http://www.network23.net/otr/

2011

OTR - Oracle Tablespace Report

Open Source Project

Mats Strömberg

NETWORK 23

Table of Contents

[Introduction 3](#_Toc310257122)

[Short background about me… 4](#_Toc310257123)

[What’s needed to get OTR running? 5](#_Toc310257124)

[What does it look like? 6](#_Toc310257125)

[The Main screen. 6](#_Toc310257126)

[Customers 8](#_Toc310257127)

[Main screen for customers 8](#_Toc310257128)

[Adding a new customer 8](#_Toc310257129)

[Edit a customer 8](#_Toc310257130)

[DB Instances 9](#_Toc310257131)

[Main screen for Oracle Instances 9](#_Toc310257132)

[DB Hosts 10](#_Toc310257133)

[Main screen for DB Hosts 10](#_Toc310257134)

[Tablespaces 11](#_Toc310257135)

[Tablespaces main screen 11](#_Toc310257136)

[Upload VSV or XLS 11](#_Toc310257137)

[Export as CSV 12](#_Toc310257138)

[Export as XLS 12](#_Toc310257139)

[TBS Trend 13](#_Toc310257140)

[Main screen for Tablespace Usage Trends 13](#_Toc310257141)

[Trend defined by 2 snapshots 13](#_Toc310257142)

[Trend defined by Monthly basis 13](#_Toc310257143)

[Graphical Output 14](#_Toc310257144)

[Snapshots 15](#_Toc310257145)

[No Friday snapshots 15](#_Toc310257146)

[Grid Control 16](#_Toc310257147)

[How do we get started? 17](#_Toc310257148)

[DDL Scripts 17](#_Toc310257149)

[OTR\_DB\_SPACE\_REP\_TBS+SCHEMA\_MASTER.sql 17](#_Toc310257150)

[OTR\_DB\_SPACE\_REP\_DDL.sql 17](#_Toc310257151)

[OTR\_DB\_SPACE\_REP\_TBS+SCHEMA\_CLIENT.sql 18](#_Toc310257152)

[Creating DB-Links for the OTRREP schema on the OGC Database 19](#_Toc310257153)

[Fill the OTRREP.OTR\_DB table with data 19](#_Toc310257154)

[Generate the DB\_links 19](#_Toc310257155)

[Done with Step 1 19](#_Toc310257156)

[Web Frontend with Open BlueDragon 20](#_Toc310257157)

[Download Ready2Run Jetty+OpenBD 20](#_Toc310257158)

[Download JDK or JRE 6 from Oracle 20](#_Toc310257159)

[Fixing the start script for OpenBD 21](#_Toc310257160)

[Test your OpenBD Installation 21](#_Toc310257161)

[Change listener port for Jetty 22](#_Toc310257162)

[Configuring OpenBD for OTR 22](#_Toc310257163)

[Login to OpenBD Administrator 22](#_Toc310257164)

[OpenBD Administrator Main Screen 23](#_Toc310257165)

[Add Datasource OTR\_OTRREP 23](#_Toc310257166)

[Add Datsource OTR\_SYSMAN 25](#_Toc310257167)

[Test the new Datasources 26](#_Toc310257168)

[Installing OTR Webapp 27](#_Toc310257169)

[Download the otr.war 27](#_Toc310257170)

[Copy the otr.war over to your server 27](#_Toc310257171)

[Make changes to the file Application.cfc to fit your Company and setup 27](#_Toc310257172)

[Oracle Settings 27](#_Toc310257173)

[Company Settings 28](#_Toc310257174)

[Snapshots 28](#_Toc310257175)

[General Settings 28](#_Toc310257176)

[Restart Jetty/OpenBD 29](#_Toc310257177)

[Get your OTR ready for use 29](#_Toc310257178)

[Start with Customers 29](#_Toc310257179)

