

Metric Extension – gv\$active_session_history to csv

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I. Overview

The Active Data Guard (ADG) can only store historical information in memory because of its “read only” state. Unlike the primary database where all the in memory performance data gets flushed periodically to Automatic Workload Repository (AWR) for later reporting, in ADG all data is gone once the buffer gets full and recycled for newer data. One workaround we did is to dump the Active Session History (ASH) data to filesystem and later on analyzed with a desktop analytics tool. This document shows how to pull the ASH data across the ADG databases through a Metric Extension and store it inside the Oracle Enterprise Manager (OEM) repository. The following are the advantages of doing this:

- OEM repository will be responsible of aging out the data (default: 32 days retention)
- No more overhead on the server filesystem
- Easier data access (though SQL*Developer or SQL*Plus)
- Easy to scale – deploy the Metric Extension to the new database and performance data will be automatically stored and purged

II. Create Metric Extension

1) On the OEM12c home page click on Monitoring -> Metric Extensions

Oracle Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History

Search Target Name

Page Refreshed Dec 9, 2014 2:59:40 PM EST

Auto Refresh Off

Inventory and Usage

Show Hosts Details

33% 67%

Oracle Linux Server release 5.10
Oracle Linux Server release 5.8

Compliance Summary

Frameworks Standards

View Trends

Name Target Evaluations Violations Average Compliance Score (%)

No data to display

Least Compliant Targets

View Trends Target Type Host

Target Name Target Type Standard Evaluations Violations Average Compliance Score (%)

No data to display

Incidents

Updated in last 7 days 25

Breakdown of incidents updated in the last 7 days

Category	Up (41)	Down (2)	Unknown (1)
Availability	2	1	-
Performance	-	-	-
Security	-	-	-
Others	-	22	-

Problems

Total Open 0

Jobs

Suspended Executions 0 ✓
Problem Executions 0 ✓

2) Create -> Metric Extension

Oracle Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History

Search Target Name

Page Refreshed Dec 8, 2014 5:30:33 PM EST

Metric Extensions

Metric Extensions enhance Enterprise Manager's monitoring capabilities by enabling you to create new metrics specific to your environment. New metric extensions can be defined for any target monitored by Enterprise Manager.

Show Overview

Pending Operations 0 Failed Operations 0

Search

Match All Any

Target Type Name Version Status Runs On Owner Display Oracle Provided Metric Extensions

Search Reset Save...

Actions View Create Import...

Name	Display Name	Version	Description	Deployed Targets	Monitoring Templates	Status	Owner
ME\$CELLSRV_IOPS_AL	Cell Server IOPS	1	Cell Server IOPS	1	0	Published	SYSMAN

Columns Hidden 4 Row Count 1

3) On General Properties and Collection Schedule

- Target Type: Database Instance
- Name ME\$: GVASH_TO_CSV
- Display Name: gvash to csv
- Adapter: SQL

- e. Description: gvash to csv
- f. Repeat Every: change to 10 minutes

Oracle Enterprise Manager Cloud Control 12c

Metric Extensions

General Properties | Adapter | Columns | Credentials | Test | Review

Create New: General Properties

Specify the basic properties for the metric extension.
The default collection can be overridden on a target instance basis in the target's Metric and Collection Settings page.

General Properties

- * Target Type: Database Instance
- * Name ME\$: GVASH_TO_CSV
 - ☒ A Metric Extension Name can only contain alpha-numeric characters and the following non leading special characters: ('_', '-', '.', ',')
- * Display Name: gvash to csv
- * Adapter: SQL
 - ☒ Executes SQL Statement against specified database and returns results as a table
- Description: gvash to csv

Collection Schedule

Data Collection: ☐ Disabled ☒ Enabled

Use of Metric Data: ☐ Alerting Only ☒ Alerting and Historical Trending

Upload Interval: 1 Collections

Frequency

Collection Frequency: By Minutes

Repeat Every: 10 Minutes

4) Click on the pencil -> upload the gvash_to_csv.sql script (below) -> OK


gvash_to_csv.sql

Oracle Enterprise Manager Cloud Control 12c

Metric Extensions

General Properties | **Adapter** | Columns | Credentials | Test | Review

Create New: Adapter

Specify the adapter definition properties.
Note that connection/credential properties cannot be changed after creation.

Basic Properties

SQL Query:

Sql or PL/SQL script:

SQL Query File:

Absolute path to file:

Advanced Properties

Connection Properties

Upload Custom Files

You can upload custom files here, which will be used to execute the SQL query.

☒ Add ☐ Upload

Filename:

Click 'Add' or 'Upload' to create a file

SQL Query File (New File)

File Editor

* Filename: gvash_to_csv.sql

File Contents

```
SELECT
TO_CHAR(SAMPLE_TIME,'MM/DD/YY HH24:MI:SS') TM
,DBMS_RANDOM.STRING('X',15) RANDOM_KEY
,INST_ID
,EVENT
,SQL_ID
,PROGRAM
,MACHINE
,TIME_WAITED
,mv(Delta_Read_IO_Requests,0) READ_IO
,mv(Delta_Write_IO_Requests,0) WRITE_IO
,mv(Delta_Read_IO_Bytes,0) READ_BYTES
,mv(Delta_Write_IO_Bytes,0) WRITE_BYTES
FROM
gv$active_session_history
WHERE SAMPLE_TIME > sysdate - 10/1440
ORDER BY SAMPLE_TIME ASC;
```

☒ You can manage all uploaded files in the "Upload Custom Files" section in the bottom of this page.

5) Next

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Metric Extensions

General Properties **Adapter** Columns Credentials Test Review

Create New: Adapter

Specify the adapter definition properties.
Note that connection/credential properties cannot be edited, although credentials may be overridden in Step 4 of this wizard.

Basic Properties

SQL Query

Sql or PL/SQL statement. Either SQL Query or SQL Query File should be provided

SQL Query File

Absolute path to file containing SQL script. Either SQL Query or SQL Query File should be provided

Advanced Properties

Connection Properties

Upload Custom Files

You can upload custom files here, which will be packaged into the Metric Extension. Usually, these are custom scripts or binaries that you want to execute.

+ Add ↓ Upload

Filename	Size	Edit	Delete
gvash_to_csv.sql	403		

SQL

Execute a normal SQL query or PL/SQL statement against the database.

Properties

- SQL Query - The sql query to execute. Normal SQL statements should not be semi-colon terminated. For example, SQL Query = "select a.ename, (select count(*) from emp p where p.mgr=a.empno) directs from emp a". PL/SQL statements are also supported, and if used, the "Out Parameter Position" and "Out Parameter Type" properties should be populated.
- SQL Query File - A SQL query file. Note that only one of "SQL Query" or "SQL Query File" should be used. For example, %scriptsDir%/myquery.sql. You can upload custom files to the agent, which will be accessible under the %scriptsDir% directory.
- Transpose Result - Transpose the SQL query result.
- Bind Variables - Declare bind variables used in normal SQL statements here. For example, if the SQL Query = "select a.ename from emp a where a.mgr = :1", then you can declare the bind variable as Name=:1, Value=:Bob.
- Out Parameter Position - The bind variable used for PL/SQL output. Only a number should be

Available Variables

Variables can be used in adapter properties. Variable names are case-sensitive. To escape '%', use '%%'.

Name	Description
%perlBin%	location of perl binary
%scriptsDir%	directory where scripts are stored
%NAME%	name of target instance
%TYPE%	target type
%DISPLAY_NAME%	display name of target instance
%TYPE_DISPLAY_NAME%	display name of target type
%OracleHome%	Oracle Home Path
%MachineName%	Listener Machine Name
%Port%	Port
%SID%	Database SID

Back Step 2 of 6 Next Finish Cancel

6) Add -> New Metric Column

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Metric Extensions

General Properties Adapter **Columns** Credentials Test Review

Create New: Columns

Metric columns are specified here.
The order of the metric columns matter, and it should match the order that they are returned from the adapter.

Columns

View + Add ✎ Edit ✖ Delete ⬆ Move Up ⬇ Move Down

Name	Column Type	Value Type	Comparison Operator	Alert Threshold	Warning	Critical
New metric column						
No data found						

Back Step 3 of 6 Next Finish Cancel

7) On Add Column: TM

- a. Name: TM
- b. Display Name: TM
- c. Column Type: Key Column
- d. Value Type: String

Add Column

×

* Name

TM

* Display Name

TM

* Column Type

☐ Data Column
☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

String

Unit

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Metric Category

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Alert Threshold

Comparison Operator

Warning

Critical

Advanced

OK

Cancel

- 8) On Add Column: RANDOM_KEY
 - a. Name: RANDOM_KEY
 - b. Display Name: RANDOM_KEY
 - c. Column Type: Key Column
 - d. Value Type: String

Edit Column

×

* Name

RANDOM_KEY

* Display Name

RANDOM_KEY

* Column Type

☐ Data Column
☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

String

Unit

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Metric Category

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Alert Threshold

Comparison Operator

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

- 9) On Add Column: INST_ID
 - a. Name: INST_ID
 - b. Display Name: INST_ID
 - c. Column Type: Key Column
 - d. Value Type: String

×

Add Column

* Name

INST_ID

* Display Name

INST_ID

* Column Type

☐ Data Column
 ☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

String

Unit

Transient

☐ True
 ☒ False

☒ The data of transient metric column are not uploaded.

Metric Category

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Alert Threshold

Comparison Operator

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
 keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
 (Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
 keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
 (Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

- 10) On Add Column: EVENT
- Name: EVENT
 - Display Name: EVENT
 - Column Type: Key Column
 - Value Type: String

×

Add Column

* Name

EVENT

* Display Name

EVENT

* Column Type

☐ Data Column
☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

String ▾

Unit

Metric Category

▾

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator

▾

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

- 11) On Add Column: SQL_ID
- Name: SQL_ID
 - Display Name: SQL_ID
 - Column Type: Key Column
 - Value Type: String

×

Add Column

* Name

SQL_ID

* Display Name

SQL_ID

* Column Type

☐ Data Column
☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

String ▾

Unit

Metric Category

▾

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator

▾

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

12) On Add Column: PROGRAM

- a. Name: PROGRAM
- b. Display Name: PROGRAM
- c. Column Type: Key Column
- d. Value Type: String

Add Column

* Name * Display Name

* Column Type ☐ Data Column ☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

Metric Category

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

* Value Type

Unit

Transient ☐ True ☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator

Warning Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK Cancel

13) On Add Column: MACHINE

- a. Name: MACHINE
- b. Display Name: MACHINE
- c. Column Type: Key Column
- d. Value Type: String

×

Add Column

* Name

MACHINE

* Display Name

MACHINE

* Column Type

☐ Data Column
☒ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

String

Unit

Metric Category

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

14) On Add Column: TIME_WAITED

- Name: TIME_WAITED
- Display Name: TIME_WAITED
- Column Type: Data Column
- Value Type: Number

×

Add Column

* Name

TIME_WAITED

* Display Name

TIME_WAITED

* Column Type

☒ Data Column
☐ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

Number

Unit

Metric Category

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

15) On Add Column: READ_IO

- a. Name: READ_IO
- b. Display Name: READ_IO
- c. Column Type: Data Column
- d. Value Type: Number

Add Column

* Name: * Display Name:

* Column Type: ☒ Data Column ☐ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

Metric Category:

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

* Value Type: Unit:

Transient: ☐ True ☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator: Warning Critical

Warning Thresholds by Key:

☒ Use the format:
keyValue1Col1[,keyValue1Col2,...]=warning1;keyValue2Col1[,keyValue2Col2,...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key:

☒ Use the format:
keyValue1Col1[,keyValue1Col2,...]=critical1;keyValue2Col1[,keyValue2Col2,...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK Cancel

16) On Add Column: WRITE_IO

- a. Name: WRITE_IO
- b. Display Name: WRITE_IO
- c. Column Type: Data Column
- d. Value Type: Number

×

Add Column

* Name

WRITE_IO

* Display Name

WRITE_IO

* Column Type

☒ Data Column
☐ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

Number ▾

Unit

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Metric Category

▾

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Alert Threshold

Comparison Operator

▾

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

- 17) On Add Column: READ_BYTES
- Name: READ_BYTES
 - Display Name: READ_BYTES
 - Column Type: Data Column
 - Value Type: Number

×

Add Column

* Name

READ_BYTES

* Display Name

READ_BYTES

* Column Type

☒ Data Column
☐ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

* Value Type

Number ▾

Unit

Transient

☐ True
☒ False

☒ The data of transient metric column are not uploaded.

