

**aidev** **mongoDB** MONITORING PLUG-IN  
FOR ORACLE ENTERPRISE MANAGER

**ENTERPRISE MANAGER DYNAMIC GROUPS – A WALKTHROUGH EXAMPLE**

July 2016

## **OVERVIEW:**

Dynamic target groups within Oracle EM bring the following benefits:

**Dynamic group membership** – membership is triggered through the group membership configuration. By mapping this to use target properties, targets can join or leave groups automatically.

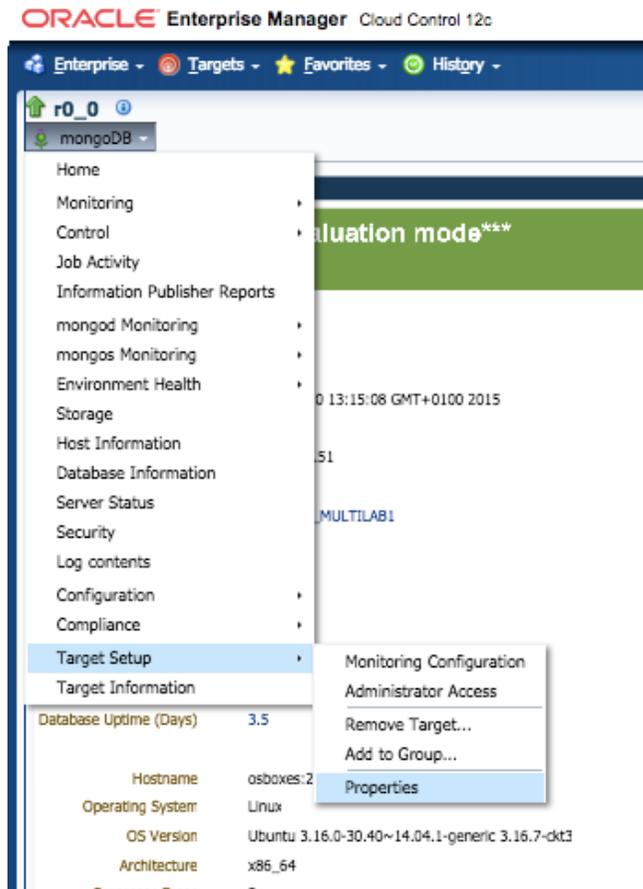
**A simplified security model** – users/roles can be granted access to a dynamic group. Privilege propagation ensures consistent target privileges are granted to the user base.

**Visibility of the wider environment** – the group homepage, charts and other associated pages within EM, as well as the automatically refreshed dashboard, provide an administrator with a powerful view of the wider environment.

**THIS WALKTHROUGH EXAMPLE LEVERAGES THE EXISTING ORACLE EM PROVIDED PROPERTY 'COMMENT' TO TRIGGER AUTOMATIC GROUP MEMBERSHIP OF MONGODB TARGETS. THE SCREENSHOTS ARE BASED ON EM12c, HOWEVER THE PROCESS IS IDENTICAL FOR EM13c.**

## SETTING TARGET PROPERTIES

From the Target homepage: **Target Setup** -> **Properties**



Enterprise - Targets - Favorites - History

r0\_0  
mongoDB

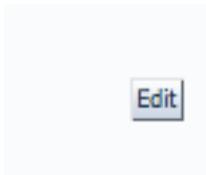
mongoDB Database: r0\_0 > Target Properties

### Target Properties

Administration Groups and Dynamic Groups are created using membership criteria specified using limitations.  
Administration Groups Hierarchy is not setup in this environment.

Name	Value
Comment	
Contact	
Cost Center	
Customer Support Identifier	
Department	
Lifecycle Status	Development
Line of Business	
Location	
Operating System	Linux
Platform	x86_64
Target Version	

Click **Edit**



ORACLE Enterprise Manager Cloud Control 12c

Enterprise - Targets - Favorites - History -

r0\_0  
mongoDB -

mongoDB Database: r0\_0 > Target Properties > Edit Target Properties

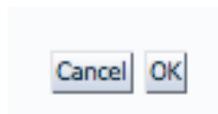
### Edit Target Properties

Administration Groups and Dynamic Groups are created using membership criteria specified using global target properties and limitations.  
Administration Groups Hierarchy is not setup in this environment.

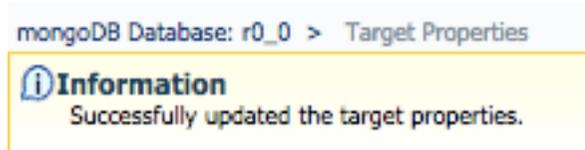
Name	Value
Comment	MGO_304_MULTILAB1
Contact	
Cost Center	
Customer Support Identifier	
Department	
Lifecycle Status	Development
Line of Business	
Location	
Operating System	Linux
Platform	x86_64
Target Version	

