PROJECT-OTR.ORG

OTR - Oracle Tablespace Report (v2.1)

Open Source Project

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2013

http://www.project-otr.org/

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Oracle® Tablespace Report v2.1

Open Source Project

Introduction

Oracle Tablespace Report is used to gather various statistics e.g. tablespace usage (allocated, used and free) space. The statistics are stored centrally in the OTR Repository located in an OTR Instance. This project got started out of a work from a Danish friend, Lars-Bo Vanting, at the time we worked together back in 2005.

Initially it was only based on Tables, Views and PL/SQL. The current version has expanded on the basis and added a web GUI (based on the excellent open source project Open BlueDragon (http://www.openbd.org).

The need for the enhancement of this tool was due to the fact that I had roughly 80+ Oracle instances, about 100 Linux/Solaris Servers and 6 NetApp Storage systems to manage… all alone. (The advantage was that my Team meetings went very fast… didn't have to argue too much with my dual personality ☺).

This version of OTR does a bit more than just collect tablespace and storage usage on a weekly basis. It monitors each database instance every 5 minutes and reports back if a tablespace is getting full and one can directly act on the upcoming problem, extend an tablespace or add a new tablespace file without the need to do this over the Enterprise Manager or manually.

Since I was all alone, having to manage this amount of databases, along with application servers and storage I needed a way of getting this kind of work as easy as possible. That way I could let anyone solve any acute problem coming up without me being around all the time. During 4 years in this company I haven't had more than roughly 2 weeks holiday/year… and those 2 weeks I get stuck having to solve issues over my Mobile phone.
The reason for putting this up as open source is thanks to the great Project run by the OpenBD Team. They have created a great tool which is a very serious alternative for Adobe ColdFusion and all at no cost. The team around this project is great and issues coming up are solved very fast. Support is done on Google Groups and there is always someone around helping out, core developers or regular users on the list… no matter who, you will always get help.
So if I can give something back to the OpenBD project and the community and at the same time help other DBA's making their work easier, this is a small step in that direction.

Short background about me…

I've been working with ColdFusion since the mid 90'es back in the days when Jeremy and JJ Allaire were running the business. Started with Cold Fusion 2.0 and up to ColdFusion 4 (some time in the years between 3.1 and 4.0 the space disappeared in the ColdFusion name) and was, back then, an early adopter of the FuseBox framework.
In 1999 I moved from Sweden down to Switzerland and in 2001 came in contact with Oracle and for all with some really good Danish Oracle cracks like, Lars-Bo Vanting (now at BlueGecko in Denmark) and some of his Oracle friends, and have been working with Oracle 8.1.7 – 12g since then. I'm a big fan of the Oracle Enterprise Manager and later Oracle Grid Control (today Oracle Cloud Control). We still refer this as Enterprise Manager.
All these years though I never left the ColdFusion train. It has been more of a hobby since my daytime work has been around Oracle and System Administration, but the passion for the CFML world is there to stay.

What's needed to get OTR running?

- Basis for the Oracle® Tablespace Report, from here on simply OTR, is the Oracle® Enterprise Manager 10g or the Oracle® Cloud Gontrol 12c R1 or R2. So this is the first thing to be installed if not already done. Anyone running 10 or more Oracle Instances should never be without the Enterprise Manager!!!
- Open Bluedragon release 3.1.0 (Nightly Build) which can be downloaded at http://www.openbd.org/download/
  The easiest installation is using the Ready2Run Jetty+OpenBD download. Recommended is to download the OpenBD Desktop as well. With this you will be able to simply test and make additions on your own on your local PC or workstation.
- Oracles new JDBC driver **ojdbc6.jar** (or **ojdbc5.jar** if using JDK/JRE 5) to get connections to Oracle RAC to work. This driver is bundled in the OTR-Local download and included in the normal download but needs to be manually copied into the correct location. This driver replaces the old driver, ojdbc14.jar, which is included with OpenBD.
  The ojdbc6.jar also handles JDBC Connect problem with "banners" defined in your sqlnet.ora
  SEC_USER_UNAUTHORIZED_ACCESS_BANNER=/my_banner_path/banner.txt
  NOTE: OTR will use the Single Client Access Name (SCAN) introduced with 11gR2 Infrastructure. Use of older RAC setup is at the moment not supported.
  Download location at Oracle can be found here:
  http://www.oracle.com/technetwork/database/enterprise-edition/jdbc-112010-090769.html
- JDK 6 http://www.oracle.com/technetwork/java/javase/downloads/index.html
  Note: If installing OTR on the Enterprise Manager Server one can just as well use there JDK…
  Normally located under /opt/oracle/product/middleware/jdk16
- The otr.war which can be found (in the cloud) at http://www.project-otr.org/
  The complete source is available on Google Code http://code.google.com/p/oracle-tablespace-report/
- The SQL files needed to setup the Repository on your OTR Repository Database. Also downloaded from http://www.project-otr.org/
  The SQL scripts are included in the otr.war and otr.zip and is located under otr\Doc\OTR-Reporting\Setup\DDL
  NOTE: To avoid license problem with Oracle, the OTR Repository should NOT be installed in the Grid Control, Cloud Control or a RMAN Repository Database! The OTR can very well be run on a Standard Edition DB or even an Oracle XE instance. Future releases of OTR might even be possible to use MySQL or Postgres as a Repository.

What does it look like?

We're assuming the OTRREP schema and its objects have been created on the OTR Repository database.

The Main screen.

From here we will administrate our Customers, the Database Instances and the relationship of Customer/Database instance(s) and the Tablespaces used.

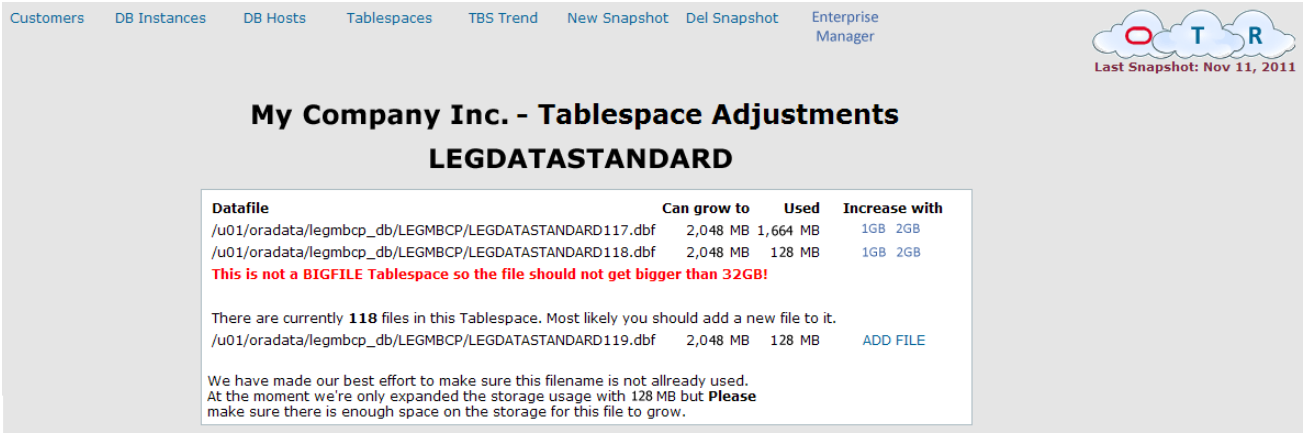
From here we will also generate reports of space usage at a defined point in time. This can be a report containing database instances for all customers or for a single customer. Reports can be stored as Excel files or as PDF files.

On the right side is the monitoring/alert pane where Instances with some sort of problem coming up will be listed. It will display if the Instance is down, in Blackout mode or if a Tablespace has a problem. With a mouse-over on a red alert the actual tablespace will be shown and how much free space in MB is still available and the "real" % used. With "real" means it's calculating the free space in % based on the "can grow to" value for the tablespace.

With a click on the red TBS alert, you get the possibility to adjust the tablespace with just one click.

Assuming we have a space problem on a BIGFILE tablespace.

With just one click this tablespace will extend the “Can Grow to” with another 1 or 2GB.
If it would be a non-BIGFILE tablespace…



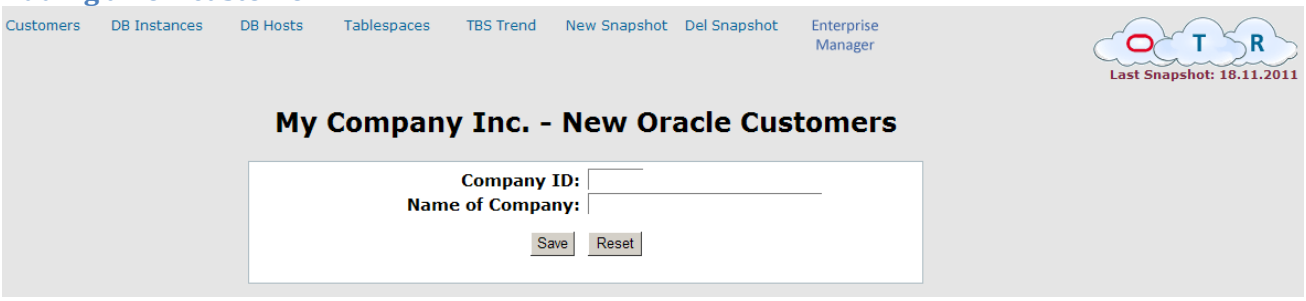
A list of the files within this tablespace, that have autoextend still on, will be displayed. You can select to increase the “Can grow to” on one of these datafiles with 1 or 2GB or add a new file which will have its initial size set to 128MB and the “Can grow to” set to 2GB.
If a valid Mail Server and Mail account is configured a mail will be sent to the DBA and/or Storage Team with a reminder about checking the storage to make sure you don’t run out of space.

Customers

Main screen for customers

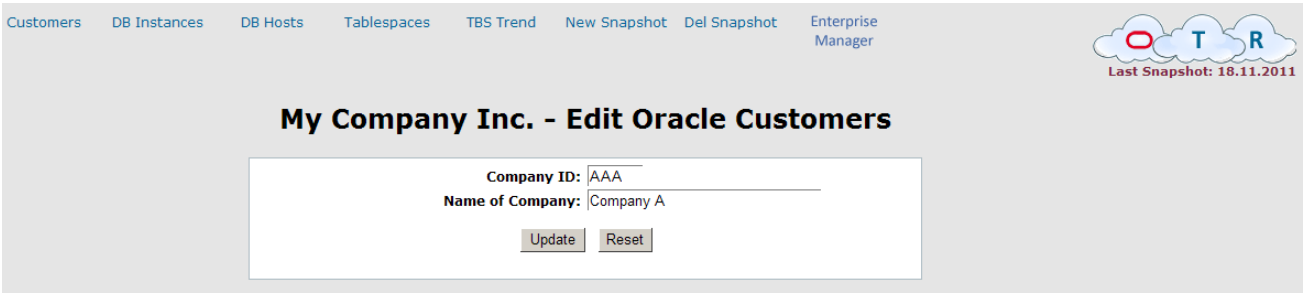
From this screen we will administrate our customers. The company info contains Company ID or Mandator and a Customer name.

Adding a new customer



Simply fill out the form and click on Save.
Customer ID is a 3 letter short name of the customer. This is later used as a connection to the database instance and the tablespaces used by this customer.

Edit a customer

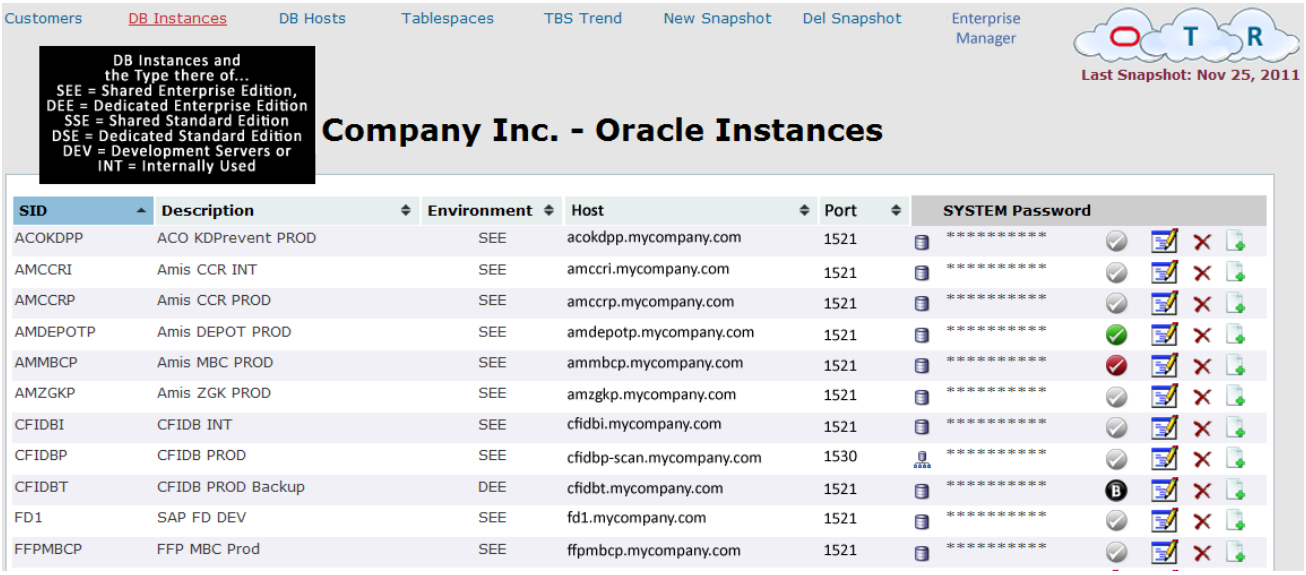


Note: Changing the Customer ID will bring a problem with the collected statistics and with the connection to the tablespaces, so try to keep this unchanged…

DB Instances

In this module you will register all your Oracle Instances.