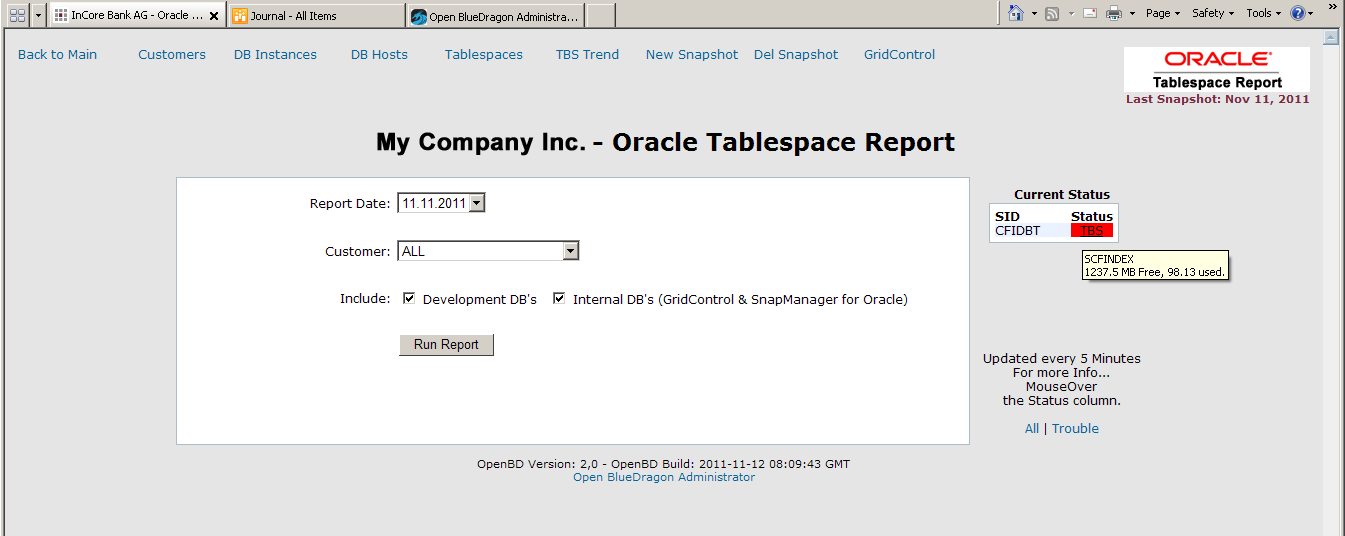
[Check your DB instances 29](#_Toc310257180)

[Create the Tablespace relationships 29](#_Toc310257181)

[Define a GATHER\_APPL\_TBS\_SPACE\_STATS Job 30](#_Toc310257182)

[Define Job for creating Host/Instance PDF. 33](#_Toc310257183)

[Test your Setup. 35](#_Toc310257184)



Oracle® Tablespace Report

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 Oracle® Grid Control Instance.

This project got started out of a work from a Danish friend, Lars-Bo Vanting, at the time we worked together at T-Systems Schweiz AG 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 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 Grid Control 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 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 an answer.

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 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. 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, tool is the Oracle® Grid Control 10g 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 Grid Control!!!

I’m about to do tests on the Oracle® Cloud Gontrol 12c and make sure we’re able to use this as well…

* Open Bluedragon release 2.0 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.

* JDK 6
* The otr.war which can be found at <http://www.network23.net/otr/>

The complete source will be available on Google Code <http://code.google.com/p/oracle-tablespace-report/>

* The SQL and PL/SQL files needed to setup the Repository on your OTR Repository Database. Also downloaded from <http://www.network23.net/otr/>

To avoid license problem with Oracle, the OTR Repository should NOT be installed in the Grid Control, Cloud Control or a RMAN Respository 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 as a Repository.

# What does it look like?

We’re assuming the OTRREP schema and its objects has been created on the OTR Repository.

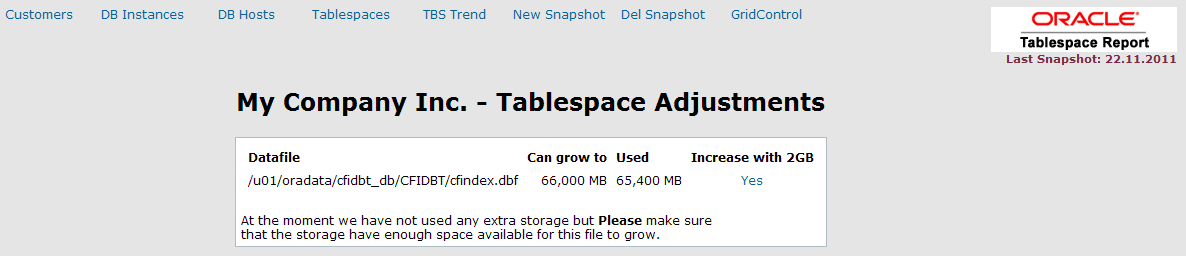
### The Main screen.