Enter the environment name into the Comments field

Click **OK**



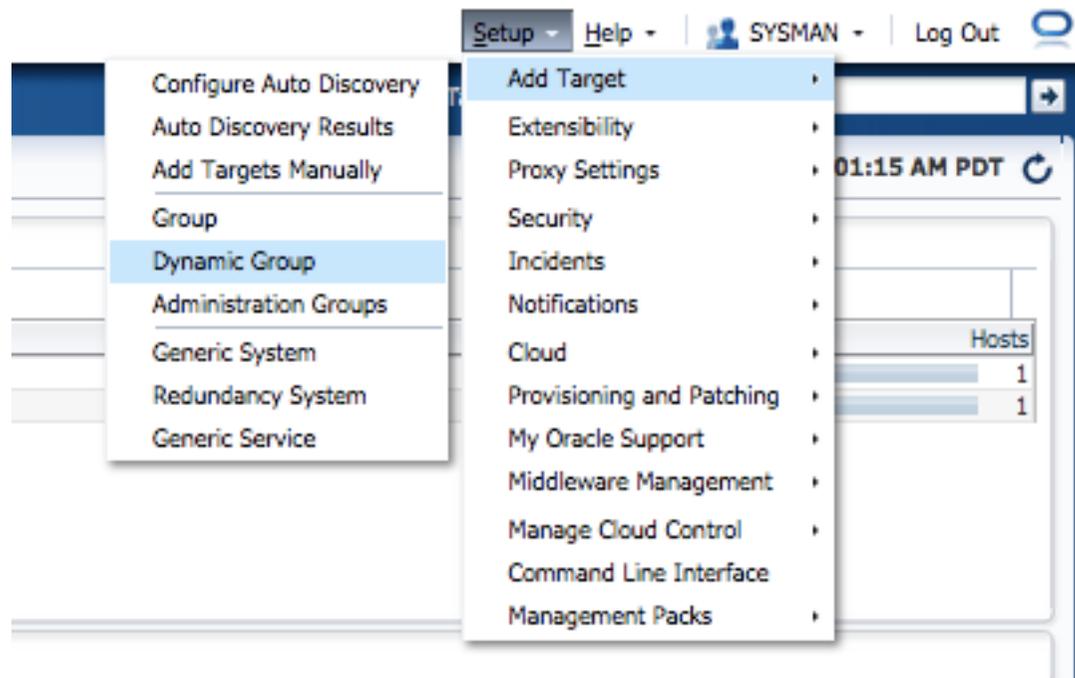
The target properties will be updated.



**Repeat the above process for all targets**

## CREATE THE DYNAMIC GROUP

From the EM homepage: **Setup ->Add Target -> Dynamic Group**



Enterprise - Targets - Favorites - History -

### Add Target

#### Create Dynamic Group

**General** | Charts | Columns | Dashboard | Access

\* Name:

Privilege Propagation  Enabled  
If privilege propagation is enabled for a group, privileges granted on the group will be propagated to the group's member targets. Therefore only those targets on which you have Full Target privileges can be members of a privilege propagation-enabled group.

Parent Groups:

#### Define Membership Criteria

Specify the target properties that determine the group membership. All targets that match all criteria (logical AND) will automatically be added to the group.

Target Property	Property Value(s)
No Criteria Defined	

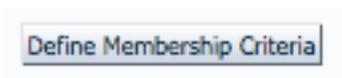
#### Time Zone

The time zone you select here is used for scheduling operations such as jobs and blackouts on this group. The groups statistics charts will also use this time zone.

Time Zone:

Provide a **Name**

Click on '**Define Membership Criteria**'



Enterprise - Targets - Favorites - History -

### Add Target

Create Privilege Propagating Group > Define Membership Criteria

#### Define Membership Criteria

**Specify Membership Criteria Using Target Properties**

Target Types  

On Host  

Lifecycle Status  

Line of Business  

Location  

Contact  

**Member Preview**

Use the Update Member Preview button to review the list of targets that currently match the dynamic group criteria.

Target Name	Applicable Target Types
No data found	

Click **'Add/Remove Target Properties'**

Enterprise - Targets - Favorites - History -

### Add Target

Create Privilege Propagating Group > Define Membership Criteria > Add/Remove Target Properties

#### Add/Remove Target Properties

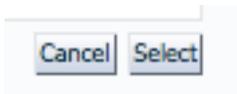
Target properties are used to describe operational attributes about a target. Select the target properties that will be

Select All | Select None

Select	Target Property
<input type="checkbox"/>	Lifecycle Status
<input type="checkbox"/>	Line of Business
<input type="checkbox"/>	Location
<input type="checkbox"/>	Contact
<input checked="" type="checkbox"/>	Comment
<input type="checkbox"/>	Department
<input type="checkbox"/>	Target Version
<input type="checkbox"/>	Operating System
<input type="checkbox"/>	Platform
<input type="checkbox"/>	Cost Center
<input type="checkbox"/>	Customer Support Identifier

Unselect all Properties except 'Comment'

Click **Select**



Enterprise - Targets - Favorites - History -

### Add Target

Create Privilege Propagating Group > Define Membership Criteria

#### Define Membership Criteria

**Specify Membership Criteria Using Target Properties**

Target Types  

On Host  

Comment  

[Add/Remove Target Properties](#)