Main screen for Oracle Instances

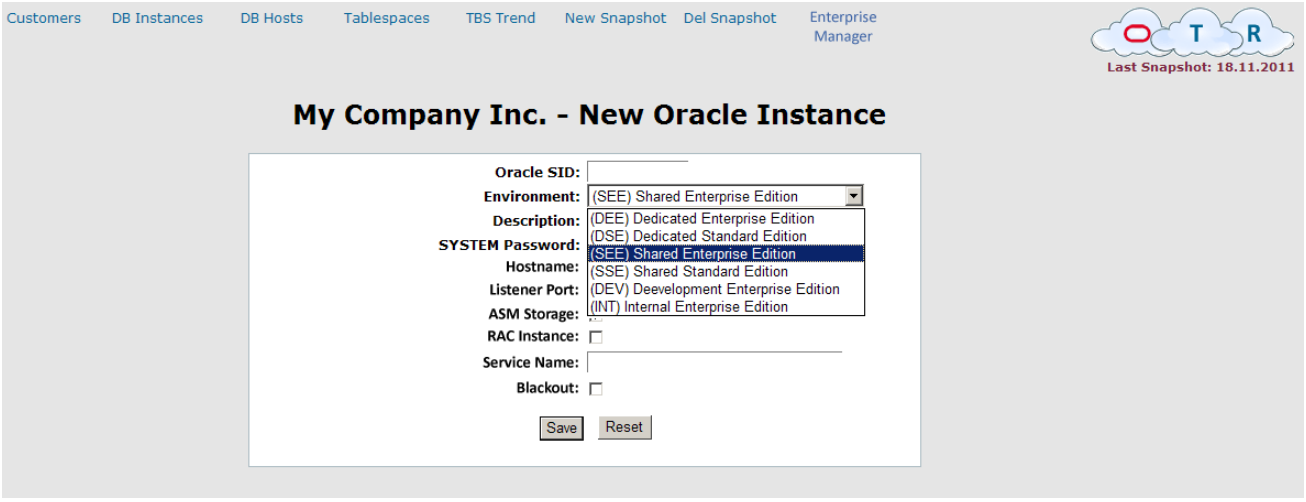


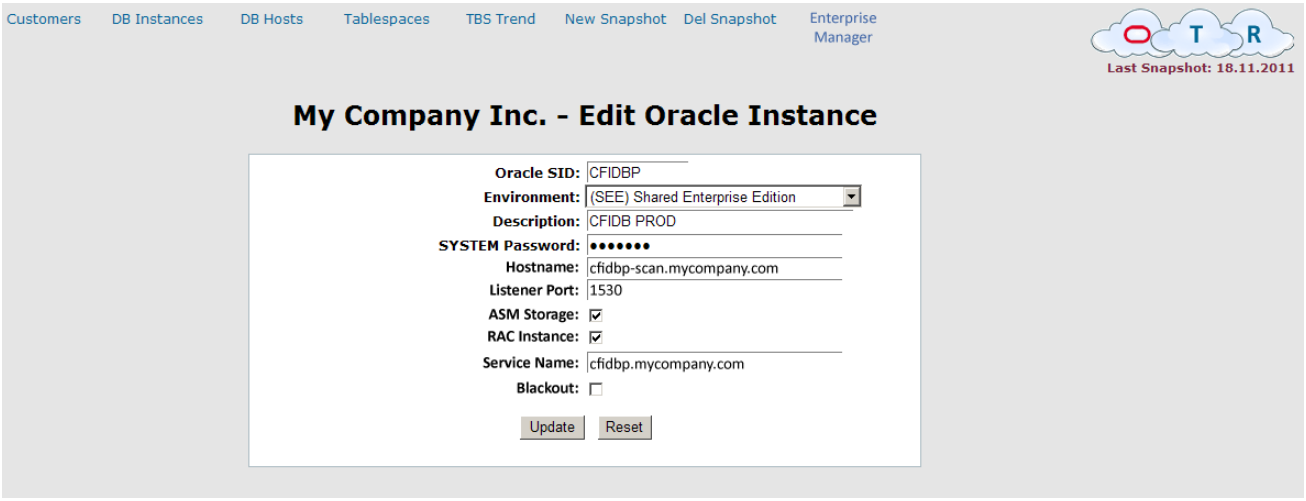
It contains Info like Oracle SID, what type of instance this is, DEE = Dedicated Enterprise Edition, DSE = Dedicated Standard Edition, SEE = Shared Enterprise Edition, SSE = Shared Standard Edition, DEV = Development Instances or INT = Internal Enterprise or Standard Edition (might be the Enterprise Manager Instance, a RMAN Instance or a SnapManager for Oracle Instance as an example). It also contains a short description for the Instance. This is usually related to an Application and/or Production/Integration/Test Instance.

Indicates that this is a Cluster (RAC), indicates that it's a normal standalone Instance.

System password (used to monitor and increase Tablespaces). This password is encrypted in the OTR repository. To check if the password is OK, just click on the . It will turn if OK otherwise . If there is an icon this means that the Instance is in Blackout status and no snapshots or Tablespace checks will be done on the Instance.

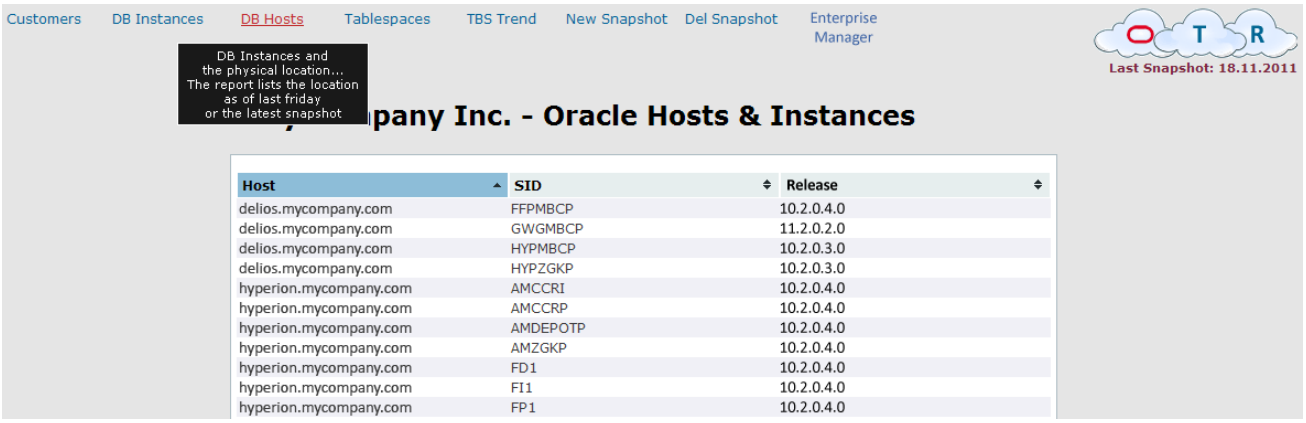
When Adding or Editing an Instance you don't need to add hostname and listener port if you have an Enterprise Manager configured. This will be picked up twice a day with the current info directly from the Enterprise Manager repository. If you don't have any Enterprise Manager these entries are required to be defined otherwise OTR have no possibility to connect to the remote Instance. During Setup of OTR and with Enterprise Manager configured and available these values will be available and stored on the OTR repository.





DB Hosts

Main screen for DB Hosts

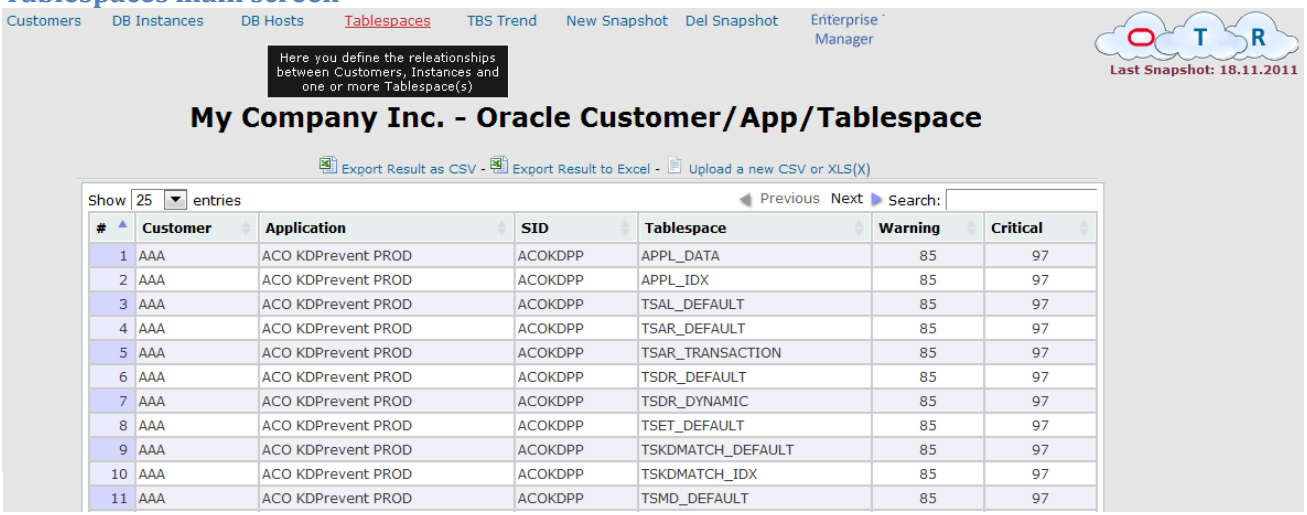


This is simply a list of which Instance is running on which physical host and which release it is as of the latest snapshot, usually the automated Friday snapshot. A pdf file will be generated on a weekly basis to keep track of where an Instance once where in case of DB Instances has to get moved around and you have had some setup or maintain scripts stuffed away on the previous server.

Tablespaces

This is the heart of OTR. Here the connection between Customer, DB Instance and the Tablespaces are made.

Tablespaces main screen



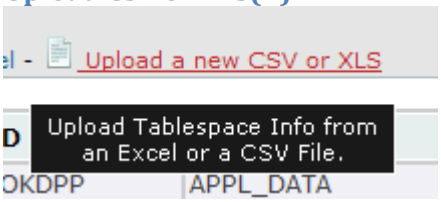
#	Customer	Application	SID	Tablespace	Warning	Critical
1	AAA	ACO KDPrevent PROD	ACOKDPP	APPL_DATA	85	97
2	AAA	ACO KDPrevent PROD	ACOKDPP	APPL_IDX	85	97
3	AAA	ACO KDPrevent PROD	ACOKDPP	TSAL_DEFAULT	85	97
4	AAA	ACO KDPrevent PROD	ACOKDPP	TSAR_DEFAULT	85	97
5	AAA	ACO KDPrevent PROD	ACOKDPP	TSAR_TRANSACTION	85	97
6	AAA	ACO KDPrevent PROD	ACOKDPP	TSDR_DEFAULT	85	97
7	AAA	ACO KDPrevent PROD	ACOKDPP	TSDR_DYNAMIC	85	97
8	AAA	ACO KDPrevent PROD	ACOKDPP	TSET_DEFAULT	85	97
9	AAA	ACO KDPrevent PROD	ACOKDPP	TSKDMATCH_DEFAULT	85	97
10	AAA	ACO KDPrevent PROD	ACOKDPP	TSKDMATCH_IDX	85	97
11	AAA	ACO KDPrevent PROD	ACOKDPP	TSMD_DEFAULT	85	97

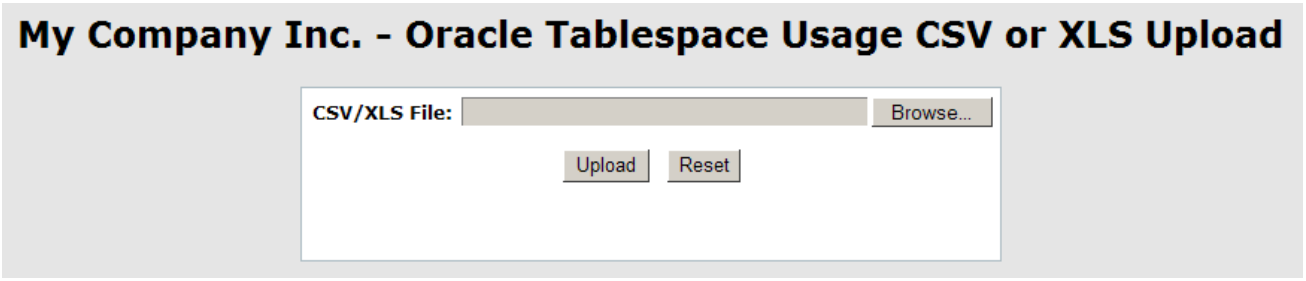
It's also possible to filter this list. As an example we could look for anything that contains APPL by just typing this into the search box in the upper right corner. In this example it will only display 2 tablespaces. This search filters on anything in a line… not only Tablespace names.

#	Customer	Application	SID	Tablespace	Warning	Critical
1	AAA	ACO KDPrevent PROD	ACOKDPP	APPL_DATA	85	97
2	AAA	ACO KDPrevent PROD	ACOKDPP	APPL_IDX	85	97
#	Customer	Application	SID	Tablespace	Warning	Critical

The source for this information can be a .CSV file or an Excel Document. This file will be uploaded to the OTR repository server. In case of an Excel file, both .xls and .xslx formats are accepted.

Upload CSV or XLS(X)





The .CSV contains 6 fields/row and will have the following structure:

```
AAA;Amis CCR INT;AMCCRI;TSDATLARGE;85;97
AAA;Amis CCR INT;AMCCRI;TSDATNORM;85;97
AAA;Amis CCR INT;AMCCRI;TSDATSN;85;97
AAA;Amis CCR INT;AMCCRI;TSIDX;85;97
```

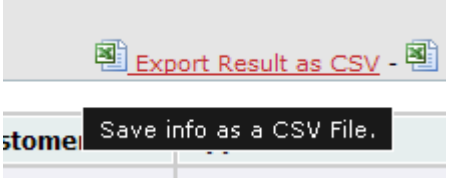
It contains the Customer ID, The Instance Description, OraSID, Tablespace name, Warning threshold and Critical threshold.
The other possibility and also the easiest way, is to keep this info in an Excel sheet.

	A	B	C	D	E	F
1	AAA	ACO KDPrevent PROD	ACOKDPP	APPL_DATA	85	97
2	AAA	ACO KDPrevent PROD	ACOKDPP	APPL_IDX	85	97
3	AAA	ACO KDPrevent PROD	ACOKDPP	TSAL_DEFAULT	85	97
4	AAA	ACO KDPrevent PROD	ACOKDPP	TSAR_DEFAUTL	85	97
5	AAA	ACO KDPrevent PROD	ACOKDPP	TSAR_TRANSACTION	85	97
6	AAA	ACO KDPrevent PROD	ACOKDPP	TSDR_DEFAULT	85	97
7	AAA	ACO KDPrevent PROD	ACOKDPP	TSDR_DYNAMIC	85	97
8	AAA	ACO KDPrevent PROD	ACOKDPP	TSET_DEFAULT	85	97
9	AAA	ACO KDPrevent PROD	ACOKDPP	TSKDMATCH_DEFAULT	85	97
10	AAA	ACO KDPrevent PROD	ACOKDPP	TSKDMATCH_IDX	85	97
11	AAA	ACO KDPrevent PROD	ACOKDPP	TSMD_DEFAULT	85	97
12	AAA	ACO KDPrevent PROD	ACOKDPP	TXAL_DEFAULT	85	97
13	AAA	ACO KDPrevent PROD	ACOKDPP	TXAR_DEFAULT	85	97
14	AAA	ACO KDPrevent PROD	ACOKDPP	TXAR_TRANSACTION	85	97
15	AAA	ACO KDPrevent PROD	ACOKDPP	TXDR_DEFAULT	85	97
16	AAA	ACO KDPrevent PROD	ACOKDPP	TXDR_DYNAMIX	85	97
17	AAA	ACO KDPrevent PROD	ACOKDPP	TXET_DEFAULT	85	97
18	AAA	ACO KDPrevent PROD	ACOKDPP	TXMD_DEFAULT	85	97

The content in Excel is the same as for the .csv
Company ID, Instance description, OraSID, Tablespace name, Warning and Critical thresholds.