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

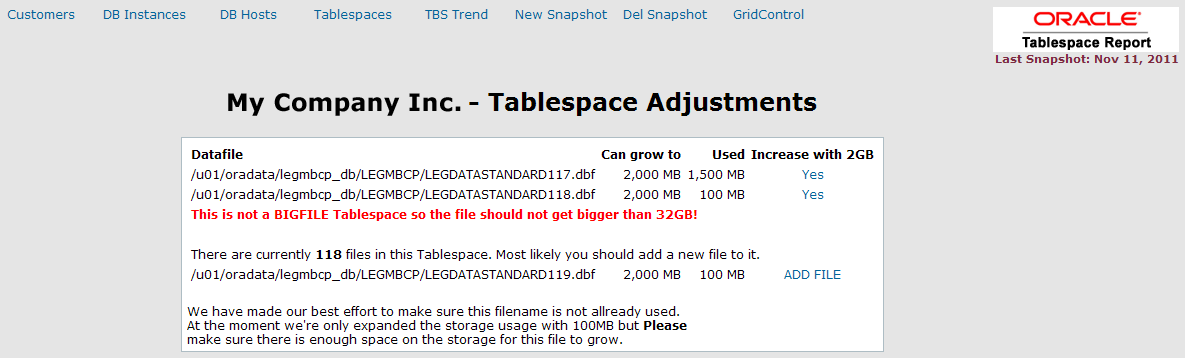
On the right side is the monitoring/alert pane where Instances with some sort of problem coming up will be listed. It will display if the Instance is down or if a Tablespace has a problem. With a mouse-over on a red alert the actual tablespace will be shown and how much free space in MB is still available and the “real” % used. With 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 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 or add a new 2GB file which will have its initial size set to 100MB and the “Can grow to” to 2GB.