Metric Category

▾

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

Alert Threshold

Comparison Operator

▾

Warning

Critical

Warning Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key

☒ Use the format:
keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK

Cancel

18) On Add Column: WRITE_BYTES

- a. Name: WRITE_BYTES
- b. Display Name: WRITE_BYTES
- c. Column Type: Data Column
- d. Value Type: Number

Add Column

* Name: * Display Name:

* Column Type: ☒ Data Column ☐ Key Column

☒ A key column is one of a set of columns that uniquely identifies each row in a table.

Metric Category:

☒ Choose the category for your metric so that you can later search for the metric or its alerts by category.

* Value Type: Unit:

Transient: ☐ True ☒ False

☒ The data of transient metric column are not uploaded.

Alert Threshold

Comparison Operator:

Warning Thresholds by Key:

Use the format:
☒ keyValue1Col1[,keyValue1Col2...]=warning1;keyValue2Col1[,keyValue2Col2...]=warning2;...
(Example) SMITH,JAY=100;DOE,JOHN=200;CLARK,DICK=500

Critical Thresholds by Key:

Use the format:
☒ keyValue1Col1[,keyValue1Col2...]=critical1;keyValue2Col1[,keyValue2Col2...]=critical2;...
(Example) SMITH,JAY=250;DOE,JOHN=400;CLARK,DICK=900

Advanced

OK Cancel

19) There should be a total of 12 columns created

- a. 7 key columns
- b. 5 data columns

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Metric Extensions

General Properties Adapter **Columns** Credentials Test Review

Create New: Columns Back Step 3 of 6 Next Finish Cancel

Metric columns are specified here.
The order of the metric columns matter, and it should match the order that they are returned from the adapter.

Columns

View Add Edit Delete Move Up Move Down

Name	Display Name	Column Type	Value Type	Comparison Operator	Alert Threshold	
					Warning	Critical
TM	TM	Key Column	String			
RANDOM_KEY	RANDOM_KEY	Key Column	String			
INST_ID	INST_ID	Key Column	String			
EVENT	EVENT	Key Column	String			
SQL_ID	SQL_ID	Key Column	String			
PROGRAM	PROGRAM	Key Column	String			
MACHINE	MACHINE	Key Column	String			
TIME_WAITED	TIME_WAITED	Data Column	Number			
READ_IO	READ_IO	Data Column	Number			
WRITE_IO	WRITE_IO	Data Column	Number			
READ_BYTES	READ_BYTES	Data Column	Number			
WRITE_BYTES	WRITE_BYTES	Data Column	Number			

20) Use Default Monitoring Credentials -> Next

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Metric Extensions

General Properties Adapter Columns **Credentials** Test Review

Create New: Credentials Back Step 4 of 6 Next Finish Cancel

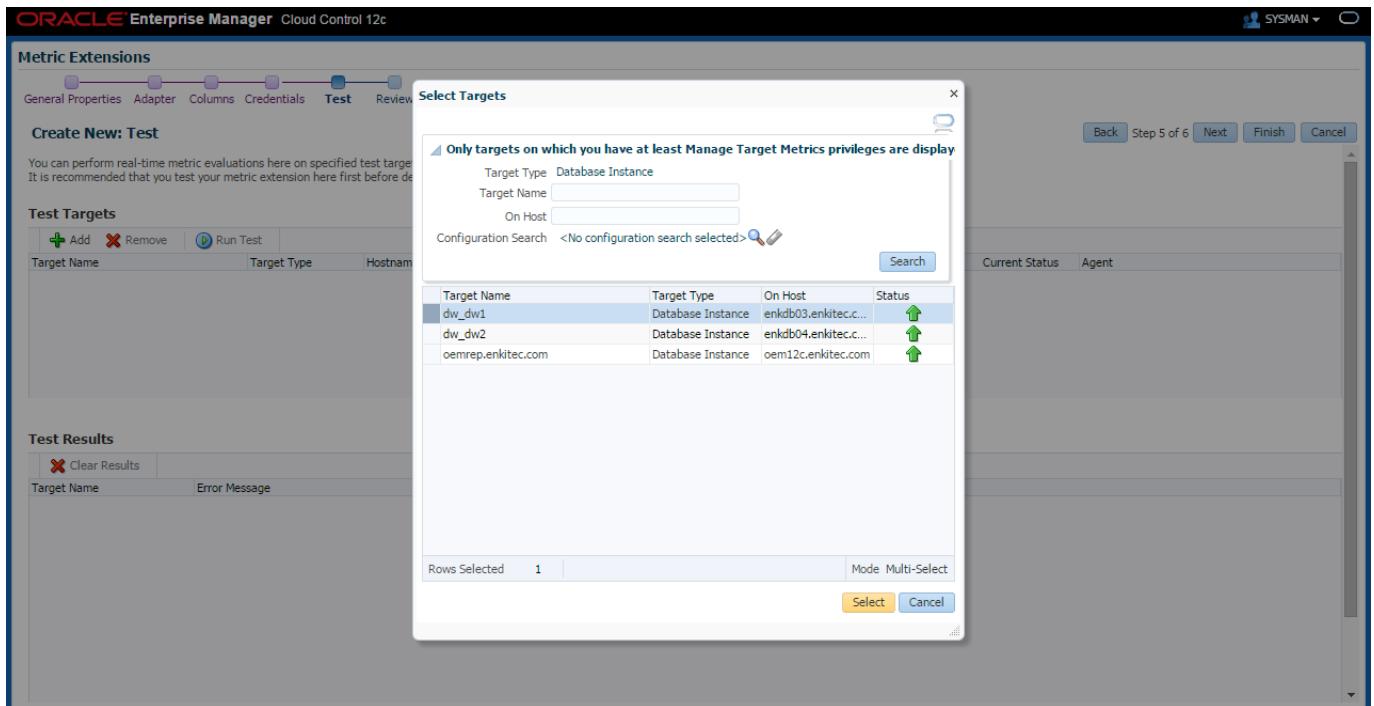
You can override the default credentials with custom monitoring credential sets.
Custom monitoring sets can be created through the command line tool: `emcli create_credential_set`. Refer to the manual for additional details.

Credentials

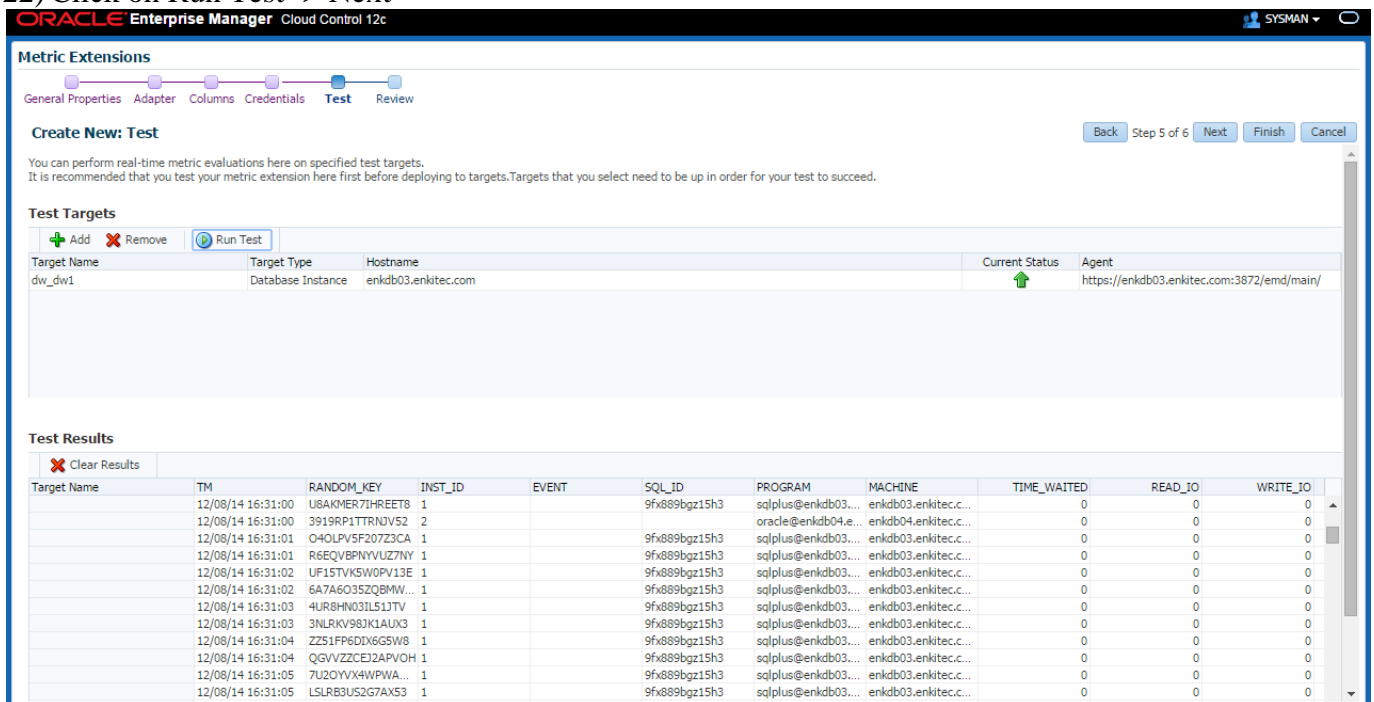
* Database Credentials ☒ Use Default Monitoring Credentials ☐ Specify Credential Set

Specify the credential used to connect to the database.

21) Add Test Target -> Select the 1st instance of any cluster database



22) Click on Run Test -> Next



23) Review the details -> Finish

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Metric Extensions

General Properties Adapter Columns Credentials Test **Review**

Create New: Review

Creating version 1 of metric extension ME\$GVASH_TO_CSV that runs on Target for target type Database Instance.

