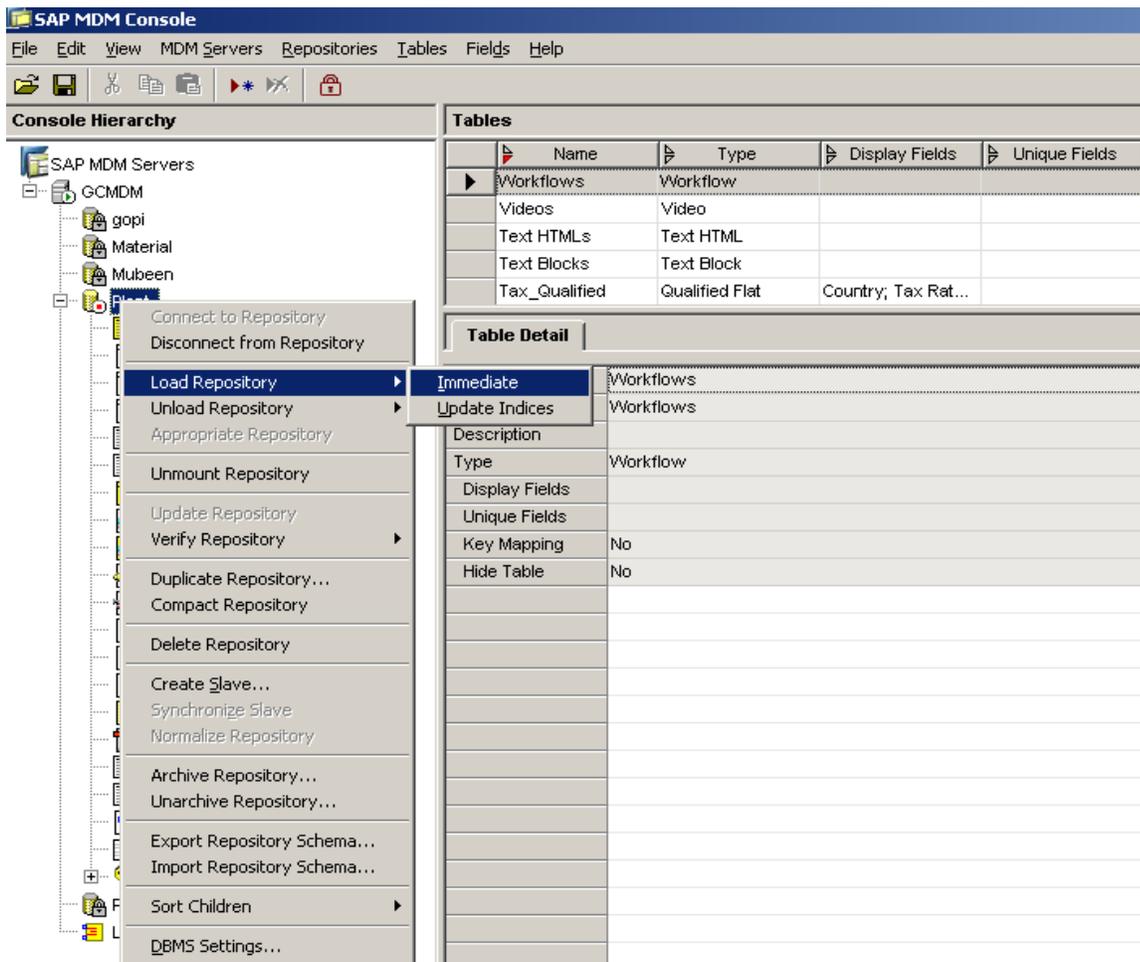
Once the MDM Server has been started then connect the 'required' repository. Here we are going to connect the 'Plant' repository.



Here give the default user name (Admin) without the password.



Now once the **Plant** repository has been connected to the DBMS System, then we are going to load the repository in order to work with this repository in MDM Import Manager.



Once the plant repository has been loaded, go to Masks sub table and then double click on it in the repository. Then we can get one default field within that masks table that is a 'Name' field. This field will have different masks which are created in the Data Manager.

The screenshot shows the SAP MDM Console interface. On the left is the 'Console Hierarchy' tree, which includes 'SAP MDM Servers', 'GOMDM', 'Plant', 'Products', 'Business Partners', 'Countries', 'Divisions', 'Manufacturer_Hierarchies', 'Categories', 'Tax_Qualified', 'Images', 'Image Variants', 'Sounds', 'Videos', 'Binary Objects', 'Text Blocks', 'Copy Blocks', 'Text HTMLs', 'PDFs', 'Masks', 'Relationships', 'Workflows', 'Named Searches', 'Admin', and 'Logs'. The 'Masks' folder is selected.