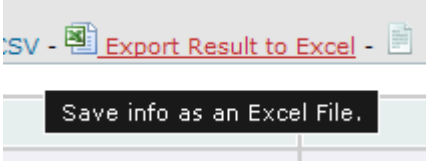
Export as CSV

This info can also be exported locally as either a .csv file



Export as XLS

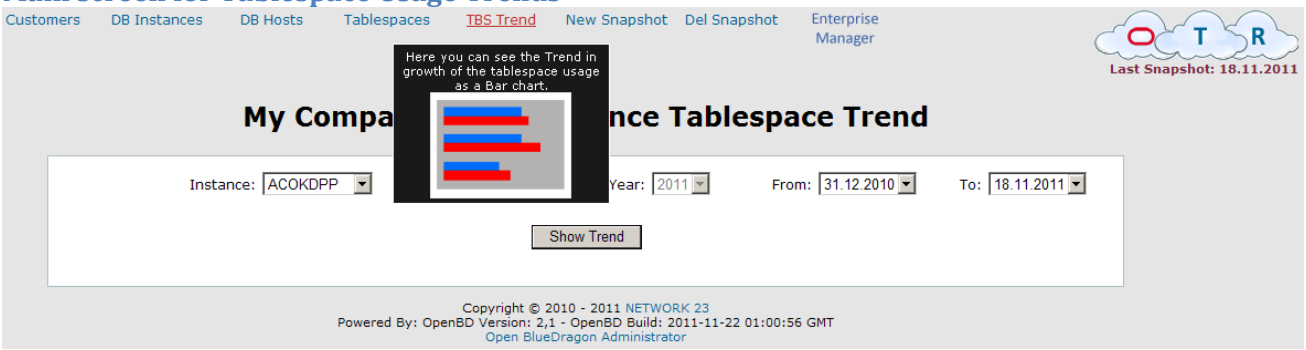
or as an Excel document



TBS Trend

This will display the trend of growth graphically in a Bar chart.

Main screen for Tablespace Usage Trends



Trend defined by 2 snapshots

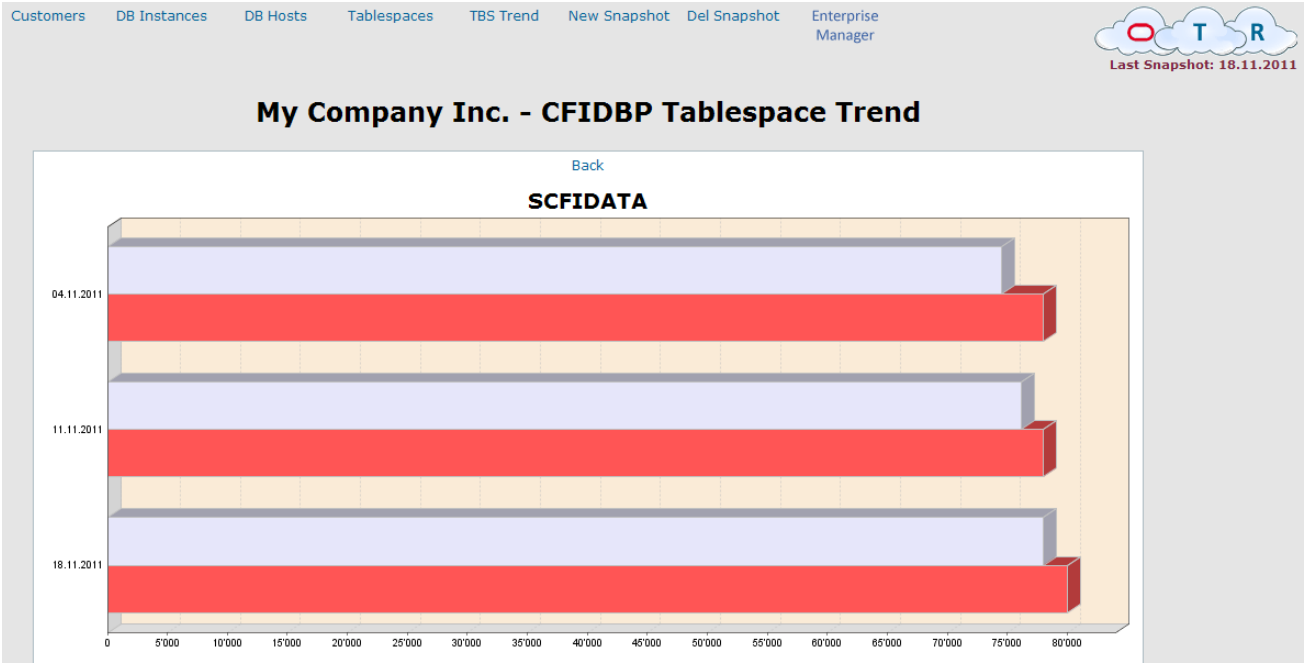
Statistical data can be displayed from a time period between 2 snapshots.

Trend defined on a Monthly basis

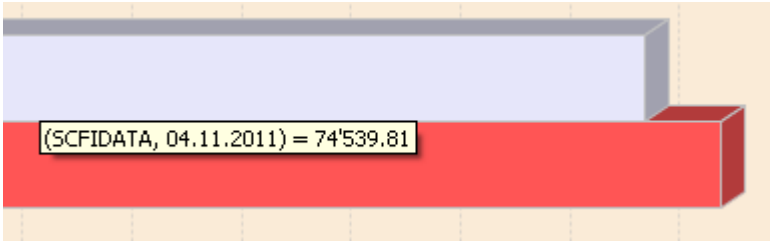
This will pick the last snapshot from each month within the selected year.

Tablespace Trends as Graphical Output

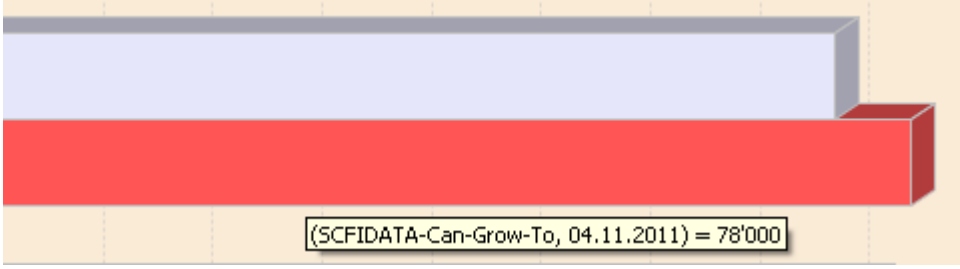
The output will display the output as a bar-chart.



The currently used space in the tablespace…



and the size the tablespace can grow to.

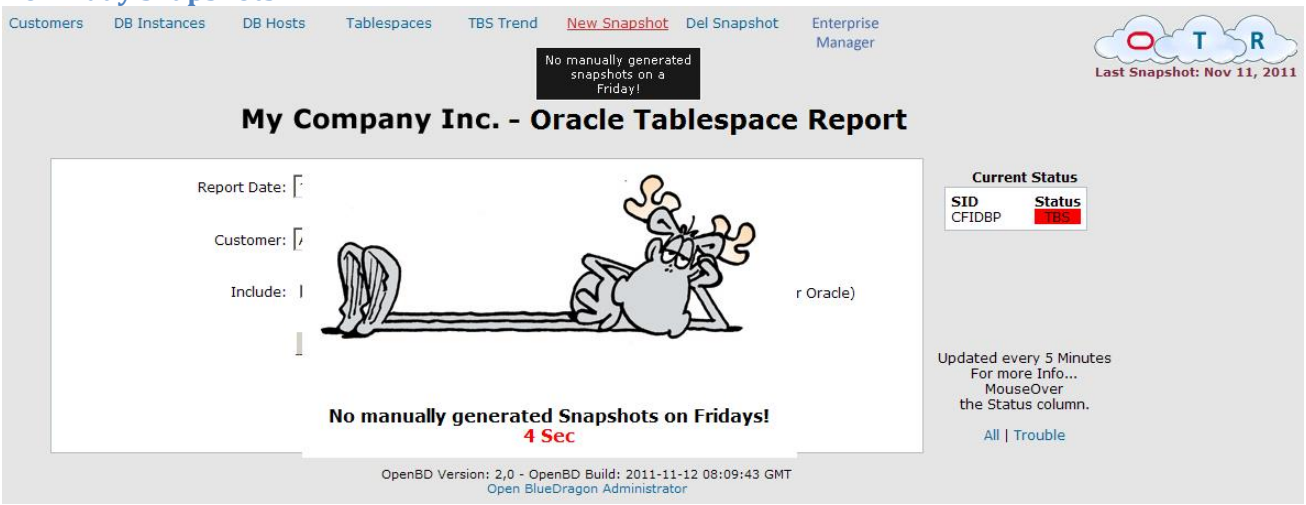


Snapshots

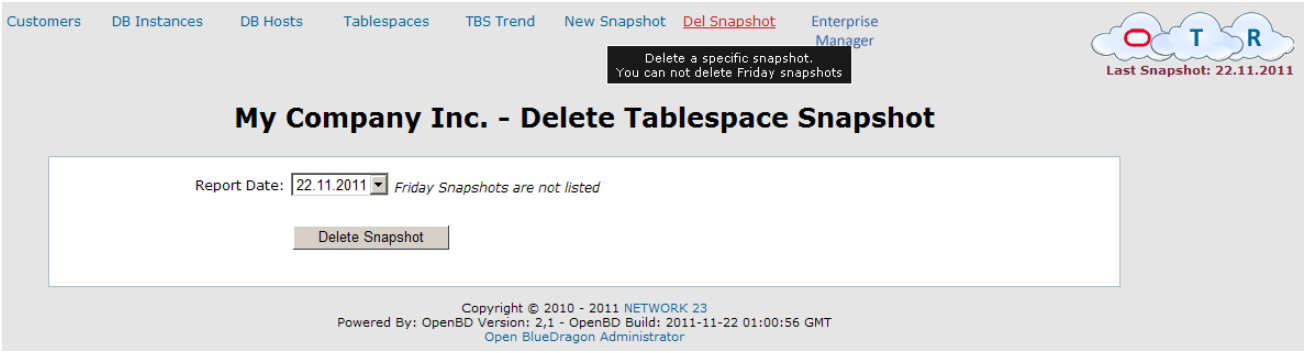
The statistics is stored in the OTR repository as a snapshot. This is done as a weekly Scheduled job defined in the OpenBD Administrator. This job should be scheduled shortly before Friday Midnight. Snapshots can also be generated manually.

Only one snapshot / day will be stored, so creating a new snapshot again on the same day will simply delete the previous one and create a new snapshot for that day.

No Friday snapshots!



Since Fridays are our scheduled snapshot day you are not allowed to create manual snapshots on this day. It's possible to delete manually generated snapshots but not the Friday snapshots.



Enterprise Manager

Since we're DBA's we of course need access to our "real" toolbox. Therefor we have a direct link to the login for Oracle® Enterprise Manager.

How do we get started?

First of all we need to setup the repository OTR schema, assuming of course that the Enterprise Manager is already installed!

DDL Scripts

These scripts are located under DOC\OTR-Reporting\Setup\DDL

```
OTR_DB_SPACE_REP_SCHEMA.sql
OTR_ASM_DB_SPACE_REP_SCHEMA.sql
CREATE_OTR_SYSTEM_USER.sql
```

OTR_DB_SPACE_REP_SCHEMA.sql

The first script to run is the OTR_DB_SPACE_REP_SCHEMA.sql which will create new tablespace(s) for the OTR Repository, Create the schema owner OTRREP and setup the grants needed.
This script is to be used if you are using NFS or SAN Mounts for your Repository DB
If Repository Database is using ASM please use the OTR_ASM_DB_REP_SCHEMA.sql instead.
NOTE: To avoid any license problems make sure not to use the Enterprise Manager Repository Instance for your OTR Repository!

```
>@OTR_DB_SPACE_REP_SCHEMA.sql
Enter Database Alias for the OTR Repository [OTR]: SMO
Enter Password for user SYS: ********
Enter path for the otr_rep_data01.dbf [/u01/oradata/otr_db/OTR]: /u01/oradata/smo_db/SMO
Enter path for the otr_rep_indx01.dbf [/u01/oradata/otr_db/OTR]: /u01/oradata/smo_db/SMO


Choose the OTRREP user's Temporary tablespace.

TABLESPACE_NAME                CONTENTS  DB DEFAULT TEMP TABLESPACE
------------------------------ --------- --------------------------
TEMP                           TEMPORARY *

Pressing <return> will result in the database's default Temporary
tablespace (identified by *) being used.

Enter Temporary TABLESPACE Name: TEMP

... Creating OTRREP user
```

Entering SYSTEM or SYSAUX as Temporary Tablespace will generate an Error and the script stops.

OTR_ASM_DB_SPACE_REP_SCHEMA.sql

If your OTR Repository will be running on an ASM Instance you should use the OTR_ASM_DB_SPACE_REP_SCHEMA.sql instead. Make sure that the parameter db_create_file_dest is propery set in this Instance before you run the script. It should have a value similar to +EMREP_DATADG

```
>@OTR_ASM_DB_SPACE_REP_SCHEMA.sql
Enter Database Alias for the OTR Repository [OTR]: SMO
Enter Password for user SYS: ********
Enter path for the otr_rep_data01.dbf [+DATA_DG]: +EMREP_DATADG
Enter path for the otr_rep_indx01.dbf [+DATA_DG]: +EMREP_DATADG


Choose the OTRREP user's Temporary tablespace.

TABLESPACE_NAME                CONTENTS  DB DEFAULT TEMP TABLESPACE
------------------------------ --------- --------------------------
TEMP                           TEMPORARY *

Pressing <return> will result in the database's default Temporary
tablespace (identified by *) being used.

Enter Temporary TABLESPACE Name: TEMP

... Creating OTRREP user
```

Entering SYSTEM or SYSAUX as Temporary Tablespace will generate an Error and the script stops.