General Properties

Target Type: Database Instance
 Name: ME\$GVASH_TO_CSV
 Display Name: gvash to csv
 Adapter: SQL
 Description: gvash to csv
 Version Comment:

Collection Schedule

Data Collection: Enabled
 Collection Frequency: By Minutes
 Repeat Every: 10 Minutes
 Use of Metric Data: Alerting and Historical Trending
 Upload Interval: 1

Adapter Properties

SQL Query File: %scriptsDir%\gvash_to_csv.sql

Advanced Properties

No Advanced Properties added.

Custom Files

No Custom Files added.
 gvash_to_csv.sql (463 bytes)

Columns

Name	Display Name	Column Type	Value Type	Comparison Operator	Alert Threshold	Warning	Critical
TN	TN	Key Column	String				
RANDOM_KEY	RANDOM_KEY	Key Column	String				
INST_ID	INST_ID	Key Column	String				
EVENT	EVENT	Key Column	String				
SQL_ID	SQL_ID	Key Column	String				
PROGRAM	PROGRAM	Key Column	String				
MACHINE	MACHINE	Key Column	String				
TIME_WAITED	TIME_WAITED	Data Column	Number				
READ_IO	READ_IO	Data Column	Number				
WRITE_IO	WRITE_IO	Data Column	Number				
READ_BYTES	READ_BYTES	Data Column	Number				
WRITE_BYTES	WRITE_BYTES	Data Column	Number				

Credentials

Database Credentials: Uses Monitoring Credentials of Target.

Testing Status

Tested against 1 targets: 0 Failures

24) Metric Extension is created

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise Targets Favorites History

Metric Extensions Page Refreshed Dec 8, 2014 5:41:52 PM EST

Confirmation

Metric Extension: gvash to csv v1 (ME\$GVASH_TO_CSV) successfully created.

Metric Extensions enhance Enterprise Manager's monitoring capabilities by enabling you to create new metrics specific to your environment. New metric extensions can be defined for any target monitored by Enterprise Manager.

Show Overview

Pending Operations 0 Failed Operations 0

Search Saved Search

Match: ☒ All ☐ Any

Target Type: Version: Runs On: Display Oracle Provided Metric Extensions: ☐

Name: Status: Owner:

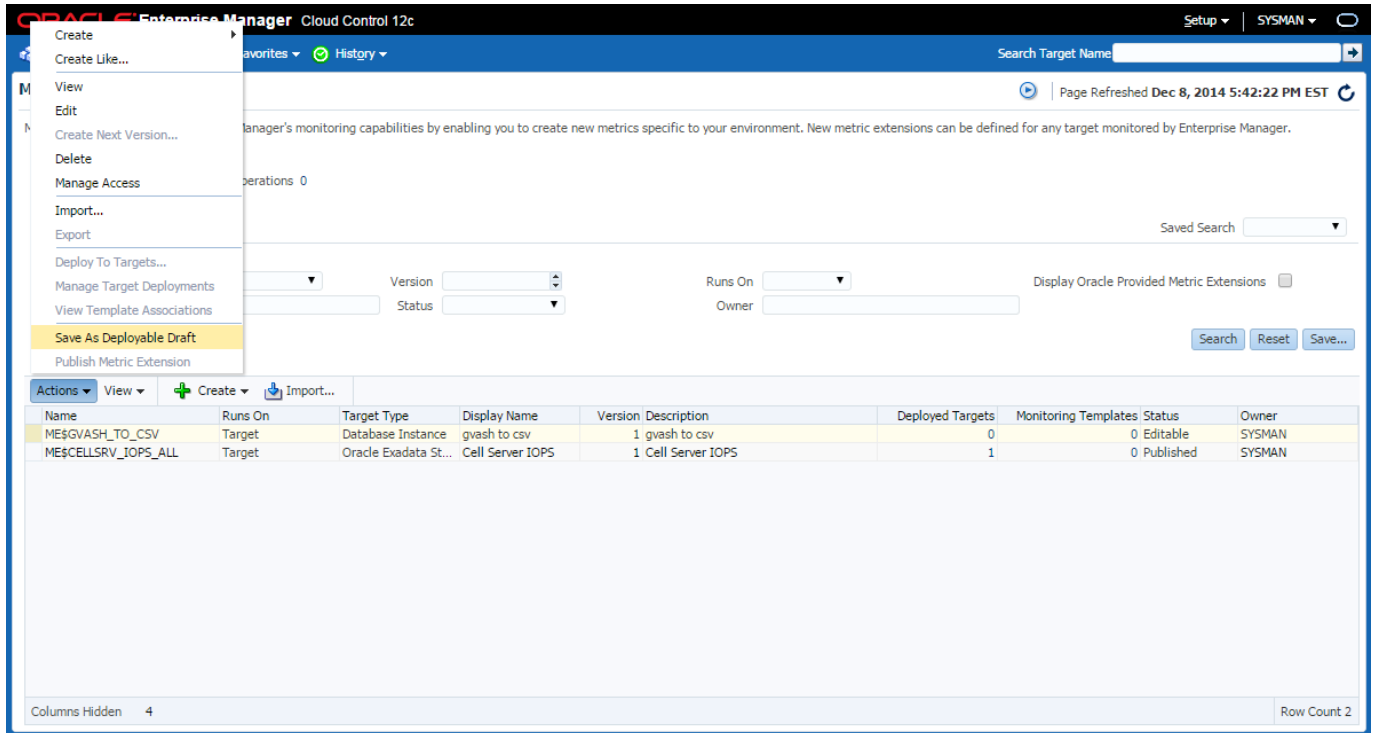
Search Reset Save...

Name	Runs On	Target Type	Display Name	Version/Description	Deployed Targets	Monitoring Templates	Status	Owner
ME\$GVASH_TO_CSV	Target	Database Instance	gvash to csv	1 gvash to csv	0	0 Editable		SYSMAN
ME\$CELLSRV_IOPS_ALL	Target	Oracle Exadata St...	Cell Server IOPS	1 Cell Server IOPS	1	0 Published		SYSMAN

Columns Hidden 4 Row Count 2

III. Deploy Metric Extension

- 1) On the newly created Metric Extension -> Actions -> Save As Deployable Draft
 - Newly created Metric Extension has a status of “Editable”. It should be on “Deployable Draft” so you can assign targets to it. And then status of “Published” to start collecting data.



Oracle Enterprise Manager Cloud Control 12c

Search Target Name

Page Refreshed Dec 8, 2014 5:42:22 PM EST

Manager's monitoring capabilities by enabling you to create new metrics specific to your environment. New metric extensions can be defined for any target monitored by Enterprise Manager.

Operations 0

Saved Search

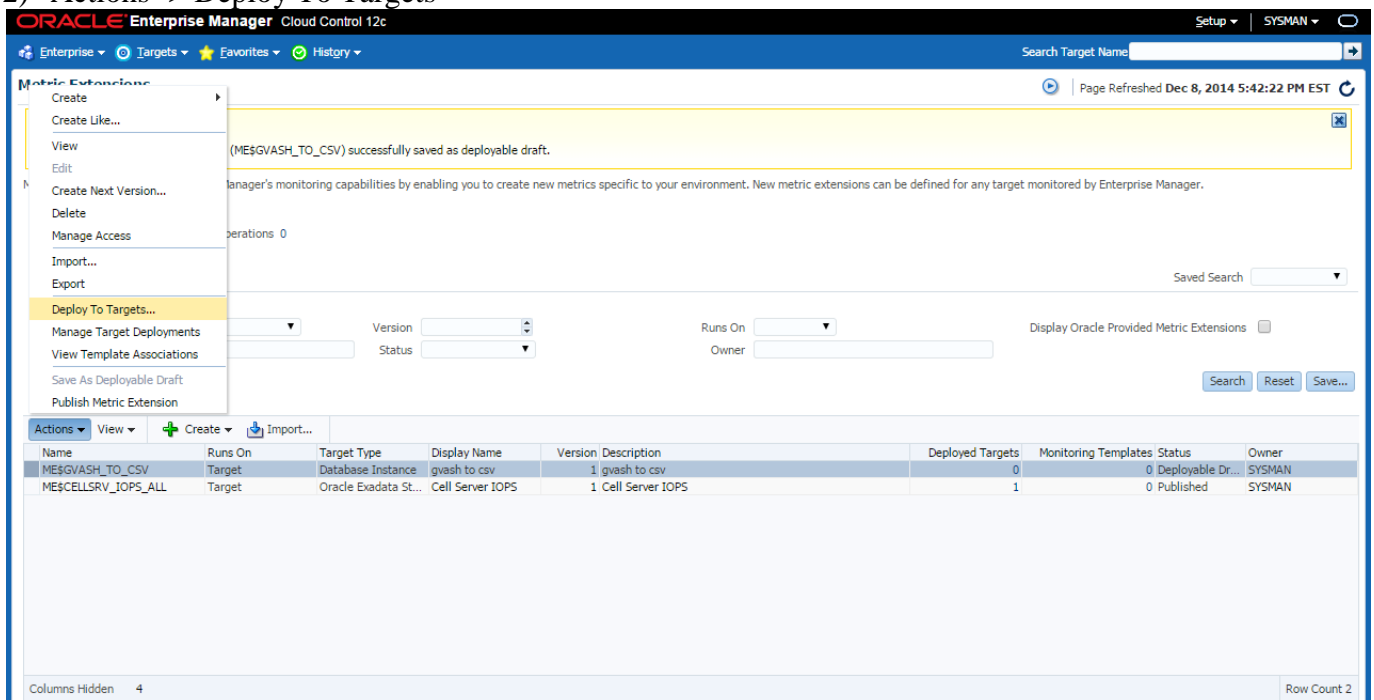
Version Status Runs On Display Oracle Provided Metric Extensions

Search Reset Save...

Name	Runs On	Target Type	Display Name	Version	Description	Deployed Targets	Monitoring Templates	Status	Owner
ME\$GVASH_TO_CSV	Target	Database Instance	gvash to csv	1	gvash to csv	0	0	Editable	SYSMAN
ME\$CELLSRV_IOPS_ALL	Target	Oracle Exadata St...	Cell Server IOPS	1	Cell Server IOPS	1	0	Published	SYSMAN

Columns Hidden 4 Row Count 2

- 2) Actions -> Deploy To Targets



Oracle Enterprise Manager Cloud Control 12c

Search Target Name

Page Refreshed Dec 8, 2014 5:42:22 PM EST

(ME\$GVASH_TO_CSV) successfully saved as deployable draft.

Manager's monitoring capabilities by enabling you to create new metrics specific to your environment. New metric extensions can be defined for any target monitored by Enterprise Manager.