The main area displays the 'Fields' table for the selected 'Masks' sub-table. The table has the following structure:

Pos.	Name	Type	Keyword	DF	UF
1	Name	Text	Normal	1	

Below the 'Fields' table is the 'Field Detail' section, which provides the following information for the 'Name' field:

Name	Name
Code	Name
Description	
Type	Text
Required	No
Writable Once	No
Matrix	Normal
Multi-Lingual	Yes
Keyword	Normal
Display Field	Yes
Unique Field	No
Sort Index	Normal
Calculated	No
Calculation	
Width	50
Sort Type	Case Insensitive

SAP MDM Data Manager - Plant [GCMDM] - English [US]

File Edit View Search Records Objects Relationships Tree Attributes Configuration Help

Masks

Search Parameters

Free-Form Search

Keyword	Operator	Value
Expression	(progressive)	is TRUE
Name	contains	

Records

Name
Canada Plants
US Plants

Record Detail Search Selections

Name: Canada Plants; US Plants

Now we are going to assign different set of records to these masks (**Canada Plants, US Plants**). For this one, go to the products main table at the top left corner. Then we will get all the main table records in the record pane (below screen)

SAP MDM Data Manager - Plant [GCMDM] - English [US]

File Edit View Search Records Objects Relationships Tree Attributes Configuration Help

Masks

Products

- Business Partners
- Categories
- Countries
- Divisions
- Manufacturer_Hierarchies
- Masks
- Named Searches
- Tax_Qualified
- Binary Objects
- Copy Blocks
- Images
- PDFs
- Sounds
- Text Blocks
- Text HTMLs
- Videos
- Families
- Workflows

Records

Name
Canada Plants
US Plants

Record Detail Search Selections

Name: Canada Plants; US Plants

The screenshot shows the SAP MDM Data Manager interface. The 'Records' pane displays a table with the following data:

Plant	Region	Country	Material	Quantity
1000	Kitchener	Canada	ASY-3466-746	10 each
1000	Waterloo	Canada	S700-2801	1,200 pair
2000	Kitchener	Canada	S003-6832	2,000 each
3000	Mississauga	Canada	S467-99766	3,000 each
4000	Atlanta	US	S667-9087	1,200 each
5000	Kitchener	Canada	POP-6784	123 dozen
6000	Hamilton	Canada	B466-2636	1,000 dozen
7000	Toronto	Canada	ASY-34266	3,000 dozen
8000	London	Canada	ABC-87464	23,400 each
9000	Richmond Hill	Canada	GDY-7863	1,100 pair
9010	Calgary	Canada	POP-6634	1,200 pair
9020	Detroit	US	HD5-6634	1,300 pair
9030	Buffalo	US	HML-6346	1,400 pair

The 'Record Detail' pane shows the following information for the selected records (9000, 9010, 9020, 9030):

Plant	9000, 9010, 9020, 9030
Category	
Region	Richmond Hill; Calgary; Detroit;...
Country	Canada; US
Local Currency	
Plant Opening Date	
Plant Closing Date	
Sales Organization	
Material	GDY-7863; POP-6634; HD5-6634

Once we get all the main table records, select the Canada specific (Country = Canada) records in record pane -> right click on those records -> Add to masks -> Canada Plants.

The screenshot shows the SAP MDM Data Manager interface with a context menu open over the records. The 'Add to Mask' option is selected, and a sub-menu is visible with 'Canada Plants' highlighted.

The 'Records' pane shows the following data:

Plant	Region	Country	Material	Quantity	Count
1000	Waterloo	Canada	S700-2801	1,200 pair	1
5000	Kitchener	Canada	POP-6784	123 dozen	1
3000	Mississauga	Canada	S467-99766	3,000 each	1
8000	London	Canada	ABC-87464	23,400 each	1
7000	Toronto	Canada	ASY-34266	3,000 dozen	1
6000	Hamilton	Canada	B466-2636	1,000 dozen	1
2000	Kitchener	Canada	S003-6832	2,000 each	1
4000	Atlanta	US	S667-9087	1,200 each	1

The 'Record Detail' pane shows the following information for the selected records (1000, 5000, 3000, 8000, 7000, 6000):

Plant	1000, 5000, 3000, 8000, 7000, 6000
Category	
Region	Waterloo; Kitchener; Mississauga;...
Country	Canada
Local Currency	\$2,000; \$4,000; \$2,000; \$1,000
Plant Opening Date	01/01/2002; 03/01/2005; 12/31/2001
Plant Closing Date	12/06/9999; 11/01/9999; 12/31/2001
Sales Organization	101; 100; 103; 102
Material	S700-2801; POP-6784; S467-997...
Quantity	1,200 pair; 123 dozen; 3,000 each...
Count	1
Record Counter	1; 6; 3; 23; 10; 7...
Creation Stamp	12/06/2009 07:26:34; 12/14/2009
User Name	Admin
Update Stamp	02/04/2010 05:08:05; 02/04/2010
Country	India; Canada

Then the Canada specific plants (1000, 2000, 3000, 5000, 6000, 7000, 8000) records will be included in to the mask '**Canada Plants**'. Similarly assign the US Specific(Country = US) records to the '**US Plants**' mask in the MDM Data Manager .

Now when we search the 'Canada Plants' and 'US Plants' specific records in Drill Down search, then we will get only those specific records.