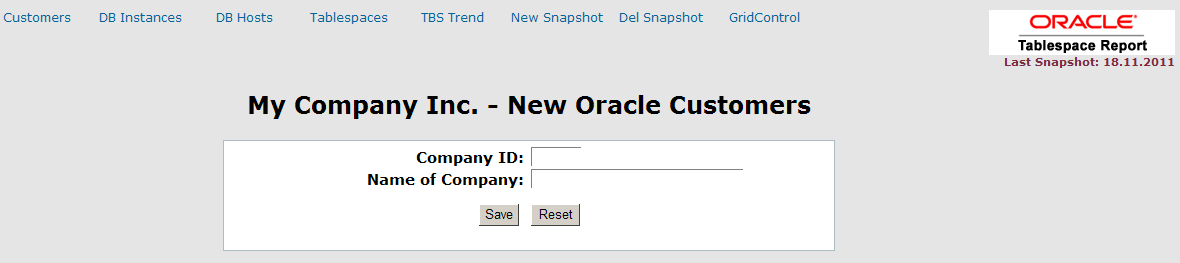
## Customers

### Main screen for customers



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

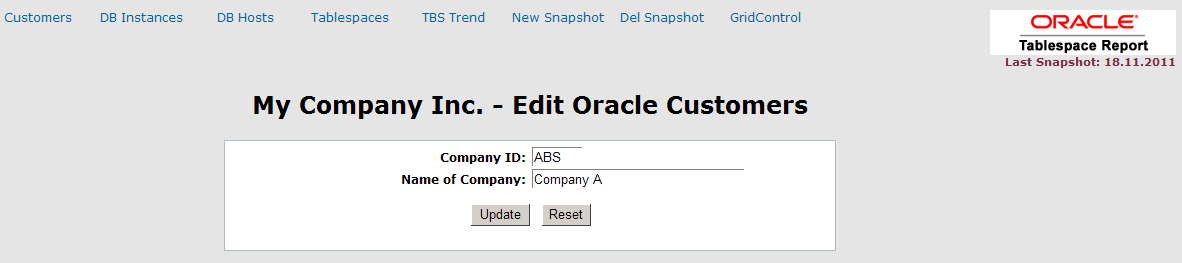
### Adding a new customer



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

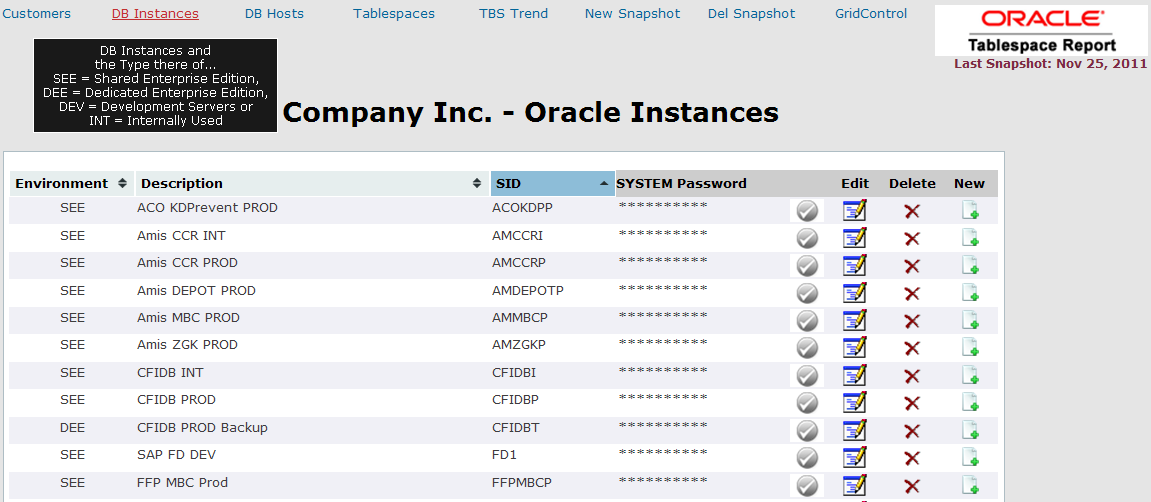


Note: Changing the Customer ID will bring a problem with the collected statistics and with the connection to the tablespaces, so try to keep this unchanged…

## DB Instances

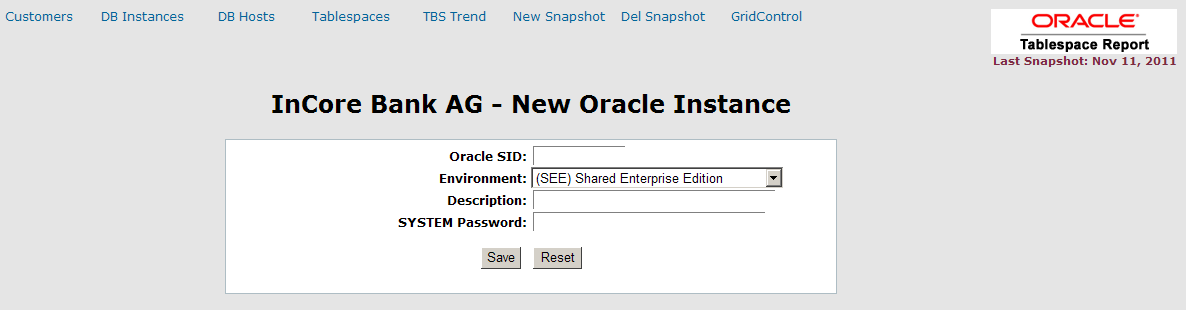
In this module you will register all your Oracle Instances.

### 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 Grid Control 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.