CREATE_OTR_SYSTEM_USER.sql

If you can't use the user SYSTEM to connect to your Target Databases, for whatever reason, you can create your own OTR User on the Target Instances. This user will get enough privileges to be able to check Tablespace usage, extend a Tablespace or add Datafiles to your targets tablespaces.

```
> @create_otr_system_user.sql
Enter Database Alias for the Target DB: SMO
Enter the Username for your OTRREP User [OTRREP_SYSTEM]: OTR_USER
Enter password for your OTR_USER User: <OTR_USER_PASSWORD>
Enter Password for user SYS: <SYS_PASSWORD>
Connected.

Choose the OTR_USER user's User tablespace.

TABLESPACE_NAME                CONTENTS  DEFAULT PERMANENT TABLESPACE
------------------------------ --------- ----------------------------
AUDITING                       PERMANENT
USERS                          PERMANENT *

Pressing <return> will result in the database's default User
tablespace (identified by *) being used.

Enter Temporary TABLESPACE Name: USERS

Using tablespace USERS as OTR_USER user tablespace.


Choose the OTR_USER user's Temporary tablespace.

TABLESPACE_NAME                CONTENTS  DB DEFAULT TEMP TABLESPACE
------------------------------ --------- --------------------------
TEMP                           TEMPORARY *

Pressing <return> will result in the database's default Temporary
tablespace (identified by *) being used.

Enter Temporary TABLESPACE Name: TEMP

Using tablespace TEMP as OTR_USER temporary tablespace.
```

Done with Step 1

This rounds up the first part and we have to download the WEB GUI and the OpenBD Server.

Web Frontend using Open BlueDragon

For the Web frontend of OTR we need the server software from the OpenBD project. OpenBD is the world's first truly open source GPL Java and Google App Engine CFML runtime. CFML is a powerful tag/script based language that takes away all the heavy lifting of producing highly scalable web and email based services and sites.

Download Ready2Run Jetty+OpenBD

At http://www.openbd.org/download we need to download the Ready2Run Jetty+OpenBD. It's also possible to run OpenBD on a Tomcat Server. In this case we only need to download the openbd.war file and dump it in the webapps folder. Tomcat setup is not described in this document.
In this case we will use the OMS/EM Server to install the OTR Web GUI.
If we have internet access direct from the OTR Server and this is a Linux/UNIX Server we can use the wget command.
We will install the OpenBD under /opt/OpenBD
As user root

```
# cd opt
# mkdir OpenBD
# cd OpenBD
# wget http://openbd.org/download/3.0/jetty-openbd.zip
```

Or get the Nighly Build

```
# wget http://openbd.org/download/nightly/jetty-openbd.zip
# unzip jetty-openbd.zip
```

Download JDK or JRE 6 from Oracle

At http://www.oracle.com/technetwork/java/javase/downloads/index.html
At the time of this writing the release is Java SE 6 Update 29. Select the appropriate release for your platform.
In our case we're on a 64-bit Oracle Linux so our download would be jdk-6u29-linux-x64-rpm.bin
Installing this with

```
# ./jdk-6u29-linus-x64-rpm.bin
```

Making this as our default Java setup we will use the "alternatives" to maintaining symbolic links to our newly installed java.

```
# /usr/sbin/alternatives --install /usr/bin/java java /usr/java/jdk1.6.0_29/bin/java 16029
# /usr/sbin/alternatives --display java
```

NOTE: If you decide to install the OTR Web frontend on the Enterprise Manager Server you can use the JDK which is used by Enterprise Manager!

Fixing the start script for OpenBD

Create a file /etc/default/jetty to define the JETTY_HOME

```
# vi /etc/default/jetty
JETTY_HOME=/opt/OpenBD
```

Change the mod of the start/stop script

```
# chmod 755 /opt/OpenBD/bin/jetty.sh
```

Edit the start/stop script to add the path to your JDK6 bin directory and a JAVA_OPTIONS parameter to fix X11 problems when using graphics and charts. Marked in red below.

```
# JETTY_USER
#   if set, then used as a username to run the server as
#

# Adding one of the JDK's to the path (Locally)
PATH=$PATH:/usr/java/jdk1.6.0_29/bin

# JAVA_OPTIONS to avoid X11 error when using Charts in OpenBD
JAVA_OPTIONS=-Djava.awt.headless=true

usage()
{
    echo "Usage: ${0##*/} [-d] {start|stop|run|restart|check|supervise} [ CONFIGS ... ] "
    exit 1
}
```

Updating JDBC Driver for Oracle

Copy the new Oracle JDBC driver into OpenBD's lib directory

```
# cd /opt/OpenBD/webapps/openbd
# cp otr/Doc/licenses/ojdbc6.jar WEB-INF/lib
# cd /opt/OpenBD
```

If you're using JDK5 instead of JDK6 you need to download the correct driver from Oracle at http://www.oracle.com/technetwork/java/javase/downloads/index.html and then copy the ojdbc5.jar file into the `/opt/OpenBD/webapps/openbd/WEB-INF/lib` directory.

Rename the old jdbc driver to avoid it to be loaded at startup.

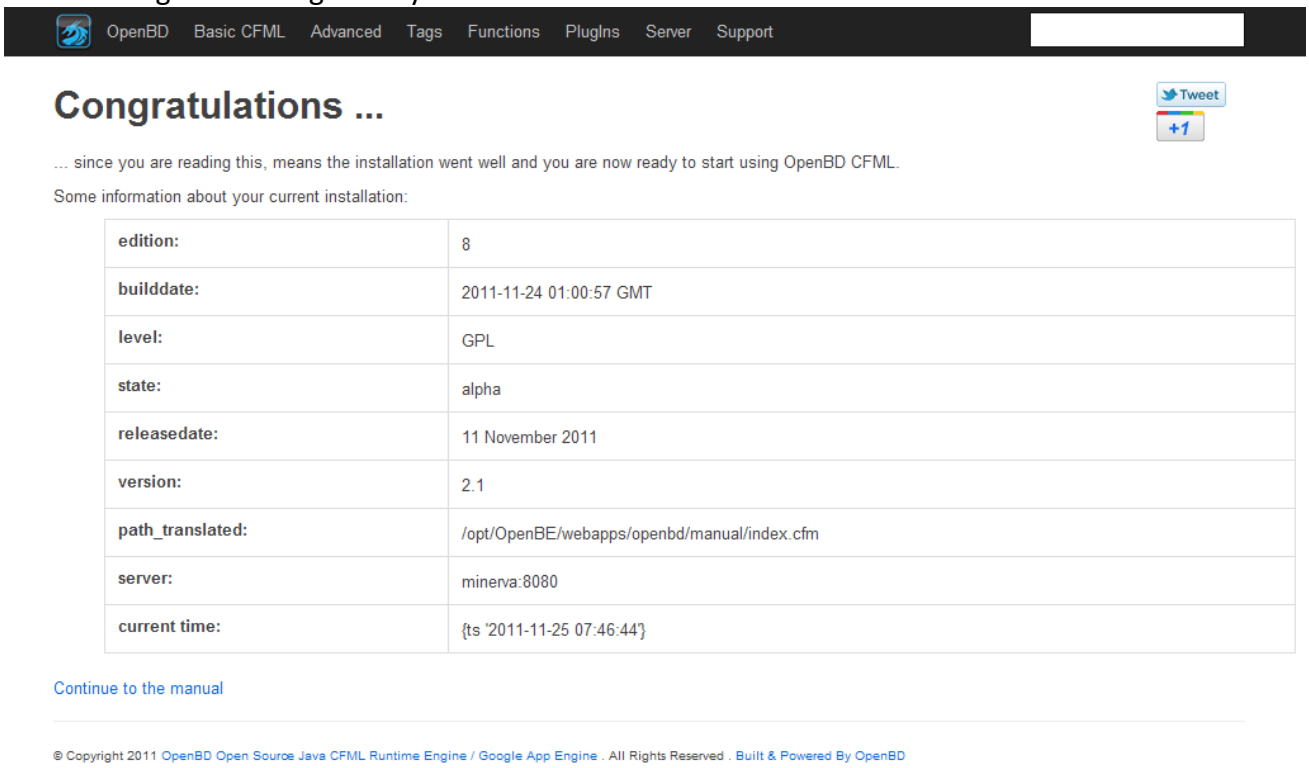
```
# cd /opt/OpenBD/webapps/openbd/WEB-INF/lib
# mv ojdbc14.jar ojdbc14.jar.old
# cd /opt/OpenBD
```

And start the Jetty/OpenBD

```
# bin/jetty.sh start
```

Test your OpenBD Installation

Open a web browser and goto the URL http:// your_ otr_server:8080
You should get a message that your Installation was successful.



By default Jetty, like most Java Servers, is configured to use port 8080. You can easily change this to port 80 since most likely you will not have any conflict using this port. Enterprise Manager usually, with a normal installation, will use a different port (typically 4889)

Change listener port for Jetty

If you prefer to use port 80 instead of port 8080 simple stop the OpenBD Server again.

```
# bin/jetty.sh stop
```

Go into the etc folder

```
# cd /opt/OpenBD/etc
```

Edit the file jetty.xml

```
# vi jetty.xml
```

Look for the property jetty.port, change the default=”8080” to default=”80”

Also change the file jetty-fileserver.xml

```
# vi jetty-fileserver.xml
```

Look for the `<Set name=”port”>8080</Set>` and change this to

```
<Set name=”port”>80</Set>
```

Start the OpenBD Server again

```
# cd ..
# bin/jetty.sh start
```

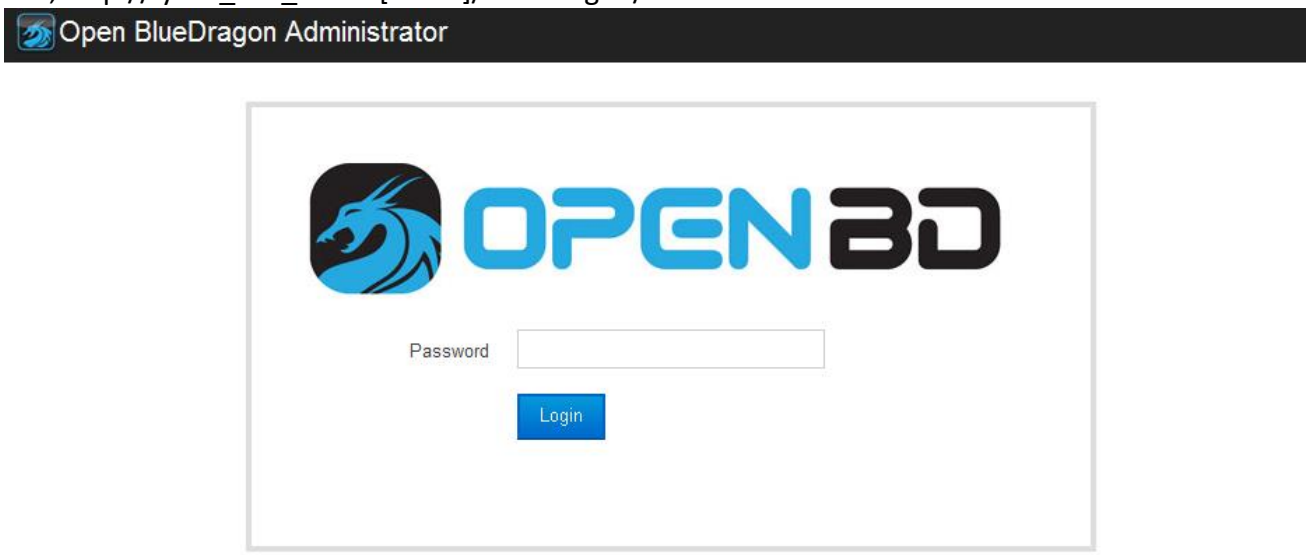
From now on your OpenBD should respond on standard port 80

Configuring OpenBD for OTR

First we need to define 2 Datasources for OTR to be able to communicate with the EM and OTR Repositories.

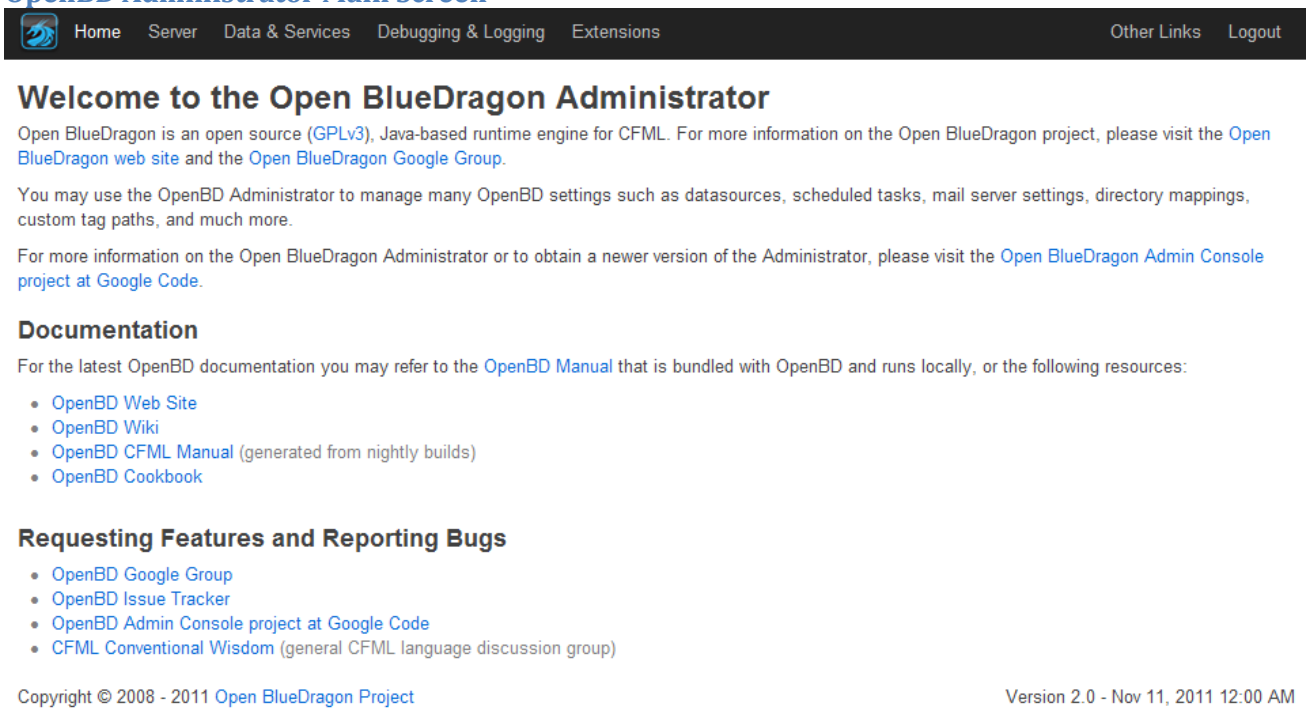
Login to OpenBD Administrator

Go to the URL, with or without the portnumer depending on if you reconfigured your Jetty Setup or not, http:// your_ otr_server[:8080]/bluedragon/administrator