Go to 'Masks' under Drill Down search parameters in Data Manager and select the '**Canada Plants**' mask. Then we will get the Canada Plant specific records in the record pane. Similar logic will apply to the US Plant specific records as well.

SAP MDM Data Manager - Plant [GCMDM] - English [US]

File Edit View Search Records Objects Relationships Tree Attributes Configuration Help

Products

Search Parameters

Category
Country
Taxation
Manufacturer

Masks

- [NONE]
- Canada Plants
- US Plants

Records

Plant	Region	Country	Material	Quantity	Count
1000	Waterloo	Canada	S700-2801	1,200 pair	1
5000	Kitchener	Canada	POP-6784	123 dozen	1
3000	Mississauga	Canada	S457-99766	3,000 each	1
8000	London	Canada	ABC-87464	23,400 each	1
7000	Toronto	Canada	ASY-34266	3,000 dozen	1
6000	Hamilton	Canada	B456-2536	1,000 dozen	1
2000	Kitchener	Canada	S003-5832	2,000 each	1

Record Detail | Validations | Assignments | Workflows | Search Selections

Plant: 1000
Category:
Region: Waterloo
Parent_Child_Main_Tables <>
<Parent_Child_Main_Tables>
Child_Main_Sub_Tables

SAP MDM Data Manager - Plant [GCMDM] - English [US]

File Edit View Search Records Objects Relationships Tree Attributes Configuration Help

Products

Search Parameters

Category
Country
Taxation
Manufacturer

Masks

- [NONE]
- Canada Plants
- US Plants

Records

Plant	Region	Country	Material	Quantity	Count
4000	Atlanta	US	S567-9087	1,200 each	1

Record Detail | Validations | Assignments | Workflows | Search Selections

Plant: 4000
Category:
Parent_Child_Main_Tables <>
<Parent_Child_Main_Tables>

Mask Static Behavior

Basically Masks are static objects, i.e. when a new record is created and added to the repository then that record won't be included automatically in any masks in the Data Manager.

For Example here, we are going to create US Plant (9000) record in the Data Manager. Then this record will be available in the main table, but won't be available in the 'US Plants' masks.

So first go to top left corner drop down list and select the Product Main table. Then context menu in the record pane and 'Add' to create a new record US Plant =9000 and give corresponding entries.

The screenshot shows the SAP MDM Data Manager interface. The 'Records' table is displayed with the following data:

Plant	Region	Country	Material	Quantity	Count
1000	Waterloo	Canada	S700-2801	1,200 pair	1
5000	Kitchener	Canada	POP-6784	123 dozen	1
3000	Mississauga	Canada	S457-99766	3,000 each	1
8000	London	Canada	ABC-87464	23,400 each	1
7000	Toronto	Canada	ASY-34266	3,000 dozen	1
6000	Hamilton	Canada	B456-2536	1,000 dozen	1
2000	Kitchener	Canada	S003-6832	2,000 each	1
4000	Atlanta	US	S667-9087	1,200 each	1

The context menu is open over the record for Plant 4000, showing options: Add, Add Master, Delete, Duplicate, Add to Mask, Remove from Mask, and Replace in Mask.

Then the new record US Plant =9000 is created and added to the main table of plant repository.

The screenshot shows the SAP MDM Data Manager interface. The 'Records' table is updated with the new record for Plant 9000:

Plant	Region	Country	Material	Quantity	Count
1000	Waterloo	Canada	S700-2801	1,200 pair	1
2000	Kitchener	Canada	S003-6832	2,000 each	1
3000	Mississauga	Canada	S457-99766	3,000 each	1
4000	Atlanta	US	S667-9087	1,200 each	1
5000	Kitchener	Canada	POP-6784	123 dozen	1
6000	Hamilton	Canada	B456-2536	1,000 dozen	1
7000	Toronto	Canada	ASY-34266	3,000 dozen	1
8000	London	Canada	ABC-87464	23,400 each	1
9000	Florida	US	B345-6754	1,000 dozen	1

The 'Record Detail' pane is open for Plant 9000, showing the following attributes and values:

Attribute	Value
Plant	9000
Category	
Region	Florida
Country	US
Local Currency	
Plant Opening Date	
Plant Closing Date	
Sales Organization	
Material	B345-6754
Quantity	1,000 dozen

The 'Relationships' pane shows: Parent_Child_Main_Tables <>, <Parent_Child_Main_Tables>, Sibling_Main_Sub_Tables, and Sibling_Main_Tables.

Now we will check whether this record (US Plant = 9000) has been included in the 'US Plants' mask or not. For this one, go to masks button in the drill down search parameters and select the 'US Plants'. Then we will get only the old 'US Plant = 4000' record and won't get the 'US Plant = 9000' in the 'US Plants' masks.