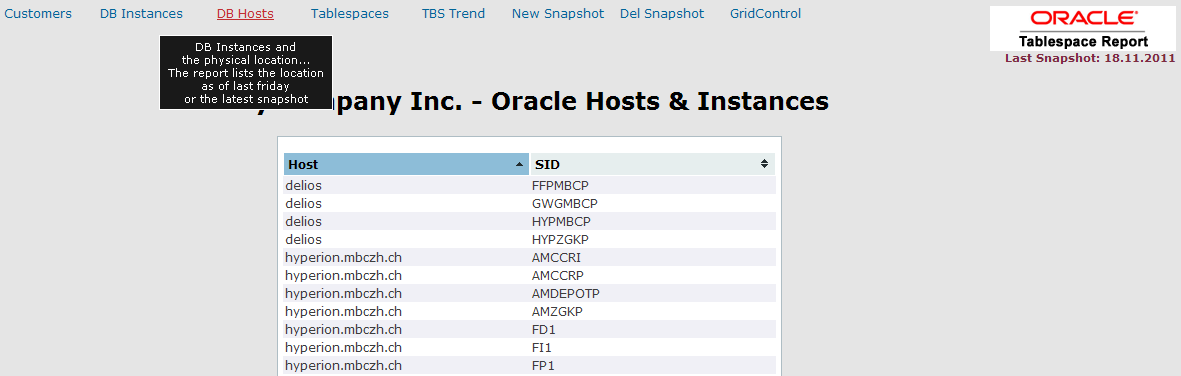
System password (used to monitor and increase Tablespaces). This password is encrypted in the OTR repository. To check if the password is OK, just click on the. It will turnif OK otherwise.





## DB Hosts

### Main screen for DB Hosts

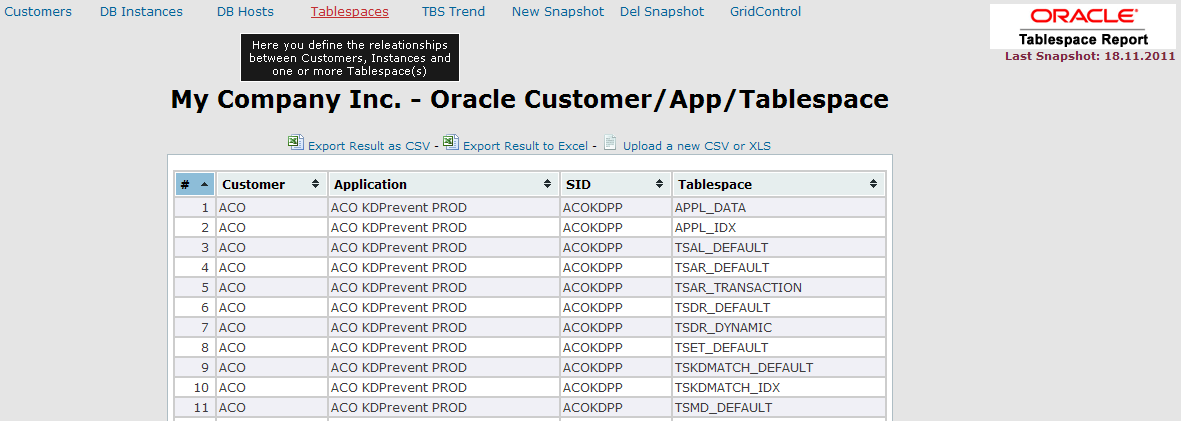


This is simply a list of which Instance is running on which physical host as of the latest snapshot, usually the automated Friday snapshot. A pdf file will be generated on a weekly basis to keep track of where an Instance once where in case of DB Instances has to get moved around and you have had some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

## Tablespaces

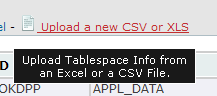
This is the heart of OTR. Here the connection between Customer, DB Instance and Tablespaces are made.

### Tablespaces main screen



The source for this information can be a .CSV file or an Excel Document. This file will be uploaded to the repository server (usually the same as the Grid Control server). In case of an Excel source the file will be converted into a .csv file and stored on a defined location where it will be used as source for an external table.

### Upload VSV or XLS





The .CSV contains 4 fields/row and will have the following structure:

ICB;Amis CCR INT;AMCCRI;TSDATLARGE

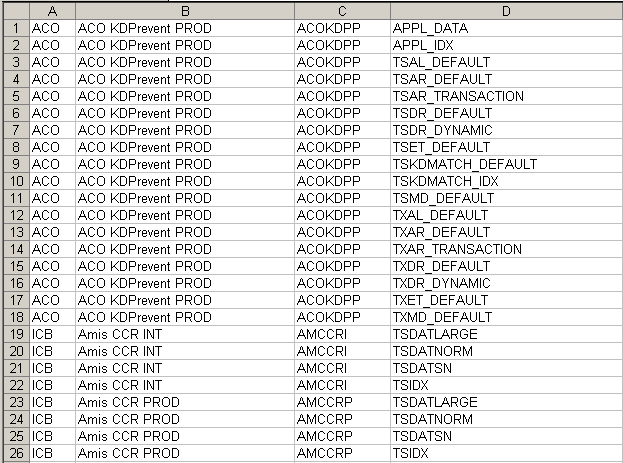
ICB;Amis CCR INT;AMCCRI;TSDATNORM

ICB;Amis CCR INT;AMCCRI;TSDATSN

ICB;Amis CCR INT;AMCCRI;TSIDX

It contains the Customer ID, The Instance Description, OraSID and Tablespace name

The other possibility and also the easiest way, is to keep this info in an Excel sheet.

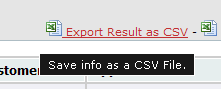


The content in Excel is the same as for the .csv

Company ID, Instance description, OraSID and Tablespace name.