**Member Preview**

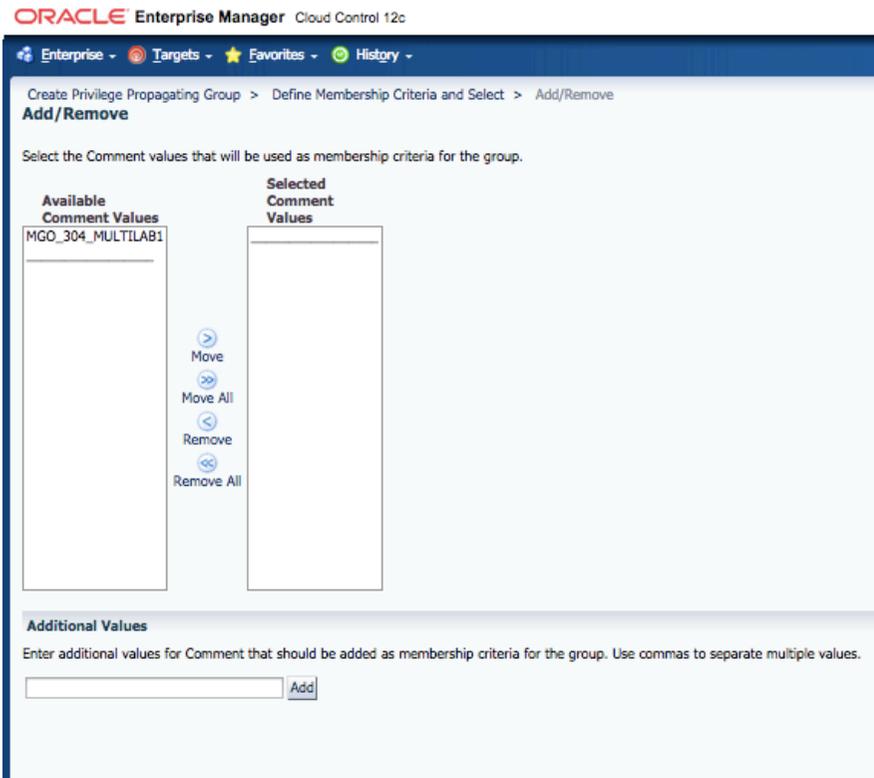
Use the Update Member Preview button to review the list of targets that currently match the dynamic group.

[Update Member Preview](#)

Target Name	Applicable
No data found	

Click the **spyglass icon** next to 'Comment'

Comment  



Select the appropriate Comment applicable to this environment.

Click the **Move** Icon

Enterprise - Targets - Favorites - History -

Create Privilege Propagating Group > Define Membership Criteria and Select > Add/Remove

### Add/Remove

Select the Comment values that will be used as membership criteria for the group.

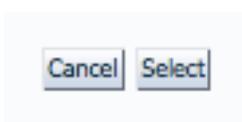
Available Comment Values	Selected Comment Values
	MGO_304_MULTILAB1

Move  
Move All  
Remove  
Remove All

**Additional Values**  
Enter additional values for Comment that should be added as membership criteria for the group. Use commas to separate multiple values.

Add

Click **Select**



Enterprise - Targets - Favorites - History -

### Add Target

Create Privilege Propagating Group > Define Membership Criteria

#### Define Membership Criteria

**Specify Membership Criteria Using Target Properties**

Target Types  

On Host  

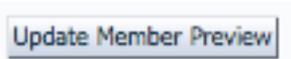
Comment  

**Member Preview**

Use the Update Member Preview button to review the list of targets that currently match the dynamic group criteria.

Target Name	Applicable Target Types
No data found	

Click **Update Member Preview**:



You should now see all targets for this environment listed in the Preview section:

**ORACLE Enterprise Manager** Cloud Control 12c

Enterprise - Targets - Favorites - History

### Add Target

Create Privilege Propagating Group > Define Membership Criteria

#### Define Membership Criteria

**Specify Membership Criteria Using Target Properties**

Target Types: Any  
On Host: Any  
Comment: MGO\_304\_MULTILAB1

[Add/Remove Target Properties](#)

**Overview**

- Choose the target properties th
- A target's properties must all cr
- to the group.
- Target properties that have no
- criteria.

**Member Preview**

Use the Update Member Preview button to review the list of targets that currently match the dynamic group criteria.

[Update Member Preview](#)

Target Name	Applicable Target Types	Host	Status
r0_0	mongoDB Database	emcc.example.com	🟢
r0_1	mongoDB Database	emcc.example.com	🟢
r0_r1_cfg_01	mongoDB Database	emcc.example.com	🟢
r0_r1_mongos_01	mongoDB Database	emcc.example.com	🟢
r1_0	mongoDB Database	emcc.example.com	🟢
r1_1	mongoDB Database	emcc.example.com	🟢

Click **OK**



Ensure the timezone is correct for the targets:

**ORACLE Enterprise Manager** Cloud Control 12c

Enterprise - Targets - Favorites - History

### Add Target

#### Create Dynamic Group

**General** | Charts | Columns | Dashboard | Access

\* Name:

Privilege Propagation:  Enabled  
If privilege propagation is enabled for a group, privileges granted on the group will be propagated to the group's member targets. Therefore only those targets on which you have Full Target privileges can be members of a privilege propagation-enabled group.