Operations 0

Saved Search

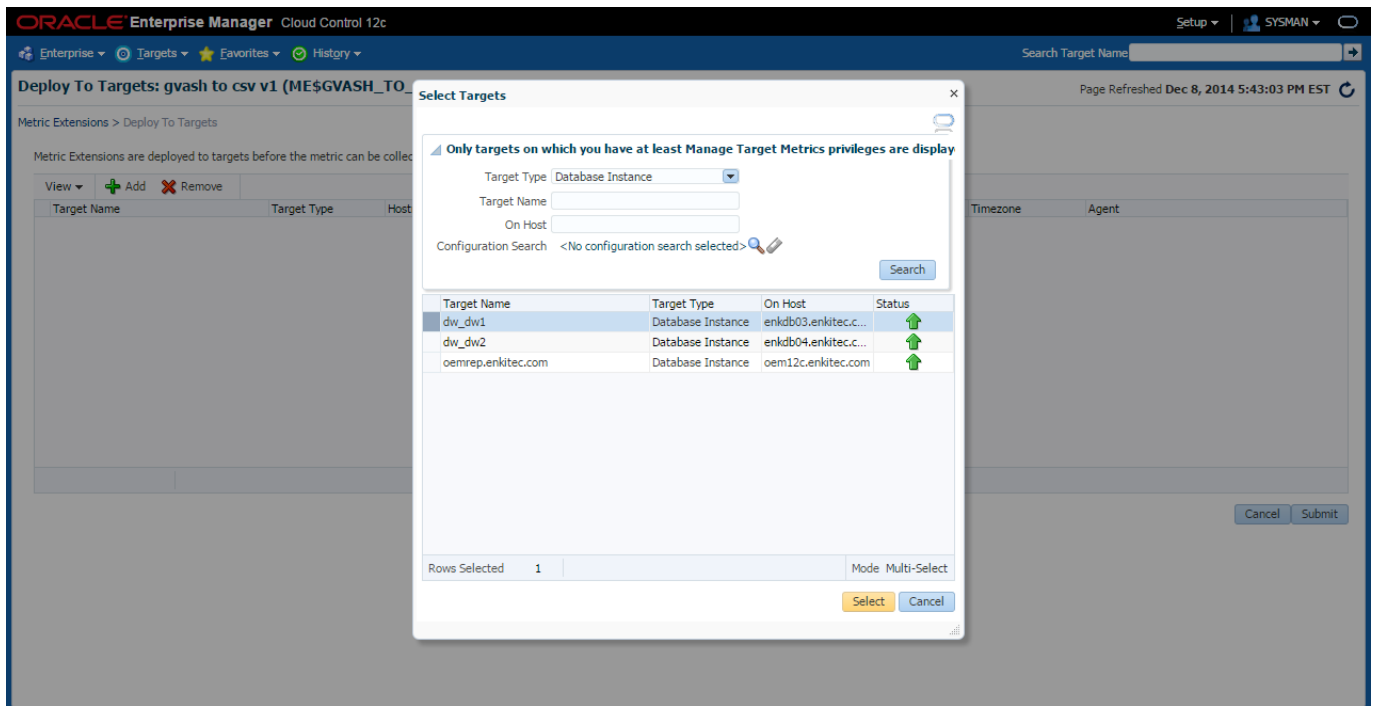
Version Status Runs On Display Oracle Provided Metric Extensions

Search Reset Save...

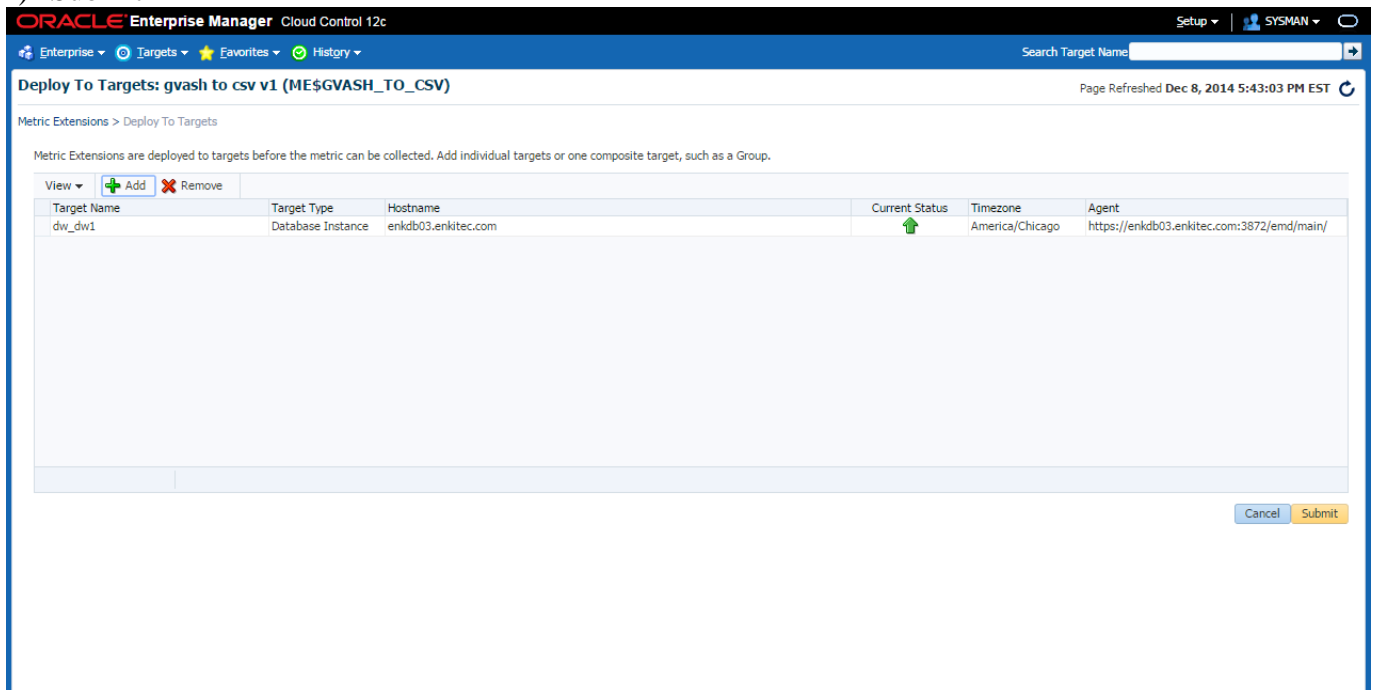
Name	Runs On	Target Type	Display Name	Version	Description	Deployed Targets	Monitoring Templates	Status	Owner
ME\$GVASH_TO_CSV	Target	Database Instance	gvash to csv	1	gvash to csv	0	0	Deployable Dr...	SYSMAN
ME\$CELLSRV_IOPS_ALL	Target	Oracle Exadata St...	Cell Server IOPS	1	Cell Server IOPS	1	0	Published	SYSMAN

Columns Hidden 4 Row Count 2

- 3) Select the 1st instance of any cluster database



4) Submit



5) Hit "Refresh" (top right)

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise | Targets | Favorites | History | Search Target Name

Pending Operations

Page Refreshed Dec 8, 2014 5:43:27 PM EST

Confirmation
Metric Extension ME\$GVASH_TO_CSV deploy operation successfully submitted.

Metric Extensions > Pending Operations
This page shows the list of pending Metric Extension operations.

Search Advanced

Match ☒ All ☐ Any
 Operation
 Target Type
 Name
 Version
 Target Name

Search Reset

Target Type	Name	Ve Target Name	Operation	Submitted By	Submitted On	Last Updated On	Status	Message
Database Instance	ME\$GVASH_TO_CSV	1 dw_dw1	Deploy	SYSMAN	2014 Dec 8, PM 5:43:26	2014 Dec 8, PM 5:43:26	Scheduled	

Row Count 1 | Maximum of 500 operations are displayed

6) No more Pending Operations -> Click on Metric Extensions

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise | Targets | Favorites | History | Search Target Name

Pending Operations

Page Refreshed Dec 8, 2014 5:43:36 PM EST

Metric Extensions > Pending Operations
This page shows the list of pending Metric Extension operations.

Search Advanced

Match ☐ All ☐ Any
 Operation
 Target Type
 Name
 Version
 Target Name

Search Reset

Target Type	Name	Ve Target Name	Operation	Submitted By	Submitted On	Last Updated On	Status	Message
No data found								

Row Count 0 | Maximum of 500 operations are displayed

7) The Deployed Targets is now 1 -> go to Actions -> Publish Metric Extension (this will start the data collection)

ORACLE Enterprise Manager Cloud Control 12c

Setup | SYSMAN

Search Target Name

Page Refreshed Dec 8, 2014 5:43:49 PM EST

Manager's monitoring capabilities by enabling you to create new metrics specific to your environment. New metric extensions can be defined for any target monitored by Enterprise Manager.

Pending Operations 0

Saved Search

Version Runs On Status Owner

Search Reset Save...

Name	Runs On	Target Type	Display Name	Version	Description	Deployed Targets	Monitoring Templates	Status	Owner
MESGVASH_TO_CSV	Target	Database Instance	gvash to csv	1	gvash to csv	1	0	Deployable Dr...	SYSMAN
MESCELLSRV_IOPS_ALL	Target	Oracle Exadata St...	Cell Server IOPS	1	Cell Server IOPS	1	0	Published	SYSMAN

Columns Hidden 4 Row Count 2

- 8) To check the data collection of the newly created Metric Extension -> Click on the number (1) on the Deployed Targets column, it's also right next to the "gvash to csv" Description

ORACLE Enterprise Manager Cloud Control 12c

Setup | SYSMAN

Search Target Name

Page Refreshed Dec 8, 2014 5:43:49 PM EST

Metric Extensions

Confirmation
Metric Extension: gvas to csv v1 (MESGVASH_TO_CSV) successfully published.

Metric Extensions enhance Enterprise Manager's monitoring capabilities by enabling you to create new metrics specific to your environment. New metric extensions can be defined for any target monitored by Enterprise Manager.

Show Overview

Pending Operations 0 Failed Operations 0

Search

Saved Search

Match All Any

Target Type Version Runs On Status Owner

Search Reset Save...

Name	Runs On	Target Type	Display Name	Version	Description	Deployed Targets	Monitoring Templates	Status	Owner
MESGVASH_TO_CSV	Target	Database Instance	gvash to csv	1	gvash to csv	1	0	Published	SYSMAN
MESCELLSRV_IOPS_ALL	Target	Oracle Exadata St...	Cell Server IOPS	1	Cell Server IOPS	1	0	Published	SYSMAN

Columns Hidden 4 Row Count 2

- 9) Click on the Target Name

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise Targets Favorites History Search Target Name

Manage Target Deployments: gvash to csv v1 (ME\$GVASH_TO_CSV)

Page Refreshed Dec 8, 2014 5:44:28 PM EST

Metric Extensions > Manage Target Deployments

Metric Extensions are deployed to targets before the metric can be collected. You can manage target deployments from this page. Be aware that only targets where you have View privileges will appear in the table, and you can only perform operations on targets you at least have the Manage Target Metrics privilege.