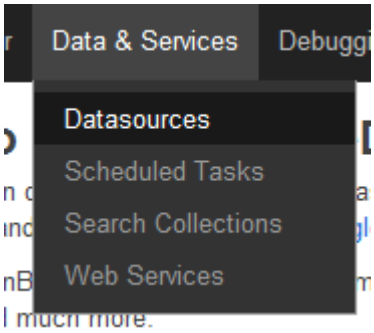


The default Password is **admin**

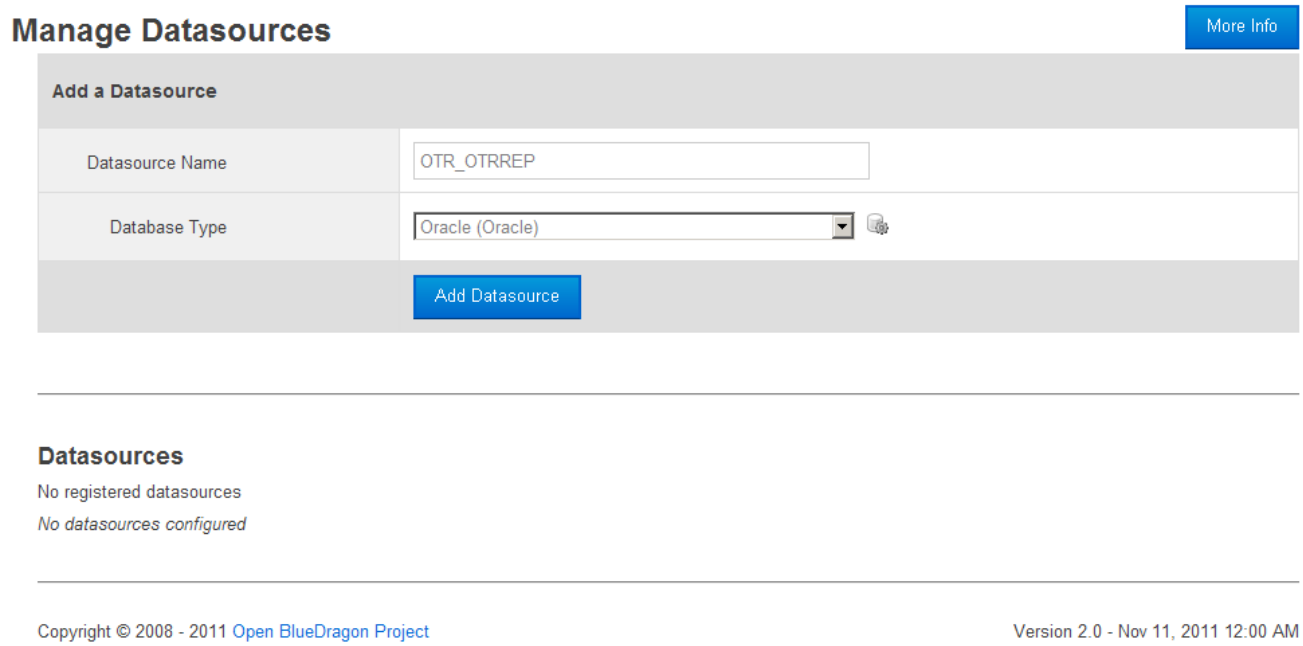
OpenBD Administrator Main Screen



To add new Datasources select the menu Data & Services



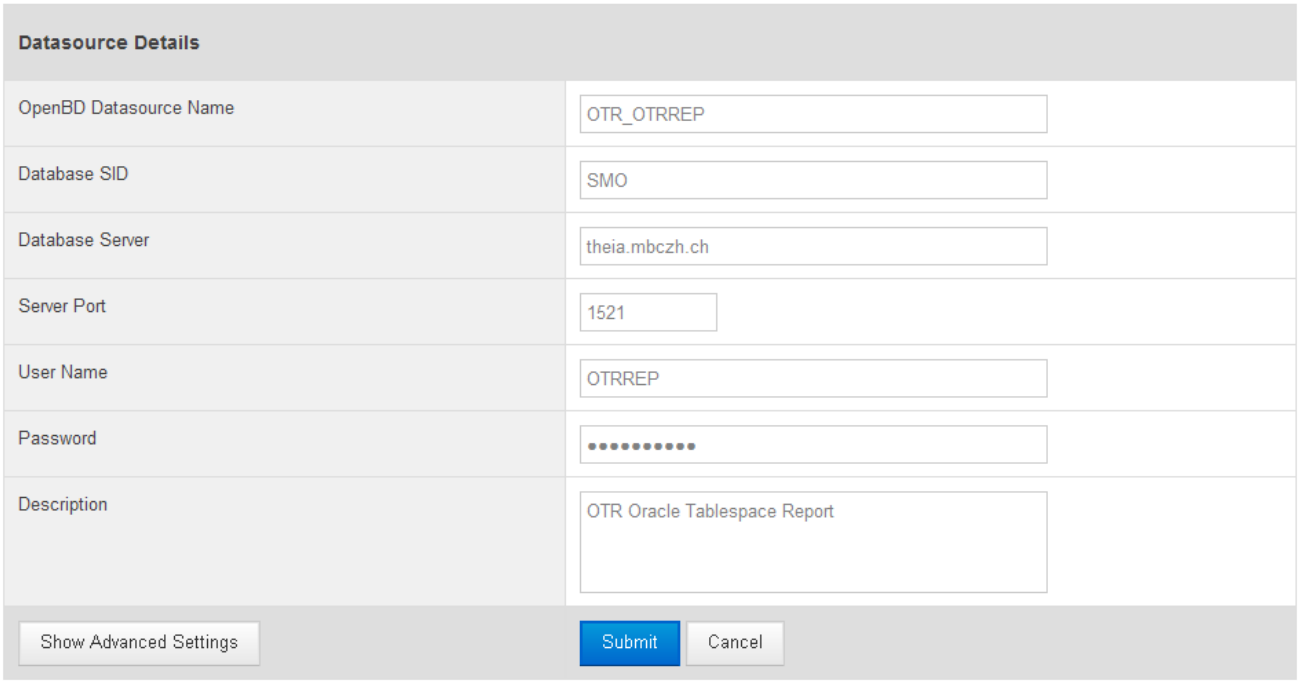
Add Datasource OTR_OTRREP



Datasource Name: **OTR_OTRREP** and Type is of course **Oracle** and click **Add Datasource**

Adding connection info

Configure Datasource - Oracle (Oracle)



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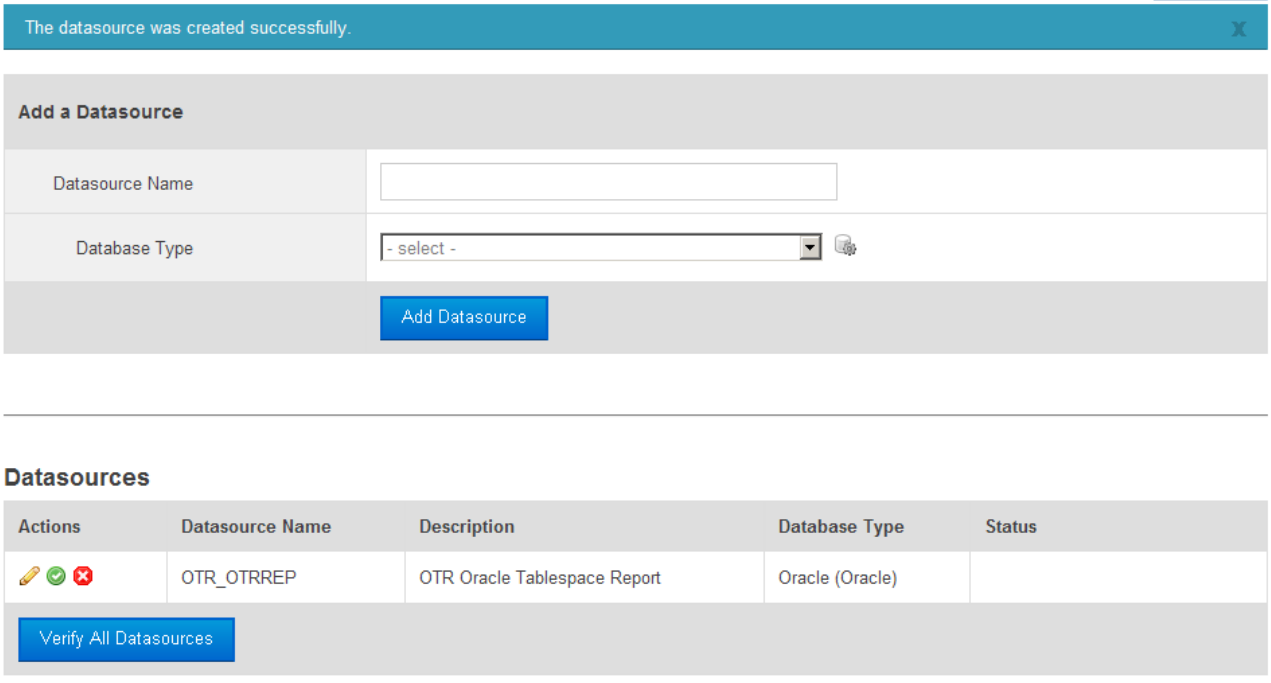
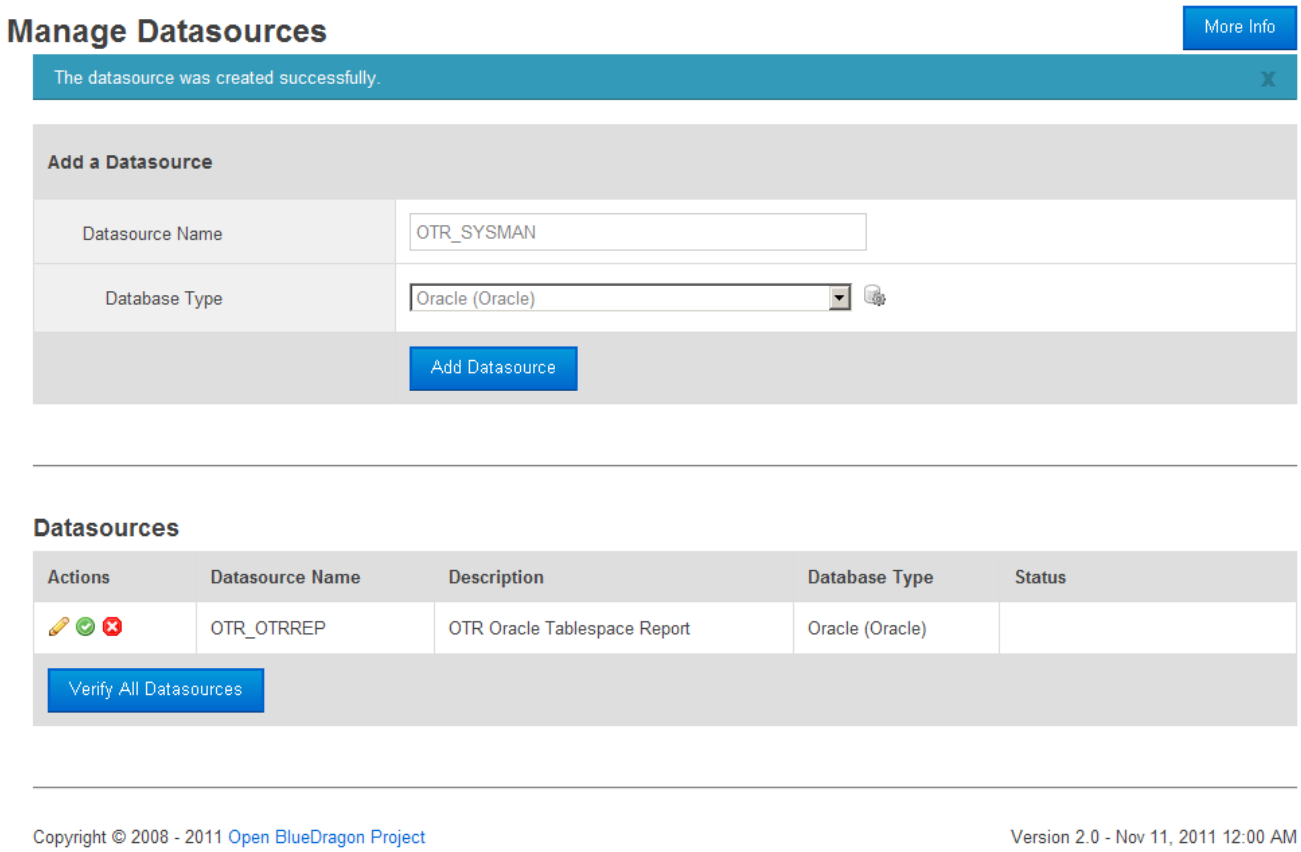
Database SID: **<Your OTR OracleSID>**
Database Server: **<Host of your OTR Instance>**
Server Port: **<Listener Port for your OTR Instance>**
User Name: **OTRREP**
Password: **otrrep4otr**
Description: **OTR Oracle Tablespace Report**