Parent Groups:

#### Define Membership Criteria

Specify the target properties that determine the group membership. All targets that match all criteria (logical AND) will automatically be added to the group

[Define Membership Criteria](#)

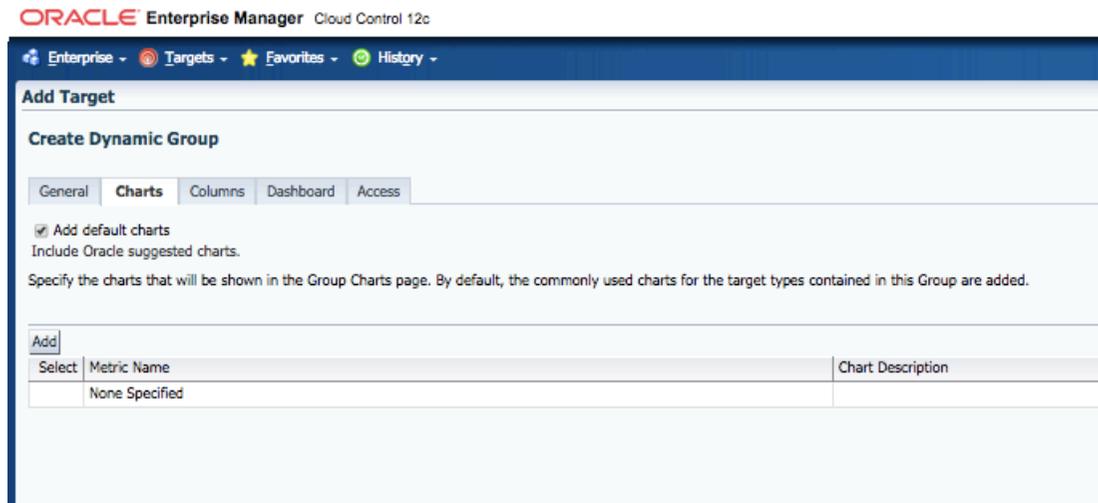
Target Property	Property Value(s)
Comment	MGO_304_MULTILAB1

#### Time Zone

The time zone you select here is used for scheduling operations such as jobs and blackouts on this group. The groups statistics charts will also use this time zone.

Time Zone:

Click the **Charts** tab:



From here we can add charts based on common metrics. Click '**Add**':

We can select metrics for the home page charts:

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. At the top, the navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. Below this, the breadcrumb 'Create Group > Add Chart' is visible. The main heading is 'Add Chart'. A descriptive text reads: 'Select the type of target and metric you would like to use. Then select the chart type that you would monitor.' Below this text are two dropdown menus: 'Type' is set to 'mongoDB Database' and 'Metric' is set to 'Databases: DB Total Size : Size'. A section titled 'Chart Type' contains five radio button options, each with a '2' in a spinner box. The first option, 'Targets with highest average', is selected. The other options are 'Targets with lowest average', 'Group Statistics' (with sub-options for Minimum, Maximum, Average, Sum, and Standard Deviation), 'Peak targets', and 'Selected Targets'.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise - Targets - Favorites - History -

Create Group > Add Chart

### Add Chart

Select the type of target and metric you would like to use. Then select the chart type that you would monitor.