The screenshot shows the SAP MDM Data Manager interface for Plant [GCMDM]. The 'Search Parameters' pane on the left includes fields for Category, Country, Taxation, and Manufacturer. The 'Masks' pane shows a tree structure with '[NONE]', 'Canada Plants', and 'US Plants' (highlighted). The 'Records' table displays the following data:

Plant	Region	Country	Material	Quantity	Count
4000	Atlanta	US	S567-9087	1,200 each	1

The 'Record Detail' pane shows the following attributes:

Plant	4000	Parent_Child_Main_Tables <>
Category		<Parent_Child_Main_Tables>
Region	Atlanta	Sibling_Main_Sub_Tables
Country	US	Sibling_Main_Tables

So in order to solve this problem, we need to use the 'Modify Mask' command in the context menu of the record pane of MDM Data Manager

Modifying Masks

We can modify any mask i.e., including (or) deleting the records from/to the masks either by using any of the below method:

- Add to Mask
- Modify Mask Command

Add to Mask

By using the *Context Menu in the record pane* -> *Add to Mask/Remove from Mask/Replace in Mask*, we can add/delete/replace any records from (or) to a specific mask in a MDM Data Manager.

Here in our example, now we are going to include the US Plant = 9000 record in to the **'US Plants'** mask.

For this one, go to the data manager and select the product main table in the top left corner drop down list. Then we will get all the main table records .Now go to the US Plant = 9000 and *context menu* -> *Add to Mask* -> *US Plants* (below screen)

The screenshot shows the SAP MDM Data Manager interface. The main window displays a table of records with columns: Plant, Region, Country, Materail, Quantity, and Count. The record with Plant 9000 is selected. A context menu is open over this record, showing options like Add, Add Master, Delete, Duplicate, Add to Mask, Remove from Mask, Replace in Mask, Protection, Check In/Out, Validations, Assignments, Workflows, Matching, Compare Records..., and Compare with Original. The 'Add to Mask' option is expanded, showing a sub-menu with 'Canada Plants' and 'US Plants'.

Plant	Region	Country	Materail	Quantity	Count
1000	Waterloo	Canada	S700-2801	1,200 pair	1
2000	Kitchener	Canada	S003-5832	2,000 each	1
3000	Mississauga	Canada	S457-98766	3,000 each	1
4000	Atlanta	US	S567-9087	1,200 each	1
5000	Kitchener	Canada	POP-6784	123 dozen	1
6000	Hamilton	Canada	B456-2536	1,000 dozen	1
7000	Toronto	Canada	ASY-34256	3,000 dozen	1
8000	London	Canada	ABC-87464	23,400 each	1
9000	Florida	US	B345-8754	1,000 dozen	1

Attributes	Values
Plant	9000
Category	
Region	Florida
Country	US
Local Currency	
Plant Opening Date	

Now we are going to check whether the US Plant = 9000 record is added to the 'US Plants' masks or not in the Data Manager. So go to the search parameter and select the 'masks' drill down search. Then select the 'US Plants' mask and observe in the record pane whether the newly created US Plant = 9000 record is added to the 'US Plants' or not (below screen)

The screenshot shows the SAP MDM Data Manager interface for 'Plant [GCMDM] - English [US]'. The 'Search Parameters' pane on the left includes fields for Category, Country, Taxation, and Manufacturer. The 'Masks' pane shows a tree structure with '[NONE]', 'Canada Plants', and 'US Plants' (highlighted with a pink oval). The 'Records' table on the right has the following data:

Plant	Region	Country	Material	Quantity	Count
4000	Atlanta	US	S567-9087	1,200 each	1
9000	Florida	US	6345-6754	1,000 dozen	1

The record for Plant 9000 is highlighted with a pink oval. Below the table, the 'Record Detail' pane shows 'Plant' as 9000 and 'Category' as '<Parent Child Main Tables>'. The 'Record Detail' pane also includes tabs for 'Validations', 'Assignments', 'Workflows', and 'Search Selections'.

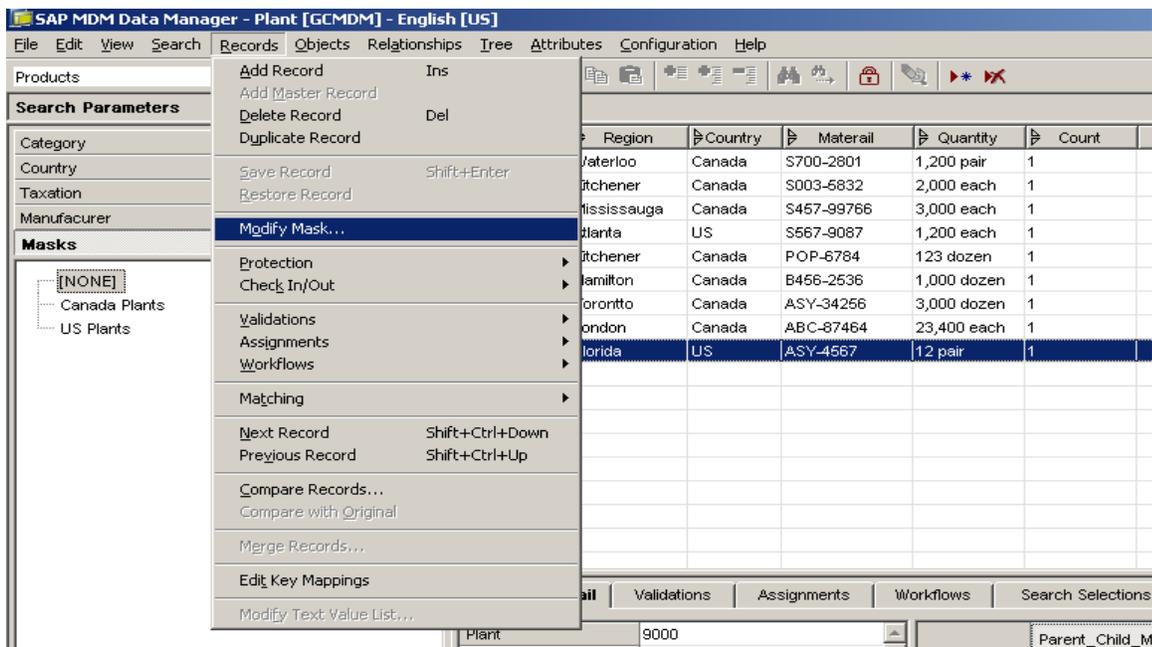
Similarly we can delete or replace any record from any specific mask by using *Remove from Mask* (or) *Replace in Mask* commands in the MDM Data Manager.