View Undeploy Upgrade

Target Type	Target Name	Host	Deployed By	Deployed On	Manage Target Metrics Privilege
Database Instance	dw_dw1	enldb03.enkitec.com	SYSMAN	Dec 8, 2014 12:43:31 PM	

10) Monitoring -> All Metrics

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise Targets Favorites History Search Target Name

dw_dw1 Oracle Database Performance Availability Security Schema Administration

Home Monitoring Diagnostics Control Job Activity Information Publisher Reports Logs Provisioning Configuration Compliance Target Setup Target Sitemap Target Information

Monitoring > All Metrics

Page Refreshed Dec 8, 2014 4:44:49 PM CST Auto Refresh Off

Performance

Activity Class Services

Resources

SQL Monitor - Last Hour

Status	Duration	SQL ID	Session ID	Parallel	Database Time
		20pratttyfp7	581		3369.37 s
		3rvt2hb0nfhk	197		3451.30 s
	4.00 s	czzfwwn404avq	328	2	4.50 s
	4.00 s	czzfwwn404avq	1222	2	4.40 s
	40.00 s	56v09mkbstyaa	455	16	23.00 s
	40.00 s	56v09mkbstyaa	74	16	22.12 s
	39.00 s	56v09mkbstyaa	1095	16	25.20 s
	39.00 s	56v09mkbstyaa	10	16	25.81 s
	39.00 s	56v09mkbstyaa	142	16	26.14 s

Incidents and Problems

Compliance Summary

View Trends

Compliance Standard	Average Score
No data to display	

Jobs Running

Name	Duration(m)
No data to display.	

11) Scroll down -> click on “gvash to csv”

- It should show a timestamp of “Last Upload”, else wait for a couple of minutes. Once you see the timestamp you can check the data on the OEM12c repository through SQL*Plus.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

dw_dw1 Oracle Database Performance Availability Security Schema Administration

dw_dw1 > All Metrics

All Metrics

Search

View

Interconnect Traffic
Memory Usage
Metrics Shared Pool Free (%)
OCM Instrumentation
Operating System Audit Record
Operational Error
Real-time Observations Upload
Response
SCN Instance Statistics
SQL Response Time
Server Adaptive Threshold Metric
Streams Pool Usage
System Response Time Per Call
Throughput
User Audit
User Block Chain
User-Defined SQL Metrics (Single)
User-Defined SQL Metrics (Two)
User-Defined SQL Metrics (Two)
Wait Bottlenecks
Waits by Wait Class
gvash to csv
READ_BYTES
READ_IO
TIME_WAITED
WRITE_BYTES
WRITE_IO
Other collected items

gvash to csv

Collection Schedule Every 10 Minutes Modify

Upload Interval Every Collection

Last Upload Dec 8, 2014 4:43:31 PM CST

TM	RANDOM_KEY	INST_ID	EVENT	SQL_ID	PROGRAM	MACHINE	READ_BYTES	READ_IO	TIME_WAITED
12/08/14 16:42:20	5XEH6Q9IWOVUK	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:21	KDC6TBBCKEOCFC4	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:21	5F5S20SAXSWHOR8	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:22	UVSV17C07ADFEX0	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:22	89QH5LCRN1M7VAY	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:23	3BX064V2IITXSI	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:23	3POCS1JHEYA4ZHC	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:24	E4AYIY6EJ5F7NRZ	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:24	DRQIQVR360FAH...	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:25	6UH184BWM9BNPBR	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:25	LPOOM7WTP8MSP...	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:26	3TQ68YL400JNR92	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:26	SZT1UNIK9ICVHQF	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:27	M32JHIK06LL9A5Y	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	
12/08/14 16:42:27	QD8GA7HNA5VDB...	1		9fx889bgz15h3	sqlplus@enkb03...	enkb03.enkitec.c...	0	0	

Data shown in above table is collected in real time.

- 12) Check the latest collection by querying the SYSMAN.GC\$METRIC_VALUES views
- The view “sysman.gc\$metric_values_latest” shows the most recent collections
 - The view “sysman.gc\$metric_values_hourly” shows the hourly history view of the Metric Extension data

SQL Output Statistics

-- query ME table

```

SELECT
TO_CHAR(collection_time,'MM/DD/YY HH24:MI:SS') collection_time
,entity_name "Instance"
,key_part_1 "TM"
,key_part_2 "Random Key"
,key_part_3 "Inst Id"
,key_part_4 "Event"
,key_part_5 "Sql Id"
,key_part_6 "Program"
,key_part_7 "Machine"
,NVL(MAX(DECODE (metric_column_name , 'TIME_WAITED', value ),0) TIME_WAITED
,NVL(MAX(DECODE (metric_column_name , 'READ_IO', value ),0) READ_IO
,NVL(MAX(DECODE (metric_column_name , 'WRITE_IO', value ),0) WRITE_IO
,NVL(MAX(DECODE (metric_column_name , 'READ_BYTES', value ),0) READ_BYTES
,NVL(MAX(DECODE (metric_column_name , 'WRITE_BYTES', value ),0) WRITE_BYTES
FROM
sysman.gc$metric_values_latest
where METRIC_GROUP_NAME = 'ME$GVASH_TO_CSV'
group by collection_time, entity_name, key_part_1, key_part_2, key_part_3, key_part_4, key_part_5, key_part_6, key_part_7
order by tm asc

```

	COLLECTION_TIME	Instance	TM	Random Key	Inst Id	Event	Sql Id	Program	Machine	TIME_WAITED
1	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:31	591VU7FJNQSTVXY	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
2	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:31	Q7G3CEANNIKKKR6	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
3	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:32	MCH0SYOEVPD0JUH	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
4	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:32	VJH8BMQESVW8SEO	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
5	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:33	1I6V7VEHELW5S8Y	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
6	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:33	LWN5K2K3LCLCZ96	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
7	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:34	ACZLGOQKQNDNMUR3	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
8	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:34	YDERIS1GER085	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
9	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:35	FQZF21G7HTKNV8K	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		
10	12/08/14 16:43:31	dw_dw1	12/08/14 16:33:35	EE80M4MECVL007	1		9fx889bgz15h3	sqlplus@enkb03.enkitec.com (TNS V1-V3)		

0:02 sys@oem12c.enkitec.com-OEMREP AS SYS- 1230 rows selected in 2.499 seconds

Check the next section below “Appendix A: Extracting the Metric Extension data” section on how to extract the data

Appendix A: Extracting the Metric Extension data

- “sysman.gc\$metric_values_latest” shows the most recent collections

```
-- query ME table latest
SELECT
TO_CHAR(collection_time,'MM/DD/YY HH24:MI:SS') collection_time
,entity_name "Instname"
,key_part_1 TM
,key part 2 "Randon Key"
,key_part_3 "Inst Id"
,key_part_4 "Event"
,key_part_5 "Sql Id"
,key_part_6 "Program"
,key_part_7 "Machine"
,NVL(MAX(DECODE ( metric_column_name , 'TIME WAITED', value )),0) TIME WAITED
,NVL(MAX(DECODE ( metric_column_name , 'READ IO', value )),0) READ IO
,NVL(MAX(DECODE ( metric_column_name , 'WRITE IO', value )),0) WRITE IO
,NVL(MAX(DECODE ( metric_column_name , 'READ_BYTES', value )),0) READ_BYTES
,NVL(MAX(DECODE ( metric_column_name , 'WRITE_BYTES', value )),0) WRITE_BYTES
FROM
sysman.gc$metric_values_latest
where METRIC_GROUP_NAME = 'MESGVASH TO CSV'
group by collection_time, entity_name, key_part_1, key_part_2, key_part_3, key_part_4, key_part_5, key_part_6, key_part_7
order by tm asc
```

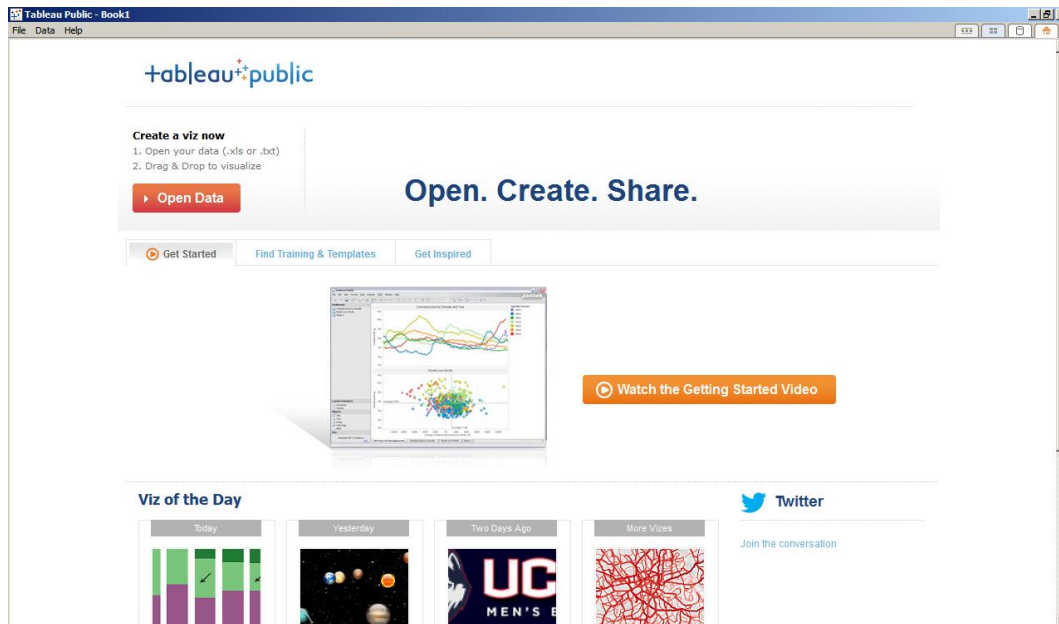
- “sysman.gc\$metric_values_hourly” shows the hourly history view of the Metric Extension data

```
-- query ME table hourly
SELECT
TO_CHAR(collection_time,'MM/DD/YY HH24:MI:SS') collection_time
,entity_name "Instname"
,key_part_1 TM
,key_part_2 "Randon Key"
,key part 3 "Inst Id"
,key part 4 "Event"
,key part 5 "Sql Id"
,key_part_6 "Program"
,key_part_7 "Machine"
,NVL(MAX(DECODE ( metric_column_name , 'TIME WAITED', avg_value )),0) TIME WAITED
,NVL(MAX(DECODE ( metric_column_name , 'READ_IO', avg_value )),0) READ_IO
,NVL(MAX(DECODE ( metric_column_name , 'WRITE_IO', avg_value )),0) WRITE_IO
,NVL(MAX(DECODE ( metric_column_name , 'READ_BYTES', avg_value )),0) READ_BYTES
,NVL(MAX(DECODE ( metric_column_name , 'WRITE_BYTES', avg_value )),0) WRITE_BYTES
FROM
sysman.gc$metric_values_hourly
where METRIC_GROUP_NAME = 'MESGVASH TO CSV'
group by collection_time, entity_name, key part 1, key part 2, key part 3, key part 4, key part 5, key part 6, key part 7
order by tm asc
```