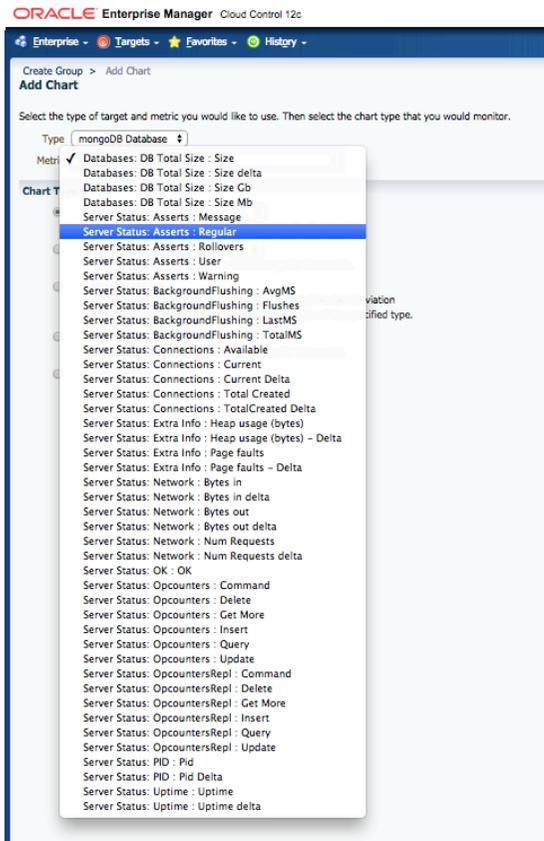
Type: mongoDB Database

Metric: Databases: DB Total Size : Size

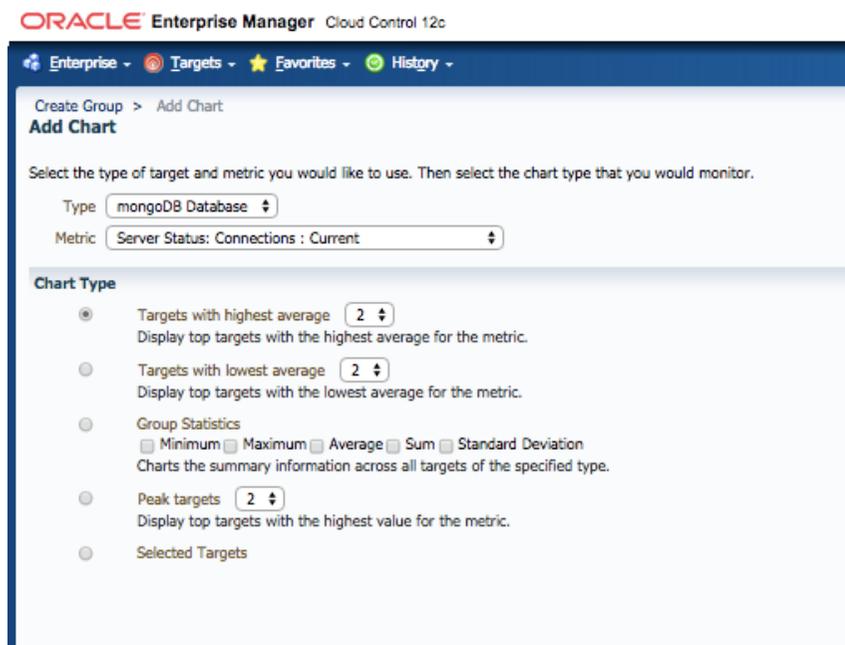
#### Chart Type

- Targets with highest average (2)   
 Display top targets with the highest average for the metric.
- Targets with lowest average (2)   
 Display top targets with the lowest average for the metric.
- Group Statistics   
  Minimum  Maximum  Average  Sum  Standard Deviation   
 Charts the summary information across all targets of the specified type.
- Peak targets (2)   
 Display top targets with the highest value for the metric.
- Selected Targets

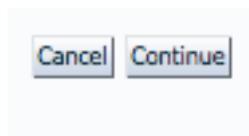
Many metrics are available for use:



For this example we choose **'Server Status: Connections: Current'**



Click **Continue**:

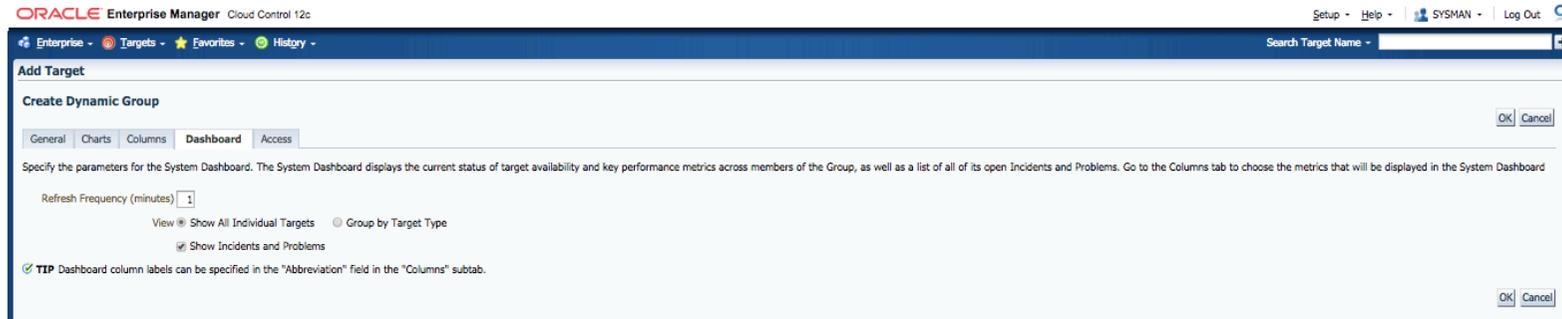


The **Columns** tab allows columns to be renamed/modified.

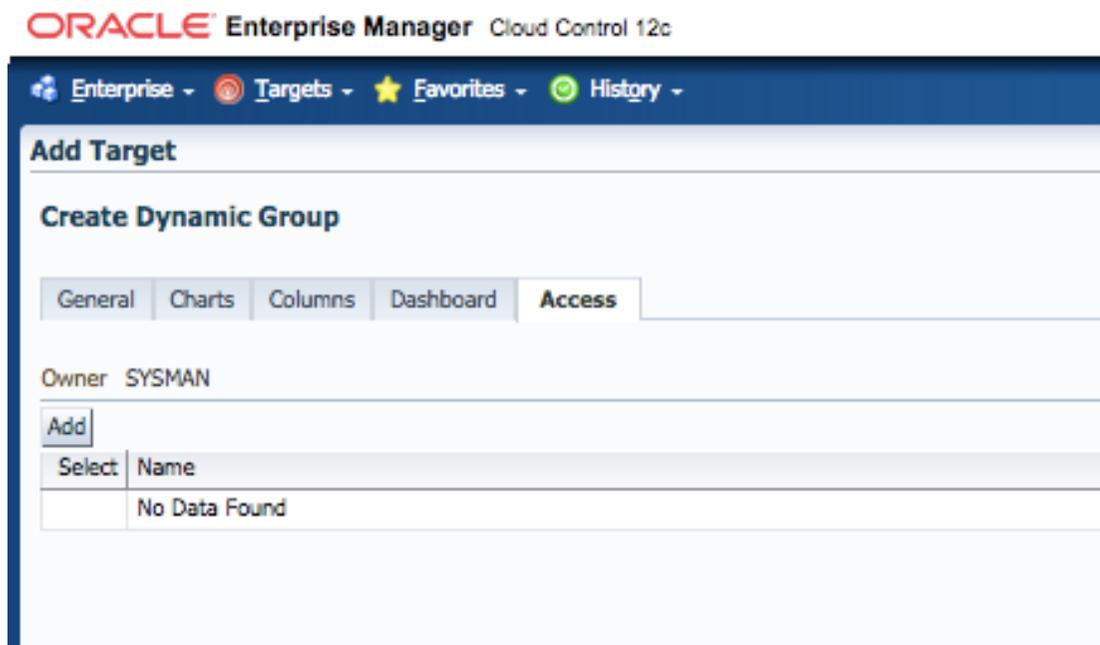
The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. At the top, the Oracle logo and 'Enterprise Manager Cloud Control 12c' are visible. Below the navigation bar, the 'Add Target' page is open, with the 'Columns' tab selected. The page title is 'Create Dynamic Group'. There are five tabs: 'General', 'Charts', 'Columns', 'Dashboard', and 'Access'. Below the tabs, a message states: 'These columns and abbreviations will be seen in the Group Members page and also in the System Dashboard. Abbreviations will be truncated to 15 characters.' A 'Modify' button is present. Below it is a table with two columns: 'Name' and 'Abbreviation'. The table contains four rows of data, each with a text input field for the 'Abbreviation' column.