Modify Mask Command

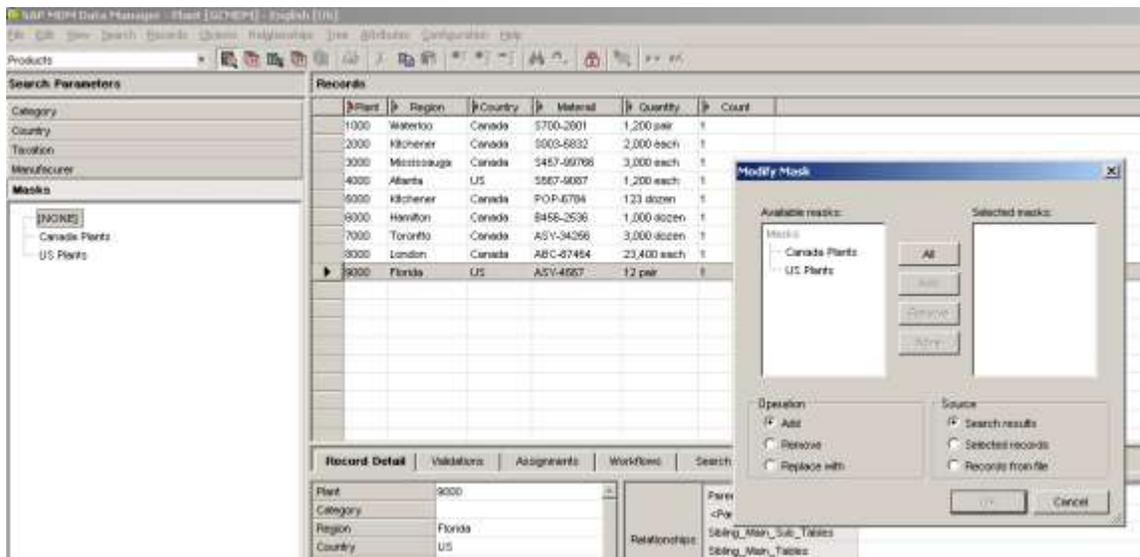
We can also modify any mask in MDM Data Manager by using the '**Modify Mask Command**' in 'Records' tool bar button.

Now we are going to add our newly created US Plant = 9000 record to the 'US Plants' masks once again in order to check this command. But as we know that we already added the US Plant = 9000 record into 'US Plants' mask. So first delete this record from the 'US Plants' masks and then create again in the MDM Data Manager.

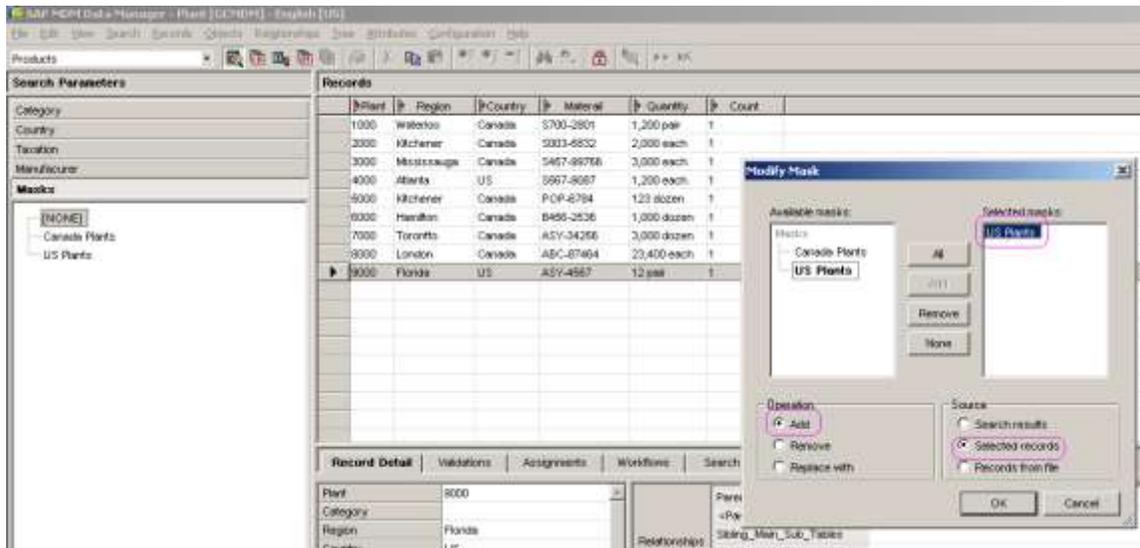
Once we created the same US Plant = 9000 record, then select this record in record pane and go to 'Records' tool button at the top. Now select the 'Modify Mask' command for including (or) deleting the records from(or)to the masks(below screen).