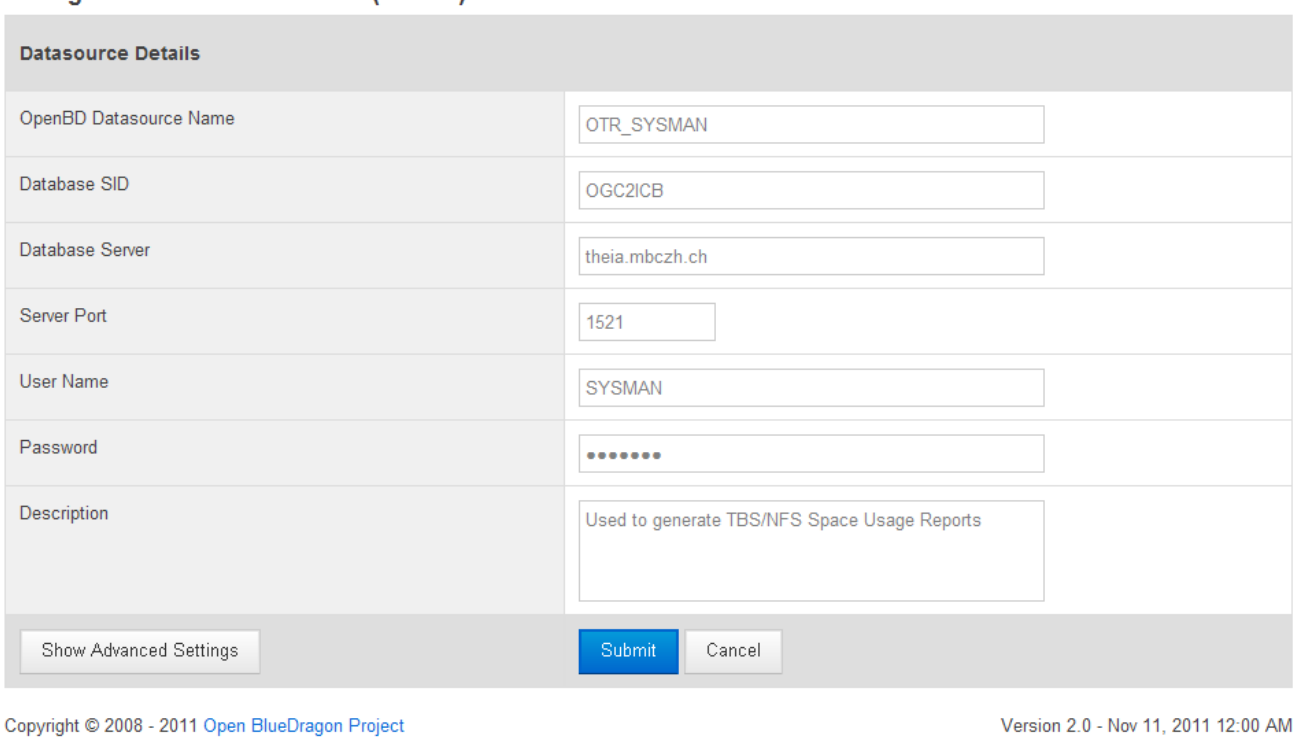
Manage Datasources More Info



Add Datsource OTR_SYSMAN

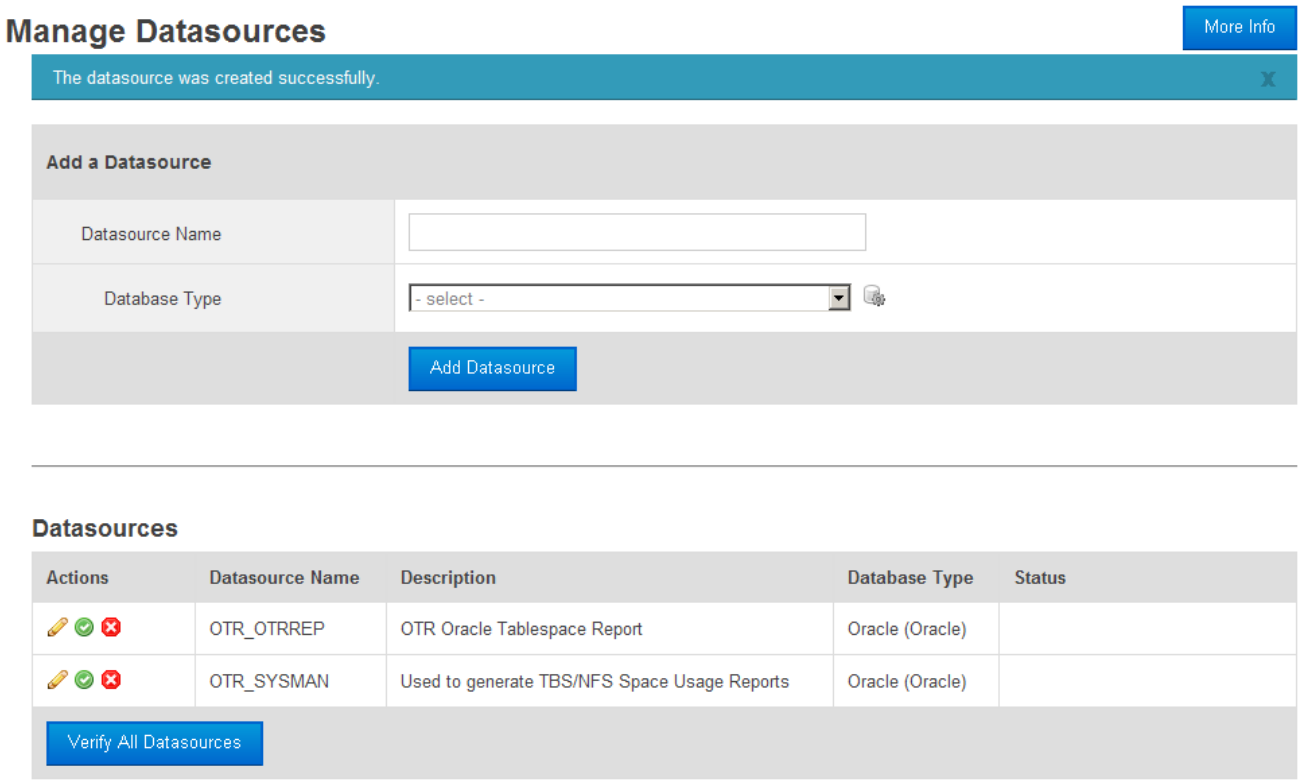


Datasource Name: **OTR_SYSMAN** and the type **Oracle** and click **Add Datasource**

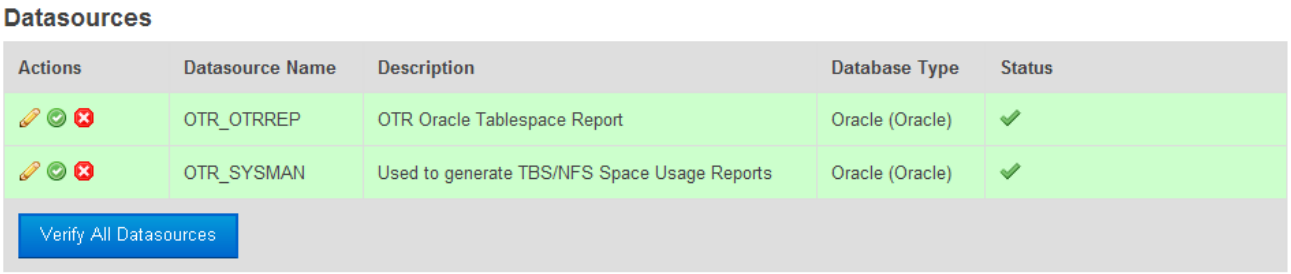


User Name: **SYSMAN** <User on your OGC Instance!!!>
Password: **<SYSMAN Password>**
Description: **Used to generate TBS/NFS Space Usage Reports**

Test the new Datasources



By clicking on **Verify All Datasources** you will get a confirmation of the settings and if they are OK



NOTE: There is a bug in the OpenBD 3.0 when it comes to Verify a Datasource. This is fixed in the Nightly Build 3.1.0!

Installing the OTR WebApp

In this section we will install the web application for OTR.

Download the otr.war

The otr.war can be downloaded from http://www.project-otr.org/ or get the complete source from Google Code http://code.google.com/p/oracle-tablespace-report/

Copy the otr.war over to your server

Simply copy the otr.war to your server under /opt/OpenBD/webapps/openbd using WinSCP or similar tool.

Most likely is the Linux/UNIX server, where the OTR Web GUI is supposed to be running, not open for remote access for user root. So transfer the file into /tmp as user oracle. SSH connect to the server as user oracle and then with 'su –' change to root. Move the file from /tmp to /opt/OpenBD/webapps/openbd.

```
# chown root:root /tmp/otr.war
# mv /tmp/otr.war /opt/OpenBD/webapps/openbd
```

Jetty is not default configured for hot deploy so simply use unzip to unpack the content

```
# cd /opt/OpenBD/webapps/openbd
# unzip otr.war
```

Change the mod for the directory and its content so you, for future needs, can access the OTR application from outside the server with user oracle

```
# chmod –R 777 otr
```

Make changes to the file Application.cfc to fit your Company and setup

Most all parameters for the OTR Application is defined in the file otr/Application.cfc

Update the following settings.

Oracle Settings

```
<!--- SQLNET.DEFAULT_DOMAIN for DB-Links --->
<cfset Application.oracle.domain_name = "MYCOMPANY.COM" />
<!--- Datasource Settings --->
<cfset Application.datasource = "OTR_OTRREP" />
<cfset Application.dbusername = "OTRREP" />
<cfset Application.dbpassword = "otrrep4otr" />
<cfset Application.default_system_username = "SYSTEM" />
```

The **Application.oracle.domain_name** should correspond to the SQLNET.DEFAUL_DOMAIN within your Oracle environment.

Application.dbusername and Application.dbpassword is not used any more so just ignore them!!!

If you are, for some reason, not allowed to connect to the Target Databases using the SYSTEM account you have to create a user on each Target including the EM Repository. The parameter **Application.default_system_username** should be set to this "new" schema owner. It will be used when all targets are picked up from the EM repository later on…

Mail Server Settings

```
<!--- MailServer Settings --->
<cfset Application.mailserver = "smtp.mycompany.com" />
<cfset Application.mailport = "25" />
<cfset Application.mailtimeout = "60" />
<!--- Mail address for DBA or DBA Group --->
<cfset Application.dba_group_mail = "DB-Services@mycompany.com" />
```

Application.mailserver is the host of your mail server. If this parameter is left empty no mails will be sent when a Tablespace gets extended.

Application.mailport is the SMTP Port used by the mail server. Usually this is port 25.

Application.mailtimeout is the number of seconds to wait before timing out the connection to the SMTP server.

Application.dba_group_mail is the mail address for the DBA or a DBA Group mail account. The mail will also be sent from this account.
If the mail server is configured, OTR will send an E-mail each time a Tablespace is adjusted. The content of the mail will be something like:
Subject: Tablespace **TBSNAME** on **ORASID** just got another 2GB!
Tablespace **TBSNAME** on Instance **ORASID** was just extended with 2GB more.
ORASID is located on host **mydbhost.mycompany.com**
Please make sure there is enough storage space available for this tablespace to grow.

Company Settings

```
<!--- Company Settings --->
<cfset Application.company = "My Company Inc." />
<!--- Excel Document Info --->
<!--- Foreign Characters for Excel
      ß = chr(223)
      å = chr(229)
      ä = chr(228)
      ö = chr(246)
      Å = chr(197)
      Ä = chr(196)
      Ö = chr(214) --->
<cfset Application.excel_doc_info_author = "Mats Str#chr(246)#mberg" />
<cfset Application.excel_doc_info_subject = "Customer Tablspace Usage" />
<cfset Application.excel_doc_info_title = Application.company & " - Tablespace Report" />
<cfset Application.excel_doc_info_lastauthor = "ustr" />
```

Application.company is Your Company Name. This will be displayed on every screen in the application.
Application.excel_doc_info_xxx will be used as document info when generating Excel files. Some character values are provided for foreign character which Excel will understand.

Snapshots

```
<!--- Snapshot Day / Sunday = 1 --->
<cfset Application.snapshot_day = 6 /><!--- 6 = Friday --->
```

It's possible to change the snapshot day but it's not really recommend.
The week starts on Sunday = 1 and stops on Saturday = 7
If you set this value to 0 you won't be able to delete any snapshots. The system assumes that you will make a snapshot every day of the week.

General Settings

```
<!--- General Application Settings --->
<cfset Application.obd_host = "http://minerva:8080/" />
<cfset Application.obd_desktop_host = "http://localhost:8080/" />

<cfset Application.ogc_logon_url = "http://minerva:4889/em/console/logon/logon" />
<cfset Application.host_instance_pdf_dir = "/opt/OpenBD/tbsreports/" />
```

Application.obd_host is the host of the OTR web server. If Jetty isn't re-configured for port 80 this should contain the correct port number. **http://YourServer:8080/**
Application.ogc_login_url is the URL for your Enterprise Manager login screen.
Application.host_instance_pdf_dir is the location where the weekly PDF reports will be located.

Password HashKey

```
<!--- Password Hash Key --->
<cfset Application.system_pw_hash = "otrrep$system$hash" />
```

Application.tablespace.mb_left is the Encryption/Decryption Key used to encrypt and decrypt the SYSTEM User Password which is stored in the OTR Repository. You can change this value to make sure you don't use the same encryption used by another OTR Installation.

Tablespace Warning Settings

```
<!--- Tablespace Warning Levels --->
<cfset Application.tablespace.mb_left = 1800 />

<!--- Tablespace Warning Levels --->
<cfset Application.monitoring_cycle = 5 />
```

Application.tablespace.mb_left is default set to **1800** MB.
Application.monitoring_cycle is the number of minutes between each tablespace check. Default is 5 Minutes.
With these settings correctly configured for your environment you are now ready to do the final setup of OTR.

Restart Jetty/OpenBD

The values contained in the Application.cfc will only be activated at the time the OTR application is started. Changes done during the time the OpenBD/Jetty is running will not be visible.
So to get this change you have just made, you simply stop and start Jetty again. (Make sure you're user root for this)

```
$ su -
# cd /opt/OpenBD
# bin/jetty.sh restart
```

Now when you go to the URL http://yourserver[:8080]/otr you should now see the Setup screen displaying your Company Name.
If this is not the case and you continuously ends up on the Open BlueDragon's Administration screen, then either the Schema Owner OTRREP don't exist or the Password is wrong. Make sure that the Setup SQL 'OTR_ASM_DB_SPACE_REP_SCHEMA.sql' or 'OTR_DB_SPACE_REP_SCHEMA.sql' has been run properly. See chapter DDL Scripts

Get your OTR ready for use

The first thing that will happen is that the OTR Repository is created. When this is done a message will be displayed saying:

OTR Repository Created!

The system will return to the main screen within 5 seconds!

Now, to get your OTR ready to be used we now need to fill it with usable data.

Get Instances from EM Repository

Since this is a new setup you won't have any database Instances in OTR.

If you decided not to use the user SYSTEM to connect to your target databases you must now create a user on all Target databases including the EM Repository Instance!!!!