Name	Abbreviation
Name	<input type="text" value="Name"/>
Type	<input type="text" value="Type"/>
Status	<input type="text" value="Status"/>
Incidents	<input type="text" value="Incidents"/>

The **Dashboard** tab allows customization of the system dash:



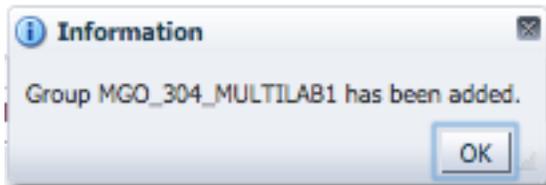
Finally, the **Access** tab can be used to grant access to users/groups:



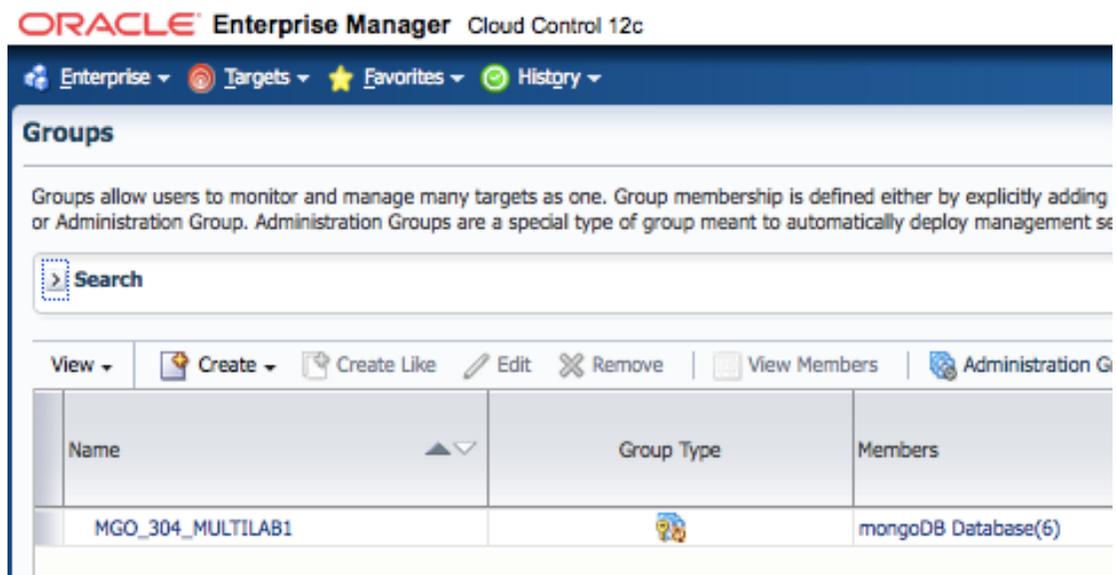
When finished, click **OK**



The following message will be shown:



We can now see the group under the **Groups** tab:



The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. At the top, the title is "ORACLE Enterprise Manager Cloud Control 12c". Below the title is a navigation bar with "Enterprise", "Targets", "Favorites", and "History" tabs. The main content area is titled "Groups" and contains a descriptive paragraph: "Groups allow users to monitor and manage many targets as one. Group membership is defined either by explicitly adding or Administration Group. Administration Groups are a special type of group meant to automatically deploy management se". Below the text is a search bar labeled "Search". A toolbar contains buttons for "View", "Create", "Create Like", "Edit", "Remove", "View Members", and "Administration G". A table below the toolbar lists the groups:

Name	Group Type	Members
MGO_304_MULTILAB1		mongoDB Database(6)

And we can navigate to the Group home page:

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

### MGO\_304\_MULTILAB1

Group

Page Refreshed Sep 1, 2015 12:16:42 PM PDT

View By All Target Types

**General**

Owner: SYSMAN  
 Group Type: Dynamic Group  
 Privilege Propagation: Enabled

**Overview of Incidents and Problems**

**Incidents**

Updated in last 24 hours: 0

Breakdown of incidents updated in the last 24 hours

Category	🚫	⚠️	🔴	🟢
Availability	-	-	-	-
Performance	-	-	-	-
Security	-	-	-	-
Others	-	-	-	-

**Problems**

Total Open: 0

**Job Activity**

Summary of jobs whose start date is within the last 7 days.