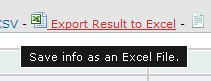
### Export as CSV

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



### Export as XLS

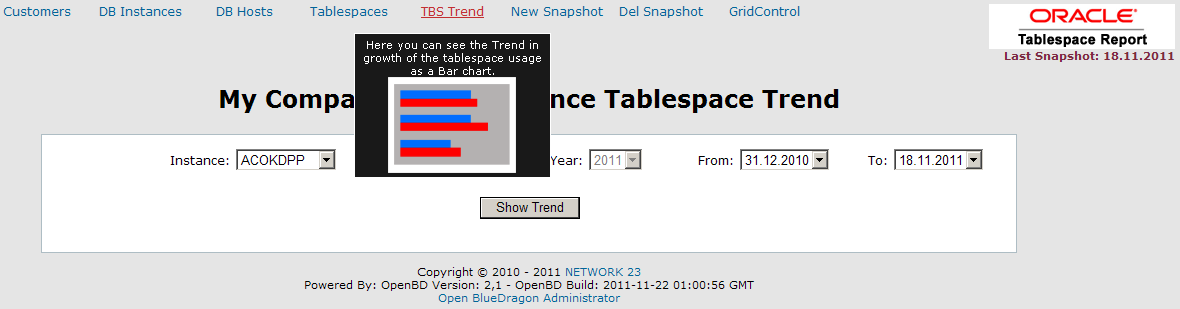
Or as an Excel document



## TBS Trend

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

### Main screen for Tablespace Usage Trends



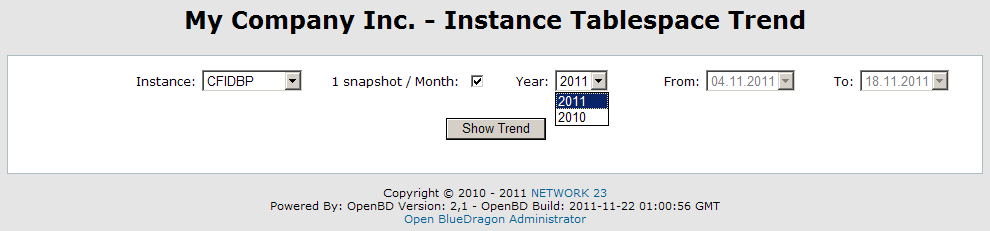
### Trend defined by 2 snapshots

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



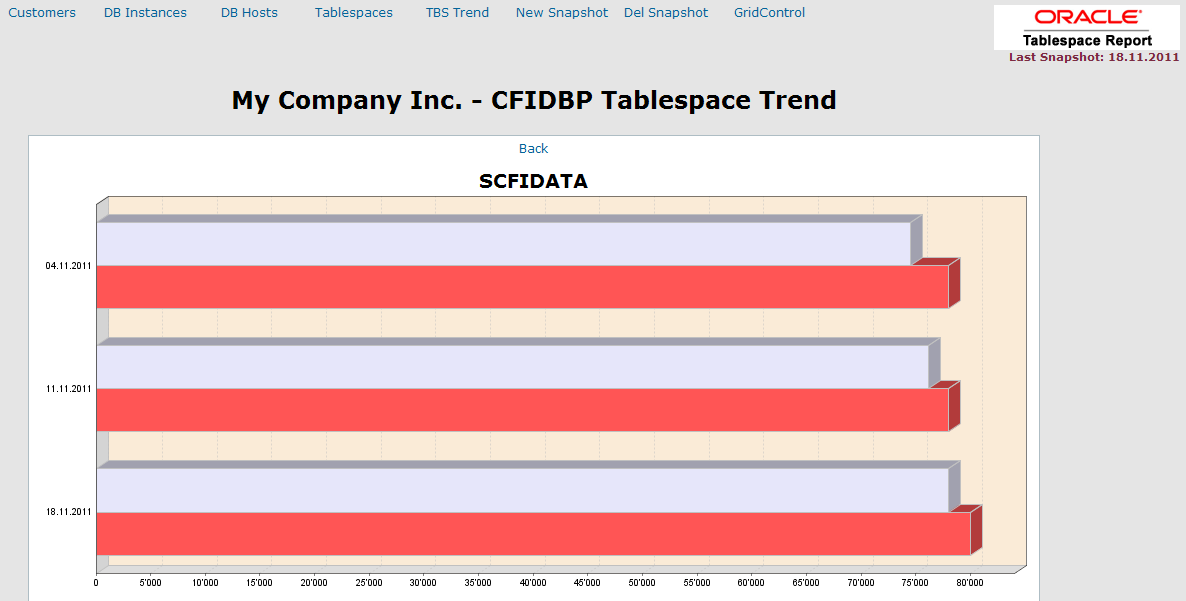
### Trend defined by Monthly basis

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

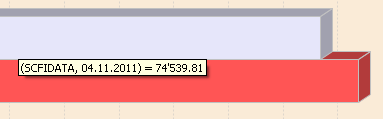


### Graphical Output

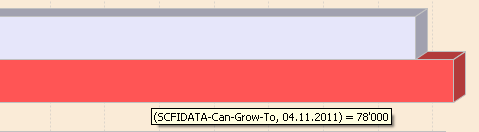
The output will display the output as a bar-chart.



The currently used space in the tablespace…



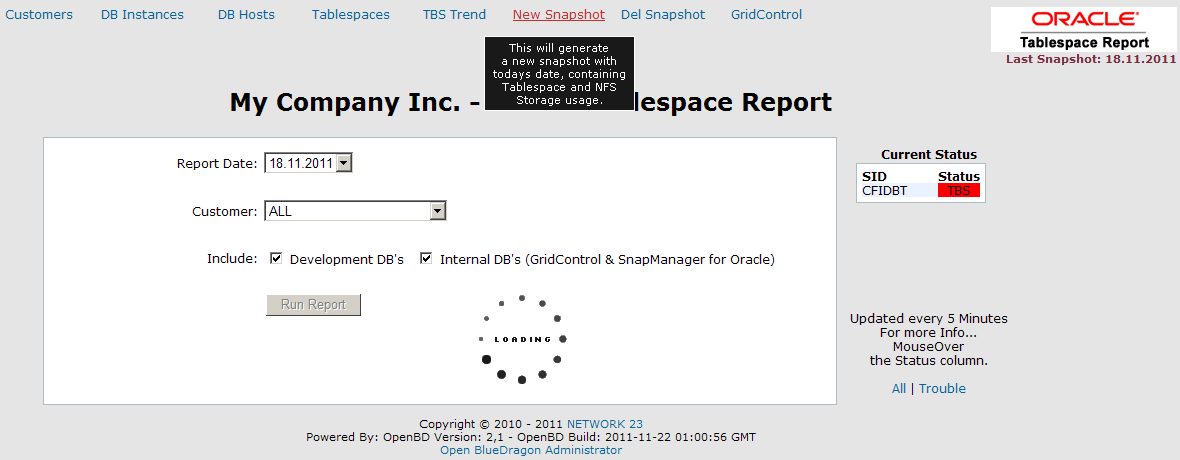
and the size the tablespace can grow to.