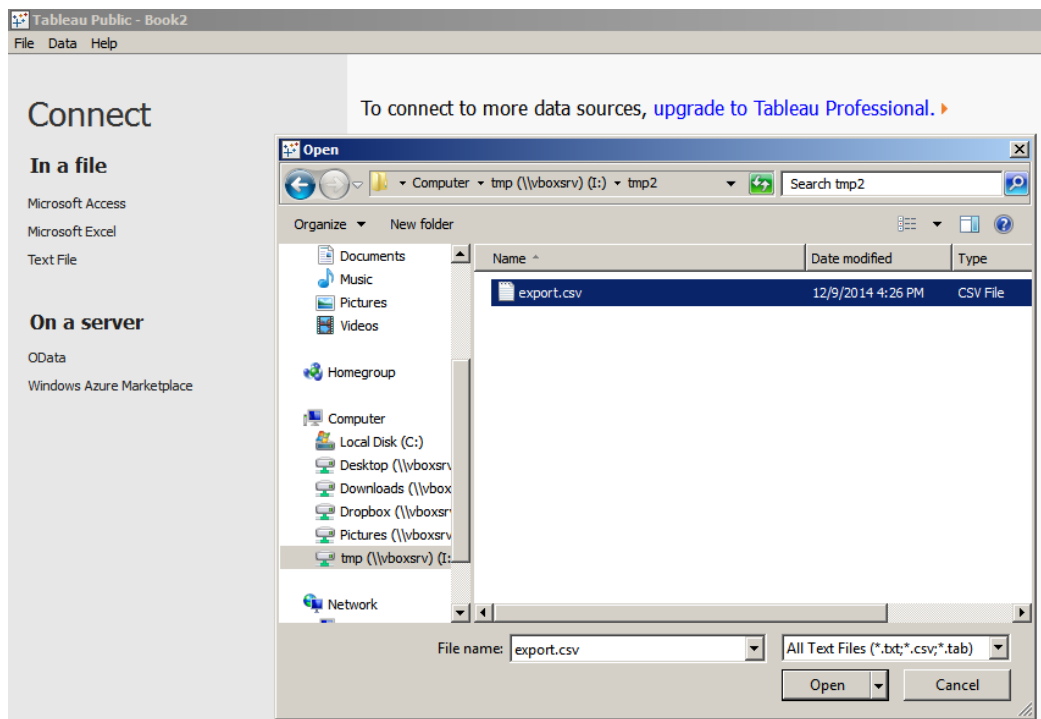
- 1) On SQL*Developer copy the “sysman.gc\$metric_values_hourly” SQL -> hit the “Run Statement” -> right click on the grid -> Export

Appendix B: Graphing the Metric Extension data

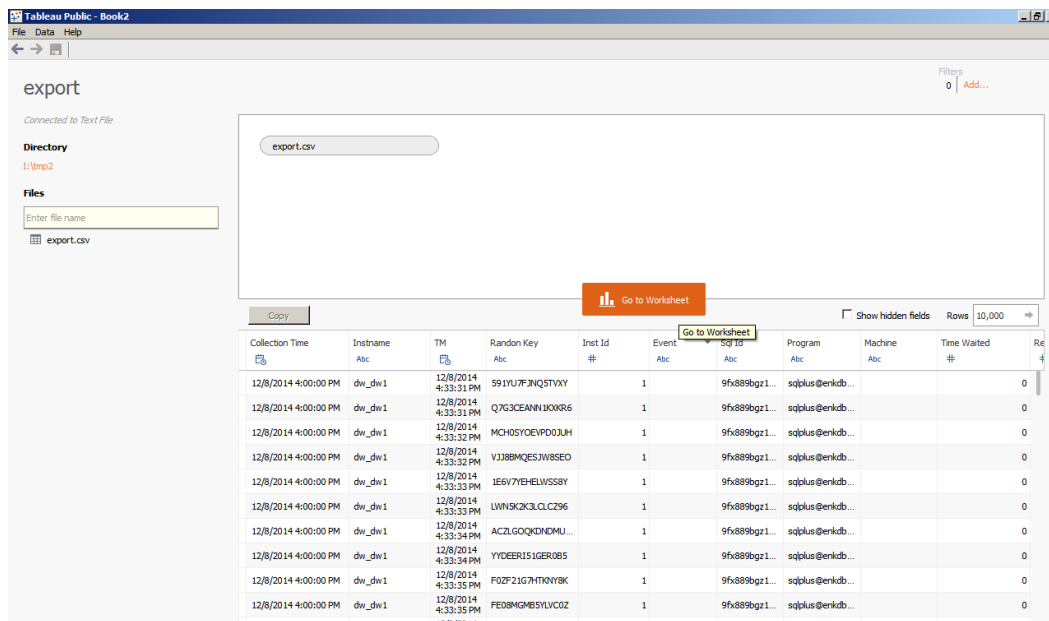
- 1) Download the tableau public at <http://www.tableausoftware.com/public/>
- 2) Click Open Data