Show Latest Run Search Job Name

View Status: 🚫 0 🟡 0 🟢 0

Name	🟢	🟡	🚫	Started	Job Type
No job runs found					

Columns Hidden: 3 Total Executions: 0 Total Jobs: 0

**Patch Recommendations (composite, MGO\_304\_MULTILAB1)**

View by Classification Target Type

Patch recommendations are not available.

⚠️ My Oracle Support preferred [credential](#) is not set for any super user. Either set the preferred

**Status**

6 Members Up 6

**Most Affected Members (Last 24 Hours)**

Name	Type	Status	Availability (%)
r0_r1_mongos_01	🟢	🟢	100
r0_0	🟢	🟢	100
r1_1	🟢	🟢	100
r0_r1_cfg_01	🟢	🟢	100
r0_1	🟢	🟢	100

**Compliance Summary**

General Members

View Trends

Name	Violations	Average Compliance Score (%)
No data to display		

**Blackouts**

Create

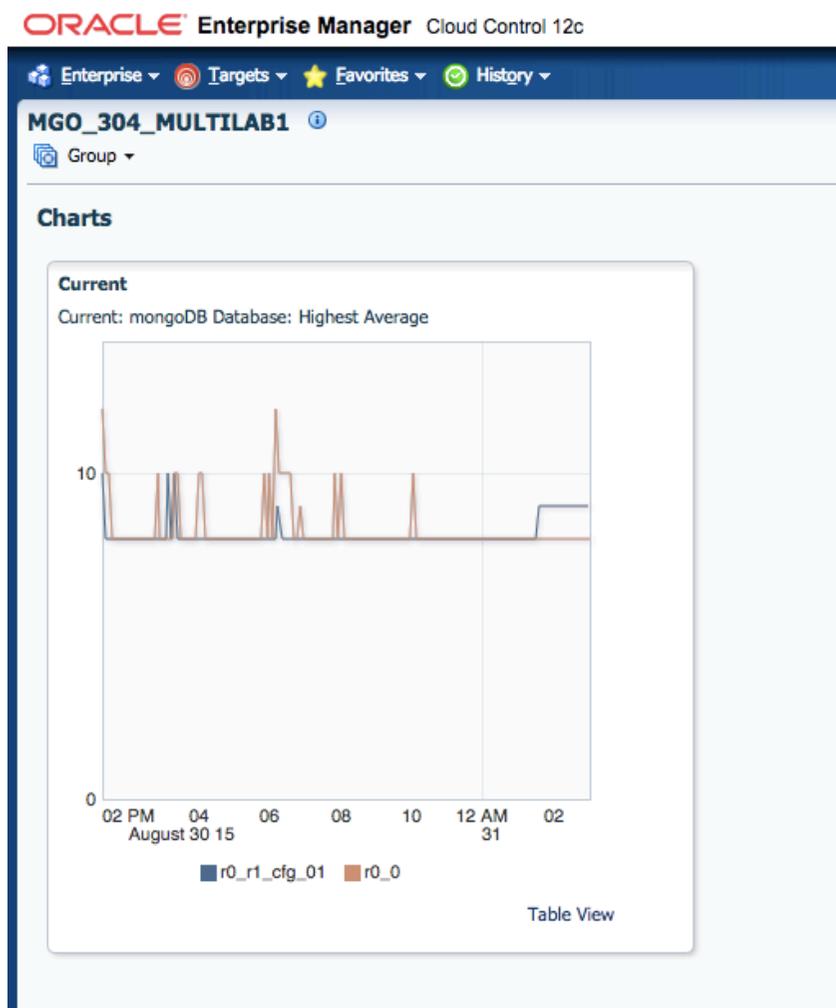
Status	Group	Submitted to	Any Member
Scheduled	0		0
Active	0		0

**Inventory and Usage**

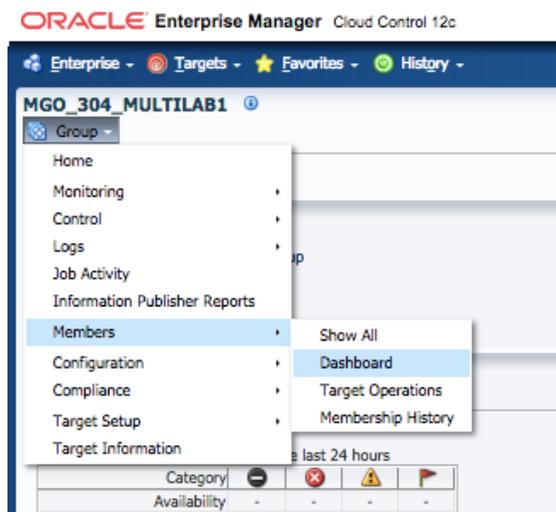
Show Hosts Platform See Details

Platform	Hosts
Oracle Linux Server release 5.7	1

The Charts defined earlier can be viewed through the **Charts** link:



We can also access the auto-refresh **Dashboard**:



Dashboard:

ORACLE Enterprise Manager Cloud Control 12c Help Log Out

**MGO\_304\_MULTILAB1** Page Refreshed September 1, 2015 12:18:09 PM PDT Stop Auto Refresh Customize

Member Targets (6)

Name	Type	Status	Incidents			
r1_1	mongoDB Database	1	-	215	-	-
r1_0	mongoDB Database	1	-	212	-	-
r0_r1_mongos_01	mongoDB Database	1	-	-	-	-
r0_r1_cfg_01	mongoDB Database	1	-	-	-	-
r0_1	mongoDB Database	1	-	174	-	-
r0_0	mongoDB Database	1	-	2	-	-

Incidents and Problems

View Category All 0 603 0 0

Summary	Severity	Status	Escalation level	Type	Time since last update	Target name	Last Comment
The value of Content for 253 is 2015-08-30T07:37:06.904+0100 I COMMAND [conn46370] command admin.\$cmd command: getLastError { getLastError: 1, w: "majority", wtimeout: 30000.0 } noreturn:1 keyUpdates:0 writeConflicts:0 numYields:0 reslen:168 locks:{ Global: { acquireCount: { r: 3, w: 3 } }, MMAPV1Journal: { acquireCount: { w: 3 }, acquireWaitCount: { w: 1 }, timeAcquiringMicros: { w: 8498 } }, Database: { acquireCount: { w: 1, W: 2 } }, Collection: { acquireCount: { W: 2 } }, oplog: { acquireCount: { w: 1 } } } 1713ms		New	No	Incident	2 days 12 hours	r0_0	(Incident created by rule (Name = Incident management rule set for all targets, Create incident for critical metric alerts [System generated rule]).) <SYSTEM> on Aug 29, 2015 11:51:12 PM PDT
The value of Content for 813 is 2015-08-30T07:37:06.904+0100 I COMMAND [conn46370] command admin.\$cmd command: getLastError { getLastError: 1, w: "majority", wtimeout: 30000.0 } noreturn:1 keyUpdates:0 writeConflicts:0 numYields:0 reslen:168 locks:{ Global: { acquireCount: { r: 3, w: 3 } }, MMAPV1Journal: { acquireCount: { w: 3 }, acquireWaitCount: { w: 1 }, timeAcquiringMicros: { w: 8498 } }, Database: { acquireCount: { w: 1, W: 2 } }, Collection: { acquireCount: { W: 2 } }, oplog: { acquireCount: { w: 1 } } } 1713ms		New	No	Incident	2 days 12 hours	r0_0	(Incident created by rule (Name = Incident management rule set for all targets, Create incident for critical metric alerts [System generated rule]).) <SYSTEM> on Aug 29, 2015 11:41:12 PM PDT
The value of Content for 3 is 2015-08-27T22:34:55.574+0100 I REPL [ReplicationExecutor] Error in heartbeat request to osboxes:27038; Location18915 Failed attempt to connect to osboxes:27038; couldn't connect to server osboxes:27038 (192.168.0.51), connection attempt failed		New	No	Incident	4 days 21 hours	r1_1	(Incident created by rule (Name = Incident management rule set for all targets, Create incident for critical metric alerts [System generated rule]).) <SYSTEM> on Aug 27, 2015 2:55:44 PM PDT
The value of Content for 45 is 2015-08-27T22:35:09.631+0100 I REPL [ReplicationExecutor] Error in heartbeat request to osboxes:27038; Location18915 Failed attempt to connect to osboxes:27038; couldn't connect to server osboxes:27038 (192.168.0.51), connection attempt failed		New	No	Incident	4 days 21 hours	r1_1	(Incident created by rule (Name = Incident management rule set for all targets, Create incident for critical metric alerts [System generated rule]).) <SYSTEM> on Aug 27, 2015 2:15:43 PM PDT
The value of Content for 17 is 2015-08-27T22:34:59.593+0100 I REPL [ReplicationExecutor] Error in heartbeat request to osboxes:27038; Location18915 Failed attempt to connect to osboxes:27038; couldn't connect to server osboxes:27038 (192.168.0.51), connection attempt failed		New	No	Incident	4 days 21 hours	r1_1	(Incident created by rule (Name = Incident management rule set for all targets, Create incident for critical metric alerts [System generated rule]).) <SYSTEM> on Aug 27, 2015 2:55:44 PM PDT

Columns Hidden 12



NEED FURTHER INFORMATION? contact [info@aidev.uk](mailto:info@aidev.uk) for more details on this product and how to join up with us.

Copyright © 2016 Aidev [A trading name of Wardrop Consulting Limited]. All rights reserved.

MongoDB and the leaf logo are trademarks or registered trademarks of mongoDB Inc or its affiliates in the U.S. and other countries. Microsoft, SQL Server, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Oracle and Oracle Enterprise Manager are trademarks or registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Specifications and product offerings subject to change without notice.

Please ensure you have appropriate licenses for running this product. Aidev takes no responsibility whatsoever re. site licensing of Oracle EM, mongoDB or any other software used with this plugin – this responsibility lies solely with the Client.