This user needs to be able to select from the following Tables and Views:

```
grant select on "sys"."dba_data_files" to <your_system_user>;
grant select on "sys"."dba_free_space" to <your_system_user>;
grant select on "sys"."dba_thresholds" to <your_system_user>;
grant select on "public"."v$asm_diskgroup_stat" to <your_system_user>;
```

And need to be able to execute the package which sets the Threasholds on Tablespaces.

```
grant execute on sys.dbms_server_alert to <your_system_user>;
```

Since OTR can Add datafiles or extend the datafile sizes we also need the following 2

```
grant ALTER DATABASE to <your_system_user> ;
grant ALTER TABLESPACE to <your_system_user> ;
```

Example Script to create your own SYSTEM User

```
CREATE USER "MY_SYSTEM_USER" PROFILE "APPLICATION_PROFILE" IDENTIFIED BY "<my_password>"
      DEFAULT TABLESPACE "USERS"
      TEMPORARY TABLESPACE "TEMP" ACCOUNT UNLOCK;
GRANT "CONNECT" TO "MY_SYSTEM_USER";
GRANT ALTER DATABASE TO "MY_SYSTEM_USER" WITH ADMIN OPTION;
GRANT ALTER TABLESPACE TO "MY_SYSTEM_USER" WITH ADMIN OPTION;
GRANT SELECT ON "PUBLIC"."V$ASM_DISKGROUP_STAT" TO "MY_SYSTEM_USER";
GRANT SELECT ON "SYS"."DBA_DATA_FILES" TO "MY_SYSTEM_USER";
GRANT SELECT ON "SYS"."DBA_FREE_SPACE" TO "MY_SYSTEM_USER";
GRANT SELECT ON "SYS"."DBA_THRESHOLDSgrant select " TO "MY_SYSTEM_USER";
GRANT EXECUTE ON "SYS"."DBMS_SERVER_ALERT" TO "MY_SYSTEM_USER";
```

This script is available in the DDL Scripts directory. CREATE_OTR_SYSTEM_USER.sql

Start by selecting the menu 1. Get Instances from your EM Repository. As first step, all Instances found in your Enterprise Manager repository will be picked up and stored in the OTR Repository. The second step will be to enter the SYSTEM Password for each Instance. When all passwords are entered correct for each Instance this step is done and the link will be inactive.

Create your first Customer

There are no customers in your OTR Repository. Select the menu 2. Create at least 1 customer (Your self). When this step is done the link will be inactive.

Create the Tablespace relationships

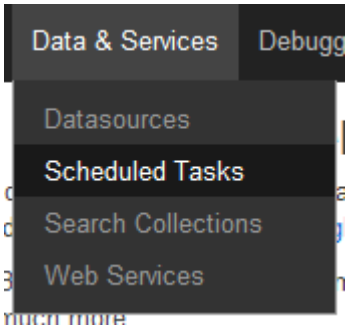
The relation between a Customer, DB Instance and a Tablespace is preferably done using an Excel sheet. As this is a new setup your external table source file doesn't exists yet.
By selecting the menu 3. Load the OTR_CUST_APPL_TBS Table the system will connect to all your registered Instances (as user SYSTEM) and pick up all Tablespaces for each Instance. At this time Tablespaces SYSTEM, SYSAUX, TEMP and UNDO will not be selected.
Your setup is basically done now and you can use the menu Tablespaces and export this as XLS and edit this file locally on your PC.
Replace the Customer ID with correct Customer ID and save the Excel file. Finally upload the file again to OTR and your Tablespace list will now be usable.

Add all your customers

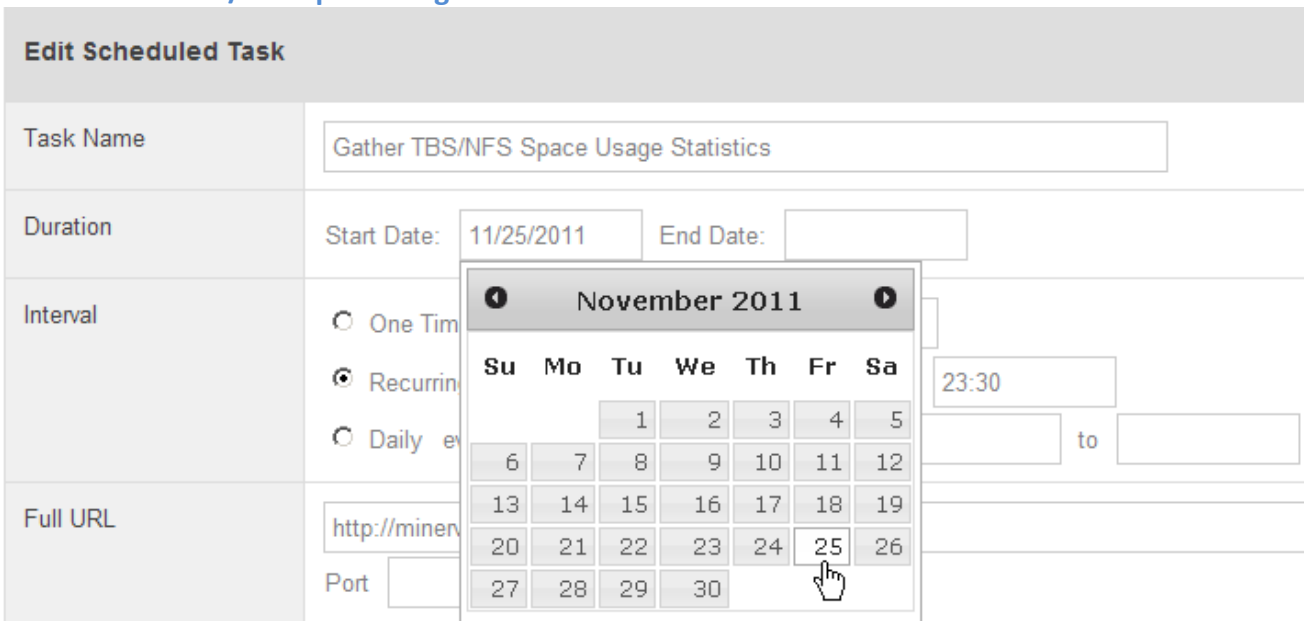
Make sure to add all customers to your system and that the Customer ID is corresponding to your updated Excel file. This will be needed when you create your first snapshot, may it be a manually created snapshot or the weekly generated snapshot.

Define a Gather TBS/NFS Space Usage Statistics Job

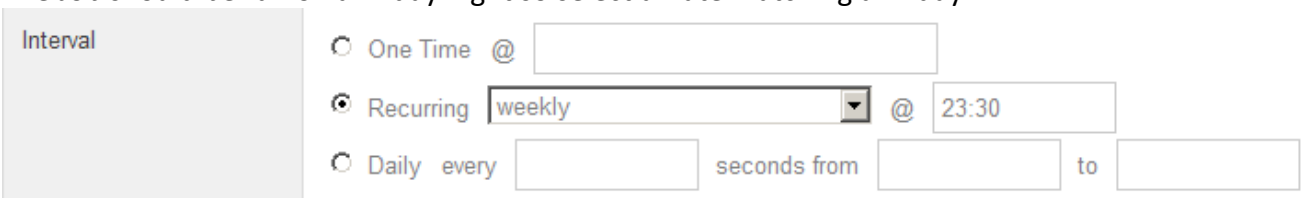
To get the weekly monitoring to collect the Tablespace usage statistics you should now define a Job in the OpenBD Administrator.
Login to the Administrator using the URL http://your_server[:port]/bluedragon/administrator/
If you haven't changed the Administrator Password it will be **admin**.
Select the Menu Data & Services and the Scheduled Tasks



Enter **Gather TBS/NFS Space Usage Statistics** as Task Name.

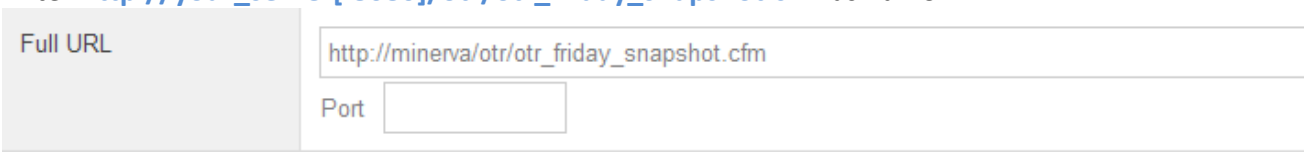


The Job should be run on a Friday night so select a Date matching a Friday.

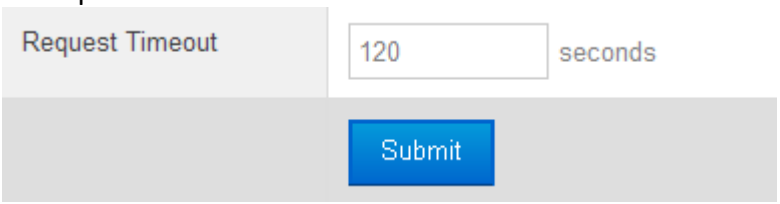


Define the job as a weekly recurring job starting at **23:30** (11:30 PM)

Enter **http://your_server[:8080]/otr/otr_friday_snapshot.cfm** as Full URL



As request Timeout set the value to **120** seconds.



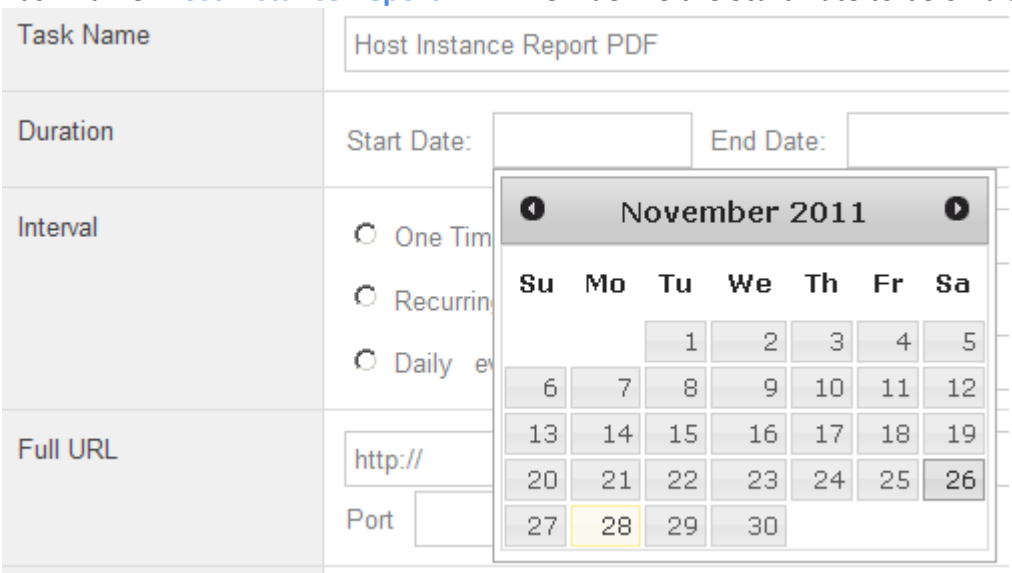
Define Job for creating Host/Instance PDF.

If you could like to have a weekly PDF generated containing info about which Instance is running on which Host, you can create this job over the OpenBD Administrator. The job should be generated on a weekly basis just as the Gather Statistics Job and be run just before or after Friday midnight, shortly after the **Gather TBS/NFS Space Usage Statistics** Job.

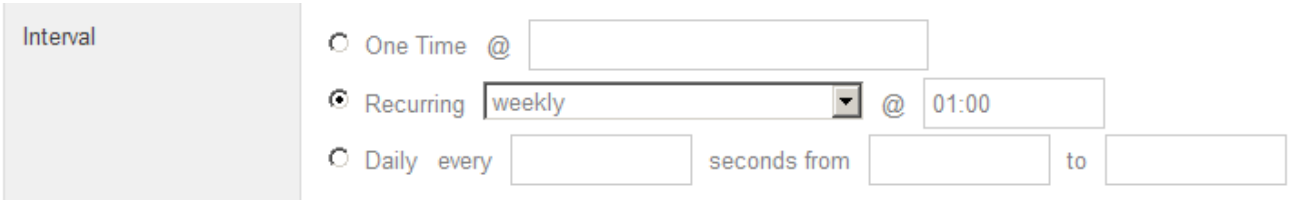
This step is not required but the information could be handy to have later on…

Define the Scheduling Task

Task Name: **Host Instance Report PDF**. We'll define the Start Date to be on a Saturday.

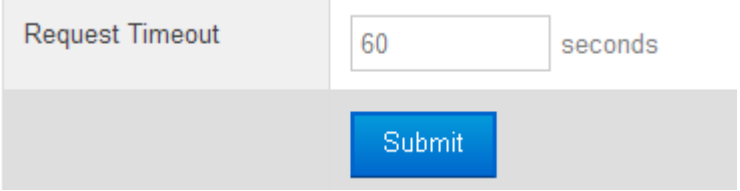


Set the Interval to **Weekly** at **01:00** which means that the job will be run on Saturday morning at 01:00 AM



The URL is: **http://your_server[:*port*]/otr/otr_db_host_pdf.cfm**

Set the Request Timeout to **60** sec and click the Submit button.



Your job is now defined. You could test the job but since we don't have any statistical data collected yet it won't generate any PDF.

Update Tablespace Thresholds from EM

Additionally you can setup a scheduled job for collecting the current thresholds of the tablespaces on your target DB's. This should be a daily job that could run at any time during the day. It will pick up any changes made to Tablespace thresholds done over the Enterprise Manager.

Task Name: **Update TBS Thresholds**.

Starting Date could be set to Today.

The Interval should be set to Recurring daily and could be run @ 20:00

The URL is: **http://your_server[:*port*]/otr/otr_tbs_update_threshold.cfm**

And the Request Timeout should be set to 60.

Test your Setup.

As long as you're not testing your setup on a Friday you could now create your first Manual Snapshot. Required is of course that the relationship between Customer/Instance and Tablespace is done so the snapshot will have something to collect.

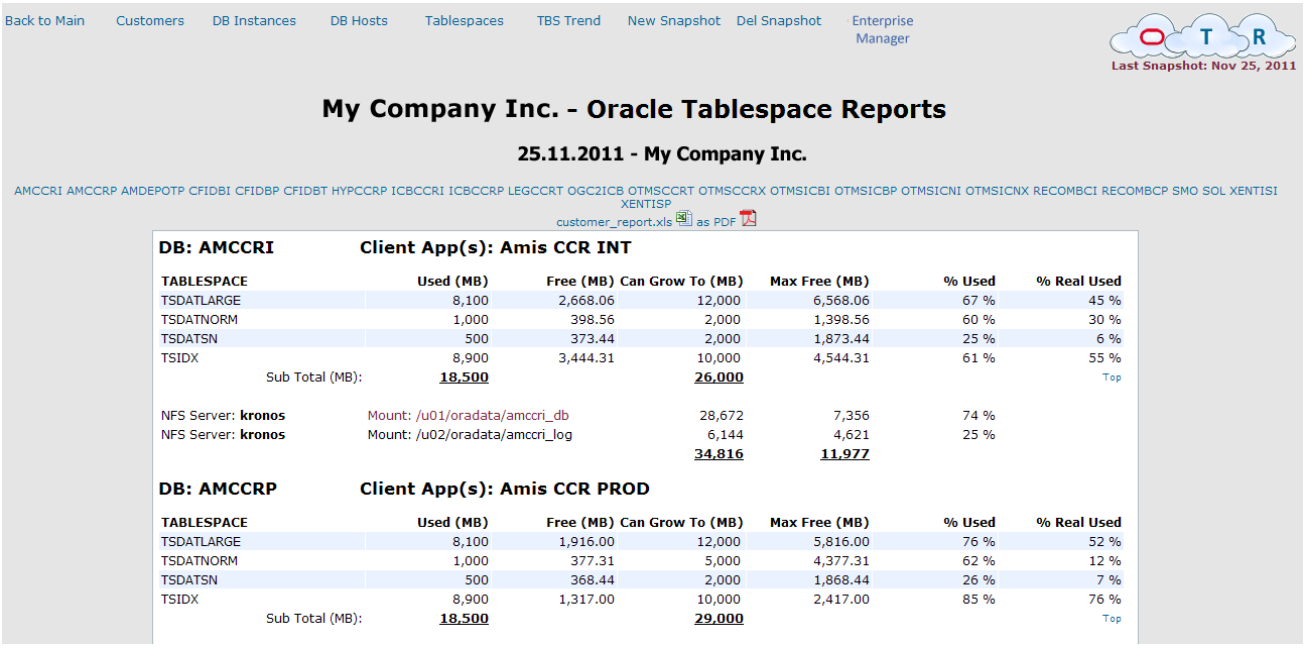
In the Web GUI of OTR select the menu option New Snapshot.