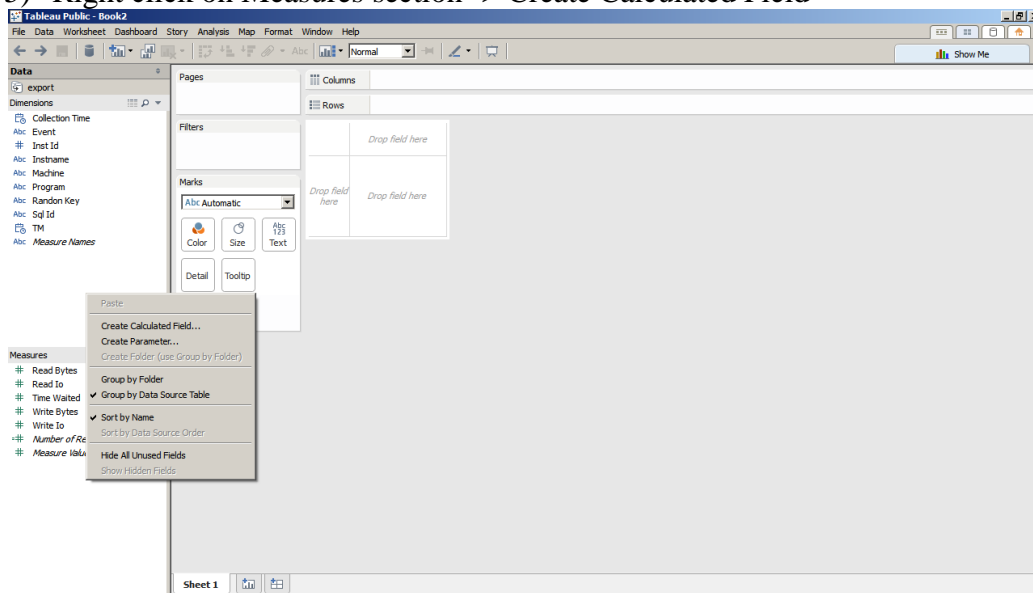
- 3) Click Text File -> Select the file



- 4) Click Go To Worksheet

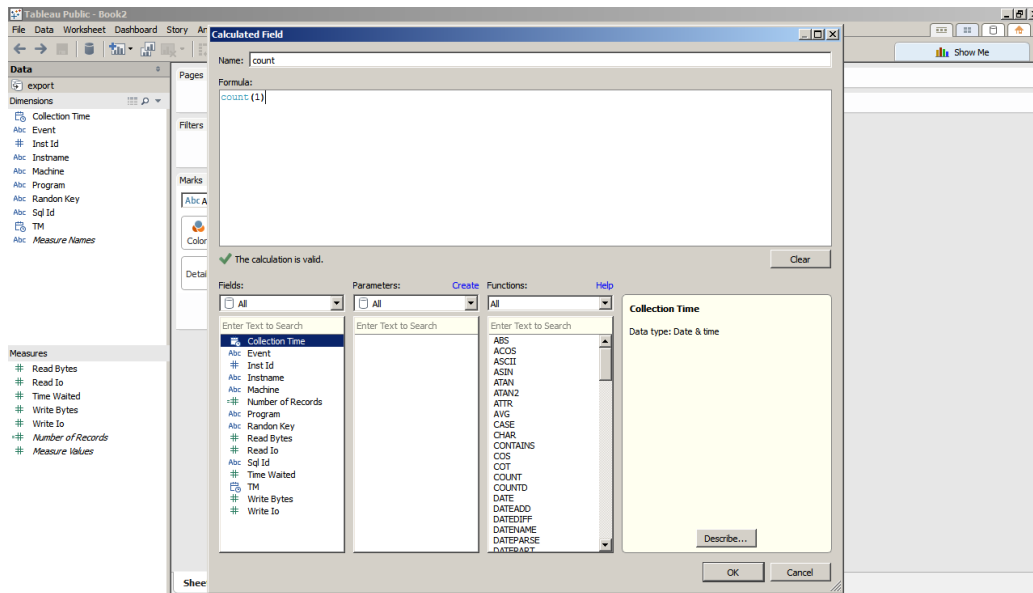


5) Right click on Measures section -> Create Calculated Field

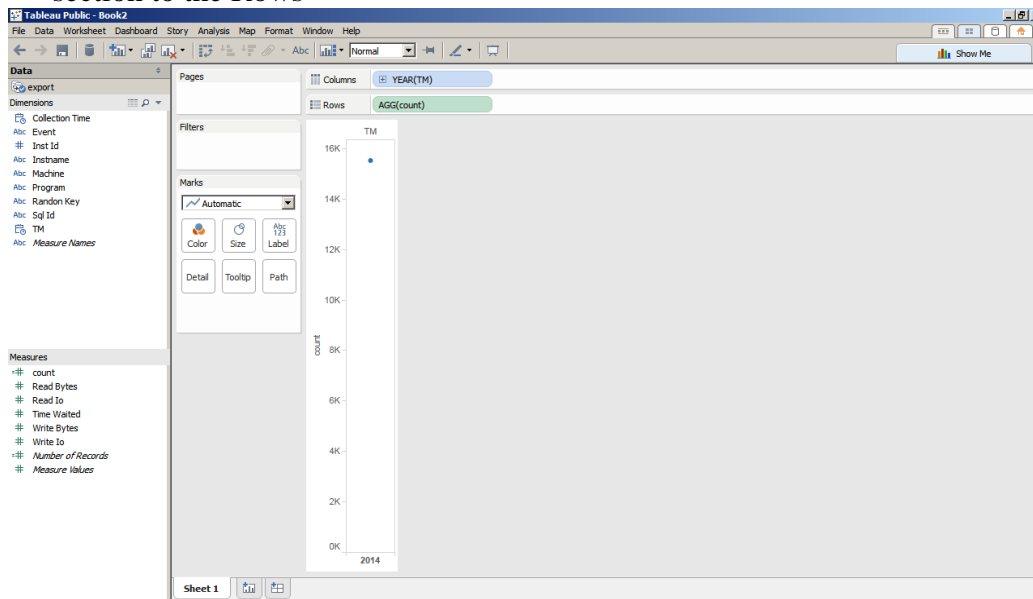


6) Create the “count” calculated field -> OK

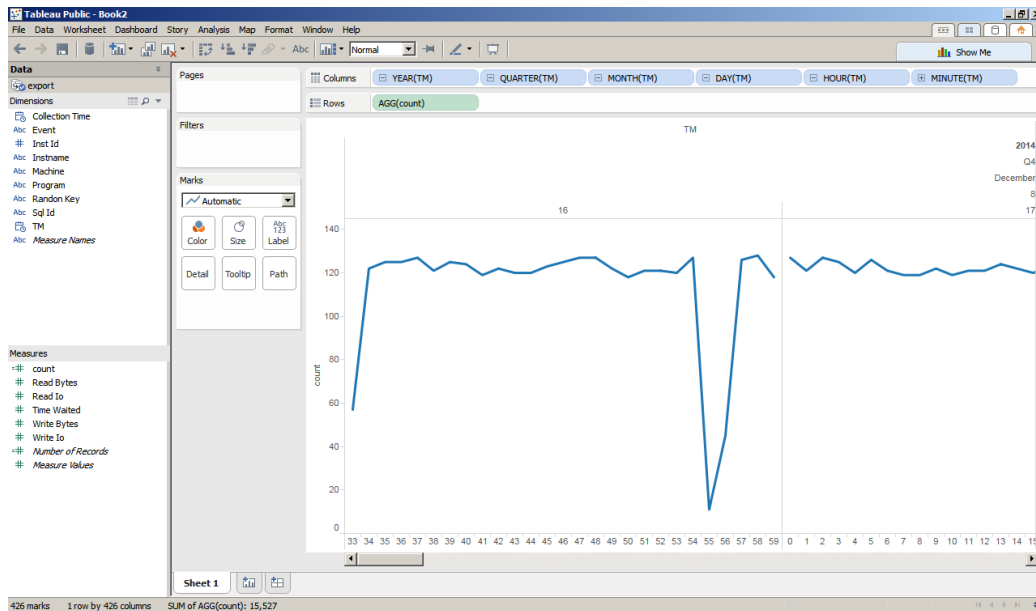
- Name: count
- Formula: count(1)



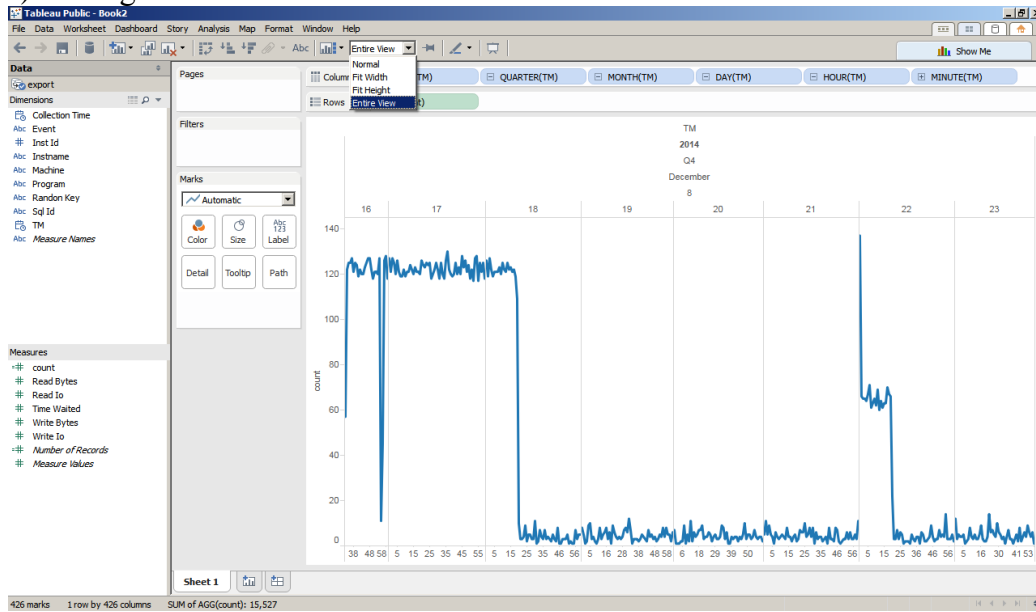
7) Drag the “TM” on the Dimensions section to the Columns. And then drag the “count” on the Measures section to the Rows



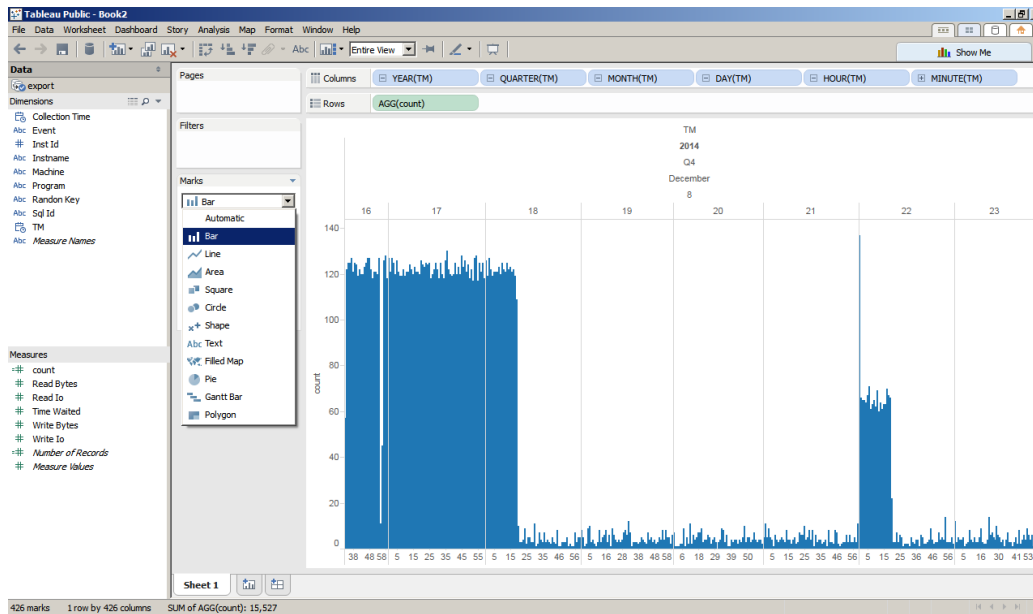
8) Click on the plus sign of the “Year(TM)” up to the “Minute(TM)” dimension



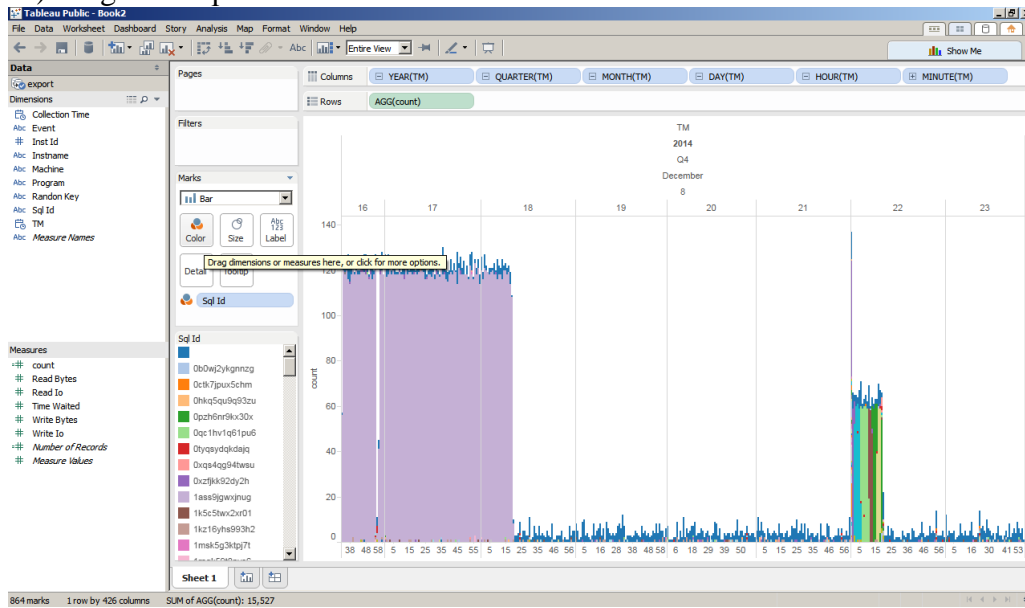
9) Change to “Entire View”



10) Change to “Bar” graph

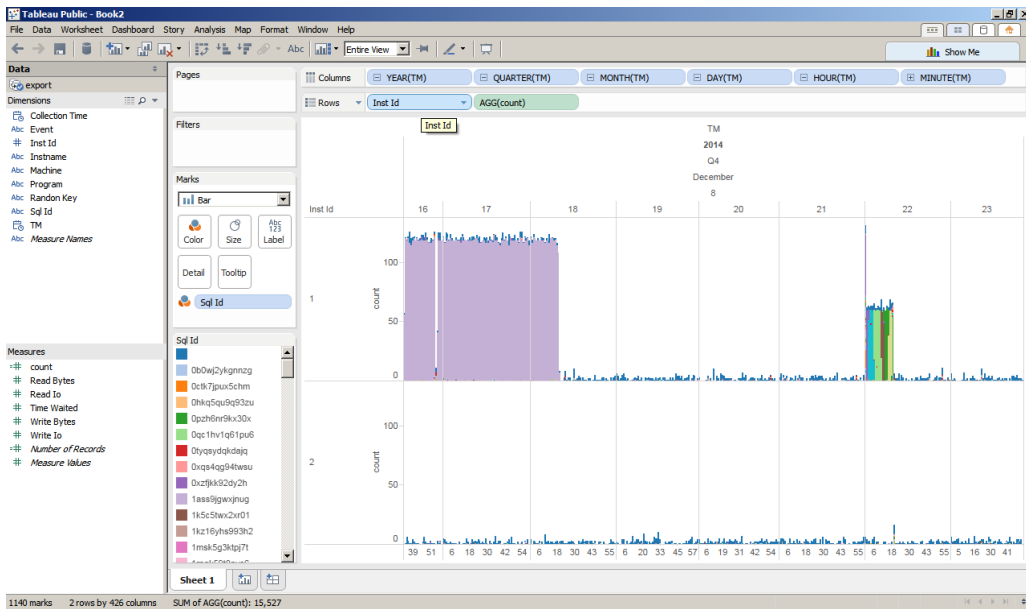


11) Drag the “Sql Id” on the Dimensions section to the Color



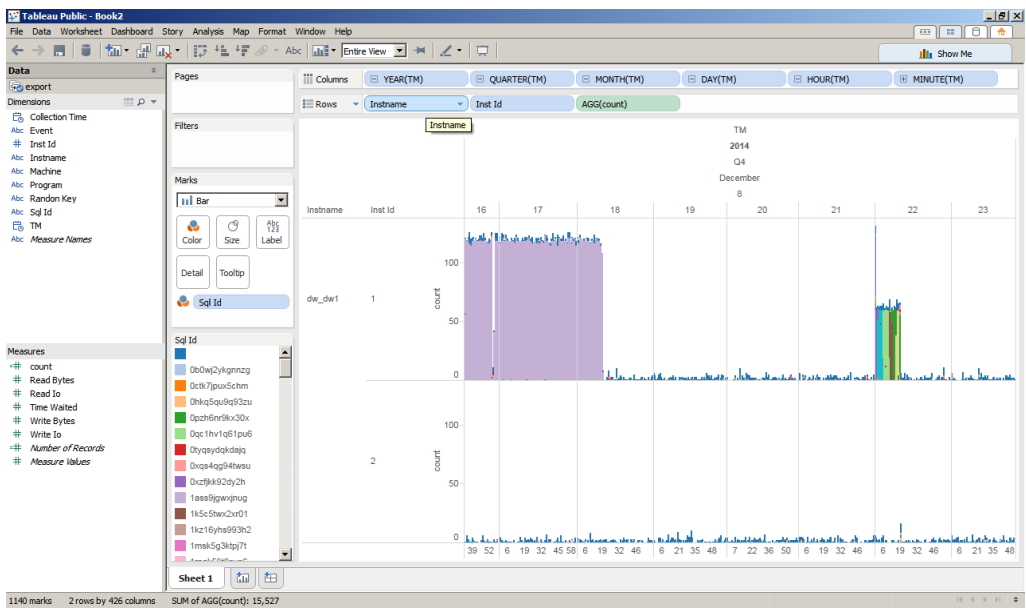
12) Drag the “Inst Id” on the Dimensions section to the Rows