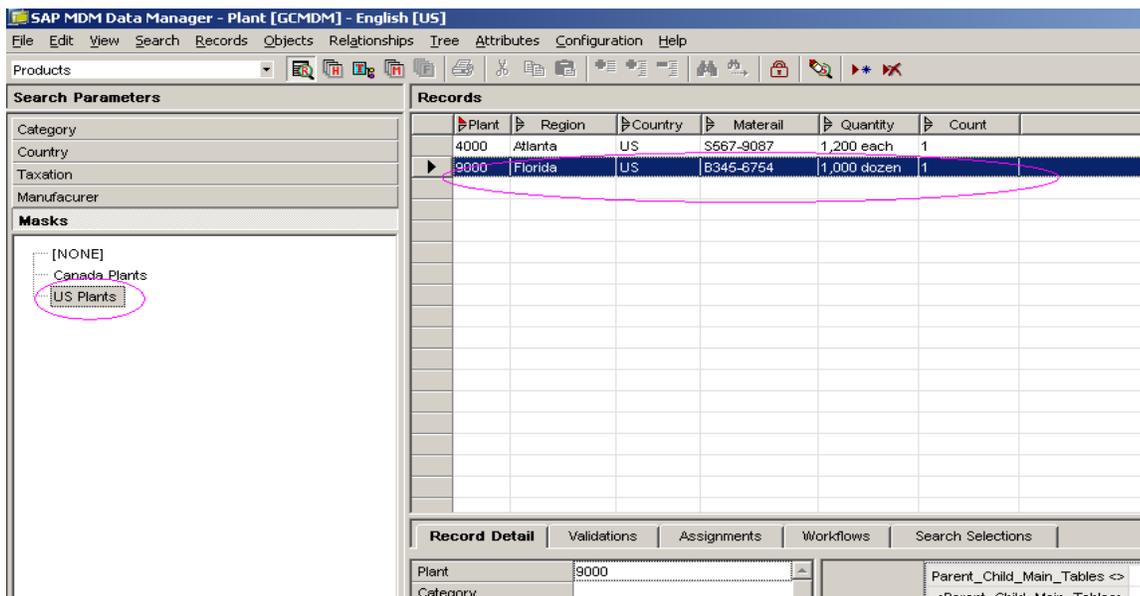
Then we will get 'Modify Mask Command' small window (below screen). Here if we want to add (or) delete (or) replace the records from a specific mask then select that particular radio button under the **Operation** and also select the desired **Source** of the record to add, remove, or replace to or from a mask.



In our example, we are going to add the US Plant = 9000 record into the 'US Plants' mask, so select the 'US Plants' from the available masks and select the *add* radio button under *Operation* and *Selected records* under *Source*.



Now we are going to check whether the US Plant = 9000 record is added to the 'US Plants' masks (or) not in the Data Manager. So go to the search parameter at left side and select the masks drill down. Now select the 'US Plants' mask and observe in the record pane whether the newly created US Plant = 9000 record is added to the 'US Plants' (or) not.



In the same way, we can replace (or) delete any record from a specific mask by using the 'Modify Mask Command' in the MDM Data Manager.

In a nutshell, even though masks are static objects, we can easily add (or) delete (or) replace record/records from (or) to a specific mask in the Data Manager without disturbing the existing data.

Restricting Masks at Role Level

For example, there is a business scenario, where some users are authorized to see some specific masks only in the MDM Data Manager. So here we need to restrict those particular masks at the role level by using the **Record Constraints** in the *Tables and Fields* tab of MDM Console. But the prerequisite for this one is 'all users' should be assigned to that particular role where we are going to restrict some masks in the console.

Record Constraints allow us to create virtual subset repositories per role. These subsets are dynamic based on the selections of masks and/or look up values. Only main table records which fall within the constrained records will be visible per role.

Here in order to work with this *restricting mask at role level*, we created two roles like '**Canada Role**' and '**US Role**'. These roles are assigned to different user ('Canada Role' is assigned to 'Admin2' user and 'US Role' is assigned to 'Admin' user) in a MDM Console.