Note: If no snapshots has been made you can't generate any usage reports!!!

If at least 1 Snapshot exists it's possible to run a Report.

First select the Report Date and for which Customer. It can be for All customers or for 1 specific customer. Also select to include (or not) Development DB's and/or Internal DB's like the Enterprise Manager or some other internal type of DB (SMO, RMAN etc.)

The report output will contain info about Instance, Tablespace name, Used MB, Free MB, Can Grow To MB, Max Free MB, % Used and % Real used which reflects the Can grow to space.



Back to Main Customers DB Instances DB Hosts Tablespaces TBS Trend New Snapshot Del Snapshot Enterprise Manager

Last Snapshot: Nov 25, 2011

My Company Inc. - Oracle Tablespace Reports

25.11.2011 - My Company Inc.

AMCCRI AMCCRP AMDEPOTP CFIDBI CFIDBP CFIDBT HYPCCRP ICBCCRI ICBCCRP LEGCCRT OGC2ICB OTMSCCRT OTMSCCRX OTMSICBI OTMSICBP OTMSICNI OTMSICNX RECOMBCI RECOMBCP SMO SOL XENTISI XENTISP

customer_report.xls as PDF

DB: AMCCRI **Client App(s): Amis CCR INT**

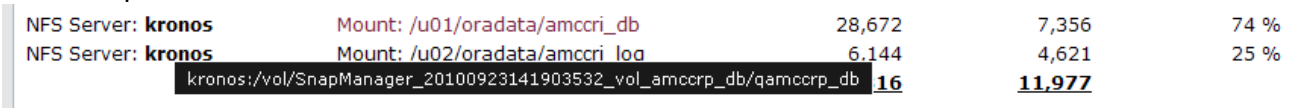
TABLESPACE	Used (MB)	Free (MB)	Can Grow To (MB)	Max Free (MB)	% Used	% Real Used
TSDATLARGE	8,100	2,668.06	12,000	6,568.06	67 %	45 %
TSDATNORM	1,000	398.56	2,000	1,398.56	60 %	30 %
TSDATSN	500	373.44	2,000	1,873.44	25 %	6 %
TSIDX	8,900	3,444.31	10,000	4,544.31	61 %	55 %
Sub Total (MB):	**18,500**		**26,000**			Top

NFS Server: **kronos**	Mount: /u01/oradata/amccri_db	28,672	7,356	74 %
NFS Server: **kronos**	Mount: /u02/oradata/amccri_log	6,144	4,621	25 %
		34,816	**11,977**	

DB: AMCCRP **Client App(s): Amis CCR PROD**

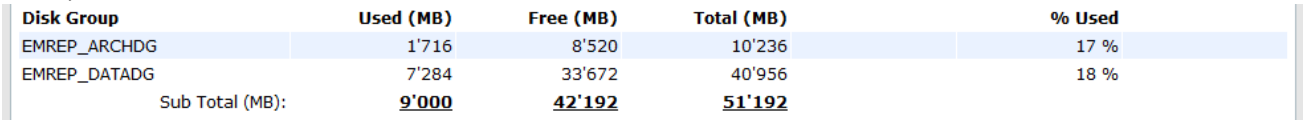
TABLESPACE	Used (MB)	Free (MB)	Can Grow To (MB)	Max Free (MB)	% Used	% Real Used
TSDATLARGE	8,100	1,916.00	12,000	5,816.00	76 %	52 %
TSDATNORM	1,000	377.31	5,000	4,377.31	62 %	12 %
TSDATSN	500	368.44	2,000	1,868.44	26 %	7 %
TSIDX	8,900	1,317.00	10,000	2,417.00	85 %	76 %
Sub Total (MB):	**18,500**		**29,000**			Top

The report also contains NFS space usage in MB. How much space a NFS Volume has and how much free space is still available in MB. It also displays which NFS Server or Storage system is used.
One special feature for NFS volumes created with NetApp's SnapManager for Oracle. The names of these volumes are usually not following your regular volume definition. If such a volume is used, it will be displayed with a dark red color. With a mouse-over on such a Mount name the real name of the volume will be displayed.
For example:



NFS Server: **kronos**	Mount: /u01/oradata/amccri_db	28,672	7,356	74 %
NFS Server: **kronos**	Mount: /u02/oradata/amccri_log	6,144	4,621	25 %
	kronos:/vol/SnapManager_20100923141903532_vol_amccrp_db/qamccrp_db	**16**	**11,977**	

For Instances using ASM the report will contain the Disk Groups used by the Instance and show Used, Free and Total MB as well as Used in %



Disk Group	Used (MB)	Free (MB)	Total (MB)	% Used
EMREP_ARCHDG	1'716	8'520	10'236	17 %
EMREP_DATADG	7'284	33'672	40'956	18 %
Sub Total (MB):	**9'000**	**42'192**	**51'192**	

This concludes the description of the basic Setup and usage of OTR.
Feel free to add functionality to OTR. Get the source code from Google code and join in on the development.

Upgrading from version 1.0 or 2.0

If you are upgrading from an older version, either 1.0 or 2.0, please make sure you follow the steps below.

Make a copy of the file Application.cfc

This will be overwritten by the new release and since we added a few parameters. The following has to be adjusted again.

```
<!--- SQLNET.DEFAULT_DOMAIN for DB-Links --->
<cfset Application.oracle.domain_name = "MYDOMAIN.COM" />
<cfset Application.default_system_username = "SYSTEM" />
<!--- MailServer Settings --->
<cfset Application.mailserver = "" />
<cfset Application.mailport = "25" />
<cfset Application.mailtimeout = "60" />
<!--- Mail adress for DBA or DBA Group --->
<cfset Application.dba_group_mail = "" />
<!--- Company Settings --->
<cfset Application.company = "My Company Inc." />
<cfset Application.excel_doc_info_author = "Mats Str#chr(246)#mberg" />
<cfset Application.excel_doc_info_subject = "Customer Tablspace Usage" />
<cfset Application.excel_doc_info_title = Application.company & " - Tablespace Report" />
<cfset Application.excel_doc_info_lastauthor = "mast" />
<!--- Snapshot Day / Sunday = 1 --->
<cfset Application.snapshot_day = 6 /><!--- 6 = Friday --->
<!--- General Application Settings --->
<cfset Application.obd_host = "http://minerva:8080/" />
<cfset Application.obd_desktop_host = "http://localhost:8080/" />
<cfset Application.logo_image = "OTR_logo.gif" />
<cfset Application.ogc_logon_url = "https://minerva:7799/em/" />
<!--- <cfset Application.ogc_external_table = "/orascripts/scripts/monitoring/xt/OTR" /> --->
<cfset Application.host_instance_pdf_dir = "/opt/OpenBD/tbsreports/" />
<!--- Set Locale --->
<cfset Application.locale_string = "German (Switzerland)" />
```

Keep the old Hash Key

Make sure to keep the value from the old system for the Hash Key. The new system uses a new stronger Encryption/Decryption routine and we need to be able to convert the old SYSTEM Passwords to use the new Hash and encryption routine.

```
<!--- Password Hash Key --->
<cfset Application.system_pw_hash = "otrrep$system$hash" />
```

Make a copy of the bluedragon.xml file

To avoid having to configure the datasource settings for the OTR_OTRREP and OTR_SYSMAN and also the scheduled tasks for making snapshots etc you should make a copy of the bluedragon.xml file. This file is located in the folder /opt/OpenBD/webapps/openbd/WEB-INF/bluedragon/bluedragon.xml

Download the latest OpenBD

Download a new version of jetty-openbd.zip from http://openbd.org/downloads/ Recommended is to grab the Nightly Build (as of this time of writing it is Version 3.1.0). Copy the new openbd-jetty.zip into the /opt/OpenBD folder and unzip the file. unzip –o jetty-openbd.zip (as user root).
Make the changes to the /opt/OpenBD/bin/jetty.sh file as described in Chapter Fixing the start script for OpenBD. If you changed the Port for your Jetty you should do the same change now. See chapter Change Listener Port for Jetty.

Replace the bluedragon.xml

To be on the safe side, make a copy of the new (empty) bluedragon.xml file.

```
cd /opt/OpenBD/openbd/webapps/WEB-INF/bluedragon
mv bluedragon.xml bluedragon.org
```

Copy your previous backup copy from the old Jetty into this folder.

```
cp /your_path/bluedragon.xml .
```


If this won't work when you start Jetty later on you will still have a copy of the original new bluedragon.xml and you simply have to add the datasources and the scheduled jobs manually once again using the OpenBD Administrator.

Get the OTR Release 2.1

Get the new release of otr.war and copy it into the /opt/OpenBD/webapps/openbd folder and unzip the content. unzip -o otr.war (as user root)

Edit the new Application.cfc

Finally you have to edit the new Application.cfc to fit your old setup.

Updating JDBC Driver for Oracle once again

Copy the new Oracle JDBC driver into OpenBD's lib directory

```
# cd /opt/OpenBD/webapps/openbd
# cp otr/Doc/licenses/ojdbc6.jar WEB-INF/lib
# cd /opt/OpenBD
```

If you're using JDK5 instead of JDK6 you need to download the correct driver from Oracle at http://www.oracle.com/technetwork/java/javase/downloads/index.html and then copy the ojdbc5.jar file into the `/opt/OpenBD/webapps/openbd/WEB-INF/lib` directory.
Remove the old jdbc driver to avoid it to be loaded at startup. We already have a copy of it from the old installation.

```
# cd /opt/OpenBD/webapps/openbd/WEB-INF/lib
# rm ojdbc14.jar
# cd /opt/OpenBD
```

Start the Jetty

To start your Jett again, assuming the corrections been done to the bin/jetty.sh script, just use the command. `/opt/OpenBD/bin/jetty.sh start`

Open a web browser and goto the URL http:// your_ otr_server:8080

The first time the Application starts it will take some time. New Tables and Indexes are created, existing tables will be updated with some new fields and all your Target DB's will get a new encrypted SYSTEM Password.

When the upgrade is done you will see a screen with the message:

OTR Repository Upgraded!

The system will return to the main screen within 5 seconds!

Installing from SVN

Installing the OTR from Subversion
http://code.google.com/p/oracle-tablespace-report/

Introduction

Development for the OTR Application is continuously underway, but if you want to try it out now (and we'd love it if you would!), you can grab the code from Subversion (SVN) and run it on your instance of OpenBD.

NOTE: Do NOT run bleeding edge code on a production or otherwise important instance of OpenBD! There is currently no security in place on the OTR, and any bugs that exist in the bleeding edge code could cause problems with your Oracle Databases.

SVN Clients

If you don't have an SVN client, you'll need to get one. If you're a developer and you're already using Eclipse, probably the simplest one to grab is Subclipse. It will work on any platform (Linux, Mac, or Windows).

If you don't use Eclipse, native clients are available for any platform, or you can run SVN from a terminal or DOS window.

One client that seems to be nice that is available for Linux, Mac, and Windows is SyncroSVN. I haven't personally used it but a few Mac bloggers swear by it.

For Windows, the most popular client is TortoiseSVN, which integrates directly into Windows file explorer.

For Mac, Versions looks very nice, but again, I haven't personally tried it. svnX is another popular client for Mac.

Getting the Code from SVN

Once you have an SVN client installed, do a checkout from the SVN repository for this project. Details are available on the checkout page. You'll want to grab the trunk.

Where to Put the OTR

The OTR code resides in the webapps directory at the top of your OpenBD instance.

The easiest way to configure things is to have your local directory for the SVN project be the root of the instance of OpenBD on which you want to try out the OTR.

Reporting Bugs

Since development is still happening rapidly at this point, expect to see a few bugs here and there, and also expect to be pulling the code down regularly to get the latest version of things.

If you do see a bug that's keeping you from using the admin console or think it might be something we aren't aware of, please report it on the issues page.

Requesting Features

If you have ideas for features you'd like to see in the OTR Application, no matter how big or small, we'd love to hear them! Please create an issue on the issues page and use the label Type-Enhancement

OTR Philosophy

The group of people behind OTR believes strongly in the ideals of the Open Source movement. We believe that software that is made available under an open source model, should always remain under that model, and never be abused or incorporated into products that would result in the harm of the original project.

To that end, We believe that any changes that anyone makes to the core product should be contributed back to the community, for the benefit of the community as a whole. This is what the GPL license frames.

- How much does OTR cost?
  $0.00 dollars/euros/francs/pounds/yen, Zero, Zilch, Nada. There is no cost for you to download, use, develop and extend OTR, deploy and ship your application.
- Can I sell OTR?
  No. You cannot sell OTR as it is not yours to sell. You may sell installation or consultancy services for OTR. You're also allowed to sell added functions to OTR, although we would prefer you would consider supporting the Open Source Project and contributing your added functionality.
- Okay, where's the catch? What features are you not shipping?
  There is no catch. All functionality in OTR is available to you the current release, or as and when they are developed. We believe in the power of CFML language and what it as to offer to Oracle® and we want to get it into the hands of as many DBA's and/or DB Engineers as possible.

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OTR is Copyright NETWORK 23 and delivered under the GNU v3 license.

Credits

OTR Web interface is using Drew Wilson's excellent TipTip jQuery Plugin
http://code.drewwilson.com/entry/tiptip-jquery-plugin
This TipTip jQuery plug-in is dual licensed under the MIT and GPL licenses
OTR Web interface is now using the excellent DataTables jQuery Plugin made by SpryMedia. DataTables is delivered under GPL v2 license und BSD (3-point) license.

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