- This will show the distribution of load across instance 1 and 2

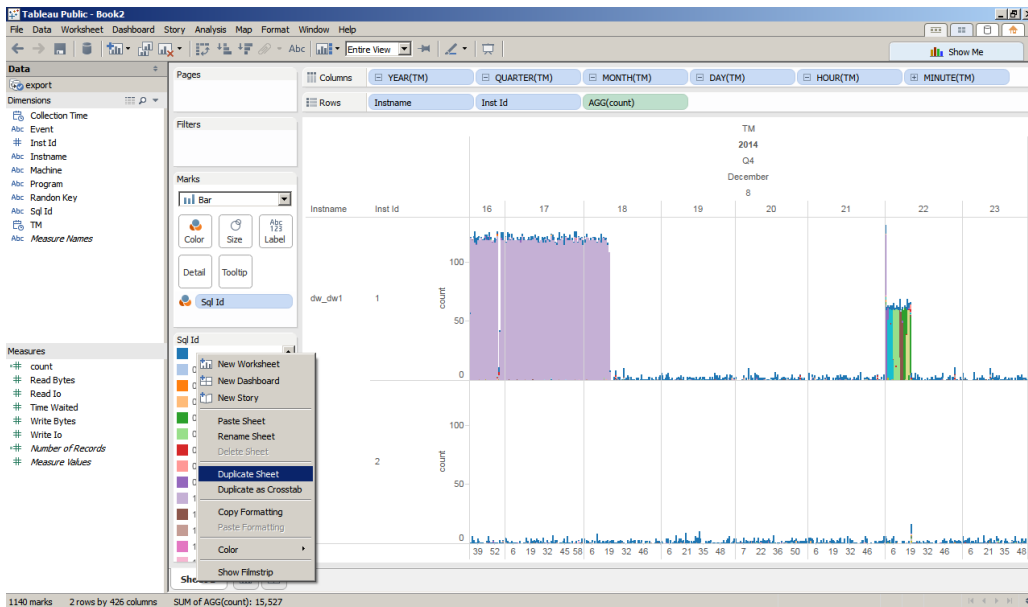


13) Drag the “Instname” on the Dimensions section to the Rows

- This will show the distribution of the databases across instance 1 and 2

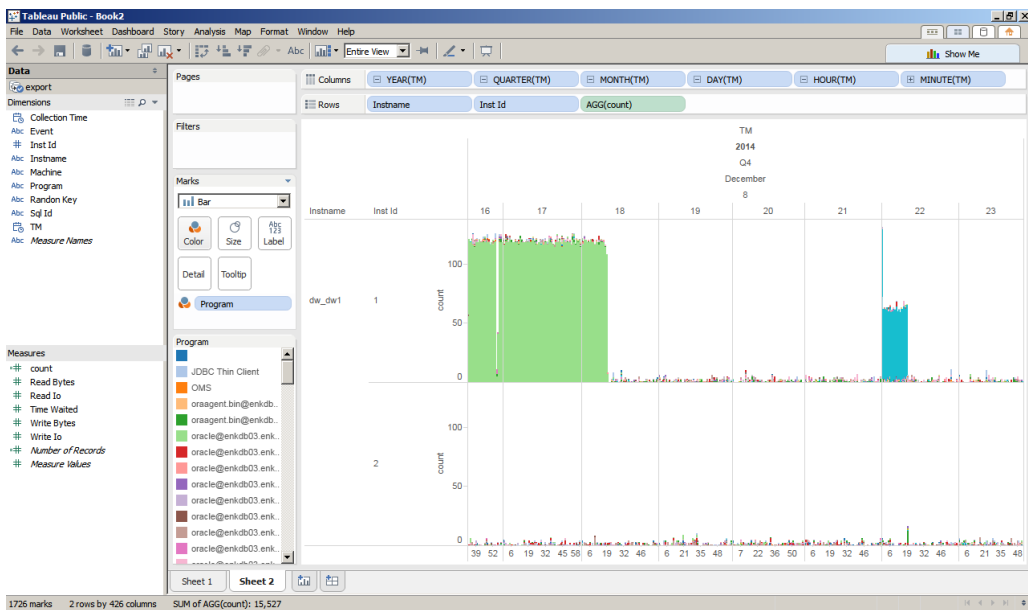


14) Duplicate the current sheet by right clicking on the tab -> Duplicate Sheet



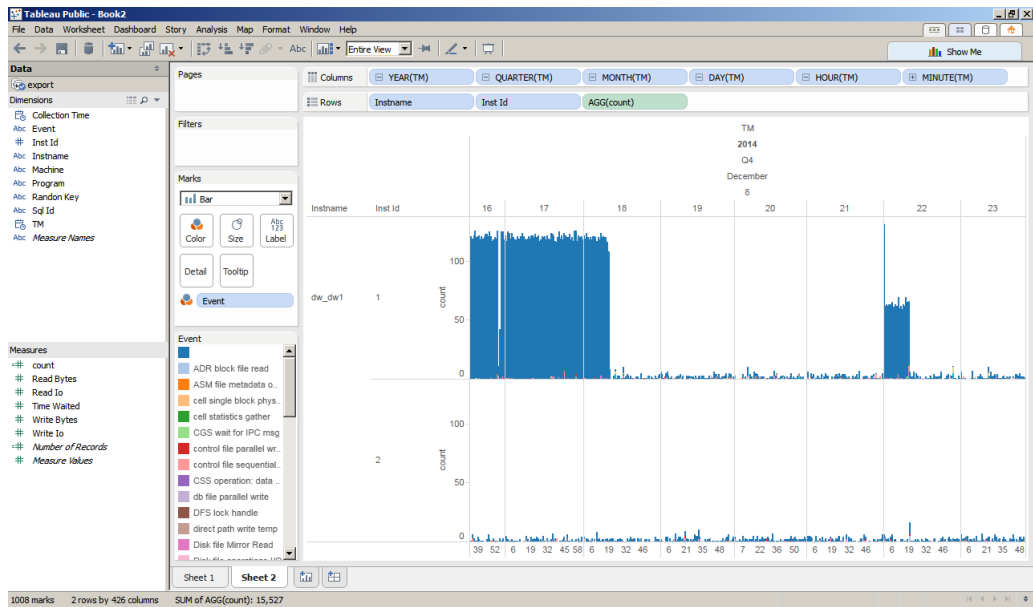
15) Drag the “Program” on the Dimensions section to the Rows

- This will show the distribution of the programs across instance 1 and 2



16) Drag the “Event” on the Dimensions section to the Rows

- This will show the distribution of the CPU and wait events across instance 1 and 2
- The “null” event pertains to CPU usage (shown below)



Appendix C: Uninstall Metric Extension

- 1) To stop the data collection of the Metric Extension -> Click on the number (1) on the Deployed Targets column, it's also right next to the "gvash to csv" Description

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. The main title is 'Metric Extensions'. Below the title, there is a search bar and a 'Show Overview' link. The 'Search' section includes filters for 'Match' (All, Any), 'Target Type', 'Version', 'Runs On', 'Display Oracle Provided Metric Extensions', 'Name', 'Status', 'Owner', and 'Saved Search'. The main table lists metric extensions with columns: Name, Runs On, Target Type, Display Name, Version, Description, Deployed Targets, Monitoring Templates, Status, and Owner. The first row is highlighted in yellow and shows 'ME\$GVASH_TO_CSV' with 'gvash to csv' as the description and '1' in the 'Deployed Targets' column. The second row is 'ME\$CELLSRV_IOPS_ALL' with 'Cell Server IOPS' as the description and '1' in the 'Deployed Targets' column. The bottom of the page shows 'Columns Hidden: 4' and 'Row Count: 2'.

Name	Runs On	Target Type	Display Name	Version	Description	Deployed Targets	Monitoring Templates	Status	Owner
ME\$GVASH_TO_CSV	Target	Database Instance	gvash to csv	1	gvash to csv	1	0	Published	SYSMAN
ME\$CELLSRV_IOPS_ALL	Target	Oracle Exadata SE...	Cell Server IOPS	1	Cell Server IOPS	1	0	Published	SYSMAN

- 2) Select the target -> Click Undeploy

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface for 'Manage Target Deployments: gvash to csv v1 (ME\$GVASH_TO_CSV)'. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. The main title is 'Manage Target Deployments: gvash to csv v1 (ME\$GVASH_TO_CSV)'. Below the title, there is a search bar and a 'Page Refreshed' timestamp. The main table lists target deployments with columns: Target Type, Target Name, Host, Deployed By, Deployed On, and Manage Target Metrics Privilege. The first row is highlighted in blue and shows 'Database Instance' as the target type, 'dbw_dbr1' as the target name, 'enklb03.ankitec.com' as the host, 'SYSMAN' as the deployed by, and 'Dec 8, 2014 12:43:31 PM' as the deployed on. The 'Manage Target Metrics Privilege' column has a checkmark. The bottom of the page shows 'Rows Selected: 1'.

Target Type	Target Name	Host	Deployed By	Deployed On	Manage Target Metrics Privilege
Database Instance	dbw_dbr1	enklb03.ankitec.com	SYSMAN	Dec 8, 2014 12:43:31 PM	✓

- 3) To delete/uninstall the Metric Extension -> Actions -> Delete

Metric Extensions

Metric Extensions enhance Enterprise Manager's monitoring capabilities by enabling you to create new metrics specific to your environ

Show Overview

Pending Operations 0 Failed Operations 0

Search

Match ☒ All ☐ Any

Target Type

Version

Rur

Name

Status

0

Actions View Create Import...

- Create
- Create Like...
- View
- Edit
- Create Next Version...
- Delete
- Manage Access
- Import...
- Export
- Deploy To Targets...
- Manage Target Deployments
- View Template Associations
- Save As Deployable Draft
- Publish Metric Extension

is On	Target Type	Display Name	Version	Description
get	Database Instance	gvash to csv	1	gvash to csv
get	Oracle Exadata St...	Cell Server IOPS	1	Cell Server IOPS