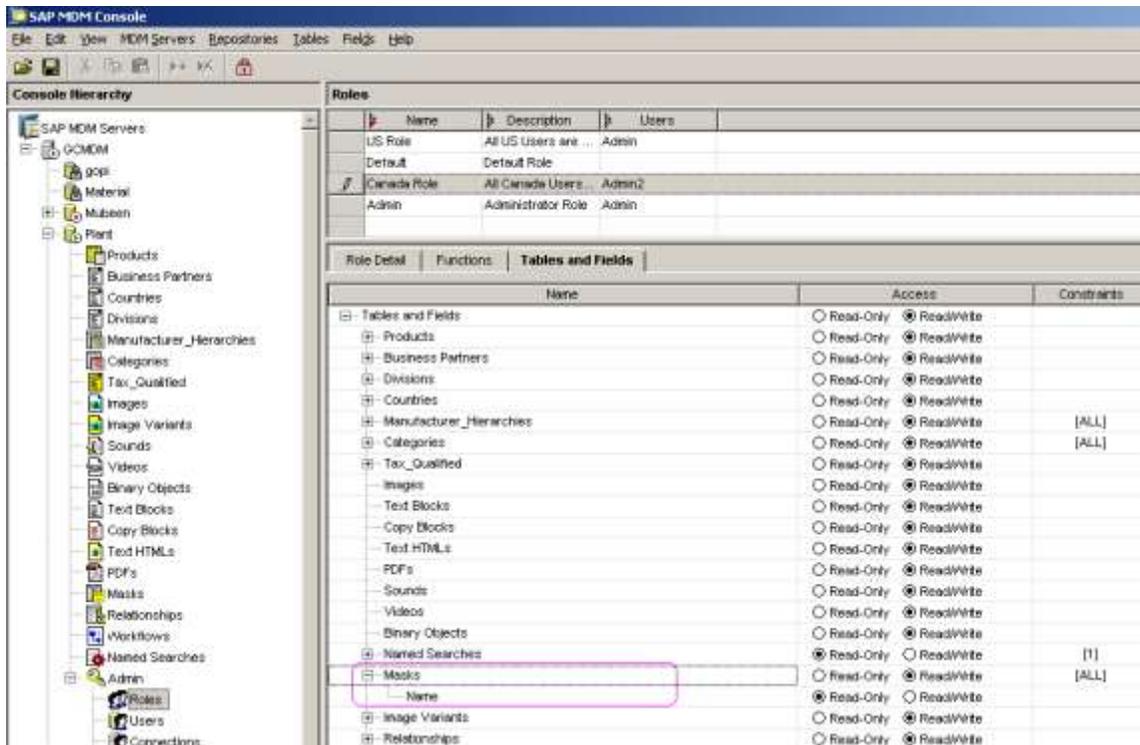
The screenshot shows the SAP MDM Console interface. On the left is the 'Console Hierarchy' tree, and on the right is the 'Roles' table. The 'Roles' table has columns for Name, Description, and Users. The 'Canada Role' is selected and highlighted in blue. Below the table, the 'Role Detail' section shows the configuration for the selected role.

Name	Description	Users
US Role	All US Users are ...	Admin
Default	Default Role	
Canada Role	All Canada Users...	Admin2
Admin	Administrator Role	Admin

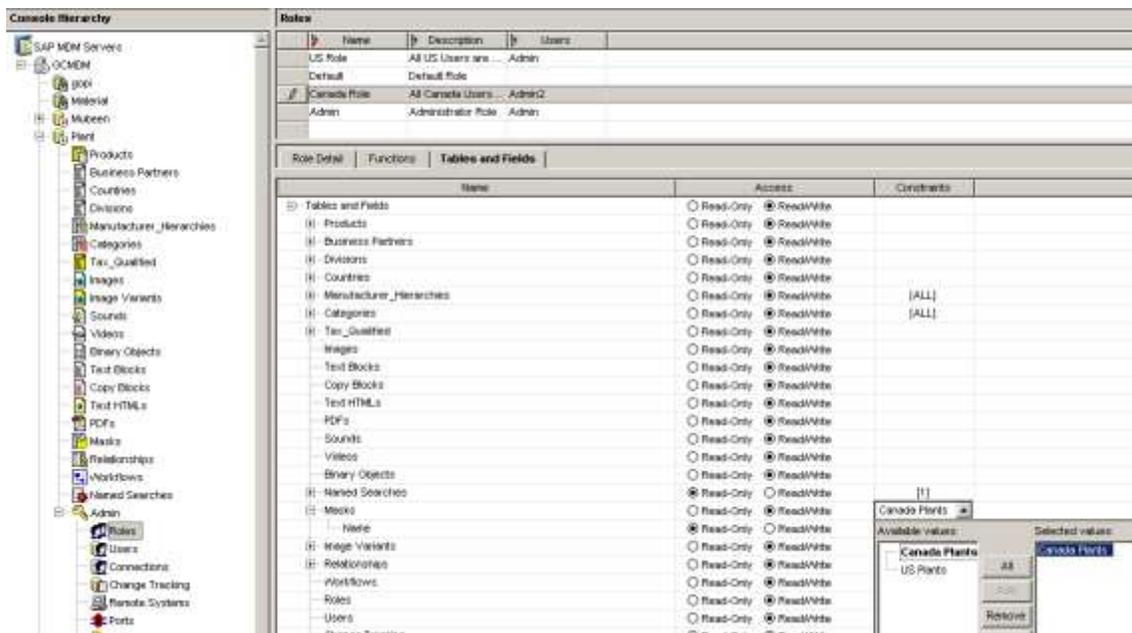
Role Detail	
Name	Canada Role
Description	All Canada Users are assigned to this role
Users	Admin2

For our example, now we are going to restrict the '**Canada Plants**' mask to the '**Canada Role**' in the MDM Console. So go to MDM Console -> 'Roles' Table under Admin folder -> Select the 'Canada Role'.

Once we select the 'Canada Role', go to the 'Tables and Roles' tab and select the masks radio button.



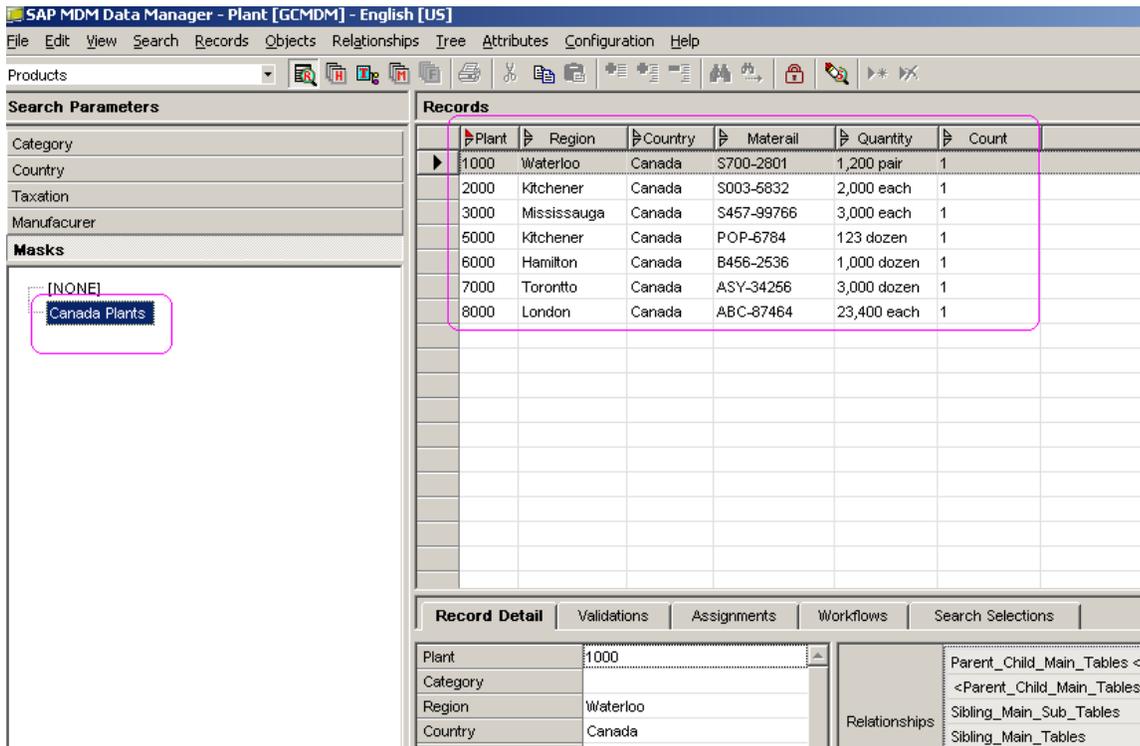
Now go to the **constraints** column and select the '**Canada Plants**' mask. And then load that particular repository in MDM Console.



Now we are going to check whether the User(**Admin2**) of the '**Canada Role**' can see only the '**Canada Plants**' mask (or) some other masks as well in MDM Data Manager . For this one, Logon to the MDM Data Manager with the **Admin2** user only. Because 'Canada Role' has been assigned to Admin2 user in Console .



Once we are in product main table in Data Manager, go to the search parameter at left side and select the masks drill down. Then select the '**Canada Plants**' mask and observe the records in the record pane. The record pane will have only the 'Canada Plants' specific records only . i.e, Admin2 user can only see (or) modify the Canada Plants related records.



In the same way, we can restrict the '**US Plants**' mask to the '**US Role**' in the MDM Console. Then the user(Admin) of the 'US Role' can only able to see (or) modify the US Plant related records only in the MDM Data Manager.

Related Content

http://help.sap.com/saphelp_mdmgds55/helpdata/en/43/120367f94c3e92e10000000a1553f6/frameset.htm

<http://www.sdn.sap.com/irj/scn/articles-mdm-all>

<http://www.sdn.sap.com/irj/scn/mdm-elearning>

<http://www.sdn.sap.com/irj/scn/weblogs?blog=/weblogs/topic/14>

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