## Snapshots

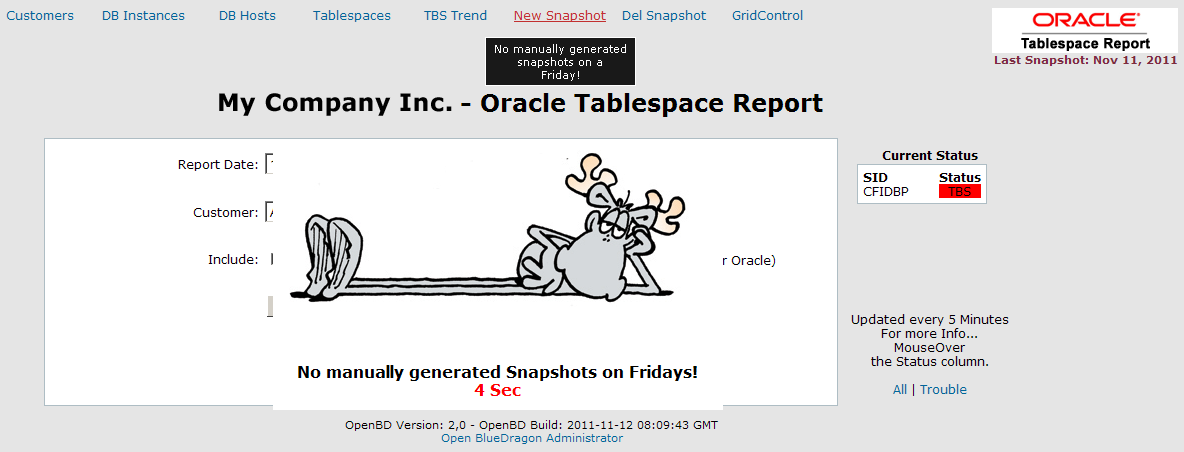
The statistics is stored in the OTR repository as a snapshot. This is done as a weekly Scheduled job defined in the OpenBD Administrator. This job should be scheduled shortly before Friday Midnight.

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.



## Grid Control

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® Grid Control.



# How do we get started?

First of all we need to setup the repository OTR schema and the objects used for the repository, assuming of course that Grid Control is already installed!

## DDL Scripts

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

OTR\_DB\_SPACE\_REP\_SCHEMA.sql

OTR\_DB\_SPACE\_REP\_DDL.sql

OTR\_CR\_VIEW\_TBS\_FREE.sql

OTR\_CR\_VIEW\_DB\_HOST.sql

OTR\_DB\_SPACE\_REP\_DROP\_DDL.sql

OTR\_DB\_SPACE\_REP\_TBS+SCHEMA\_CLIENT.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.

>@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

OTR Datafiles will be placed under

/u01/oradata/smo\_db/SMO/otr\_rep\_data01.dbf

/u01/oradata/smo\_db/SMO/otr\_rep\_indx01.dbf

If this is correct press Enter otherwise Ctrl+C

### OTR\_DB\_SPACE\_REP\_DDL.sql

Next script to run is the OTR\_DB\_SPACE\_REP\_DDL.sql

>@OTR\_DB\_SPACE\_REP\_DDL.sql

Enter Database Alias for the OTR Repository [OTR]: SMO

Enter Password for user SYS: \*\*\*\*\*\*\*\*

Enter Password for user OTRREP: \*\*\*\*\*\*\*\*\*\*

NOTICE: Path for the External table must be LOCALLY on the OGC DB Server (no UNC path allowed!)

Path for the External Table [/orascripts/scripts/monitoring/xt/OTR]: /orascripts/scripts/monitoring/xt/OTR

Enter SQLNET.DEFAULT\_DOMAIN [MBCZH.CH]: MBCZH.CH

This script will create a directory object for our external table, all other tables used to store the repository data.

This script will also call the 2 scripts OTR\_CR\_VIEW\_TBS\_FREE.sql and OTR\_CR\_VIEW\_DB\_HOST.sql.

### OTR\_DB\_SPACE\_REP\_TBS+SCHEMA\_CLIENT.sql

Next step will be the OTR\_DB\_SPACE\_REP\_TBS+SCHEMA\_CLIENT.sql

>@OTR\_DB\_SPACE\_REP\_TBS+SCHEMA\_CLIENT.sql

Enter Database Alias for the Target DB (TNSNAMES): HYPCCRP

Choose the Permanent (USER) tablespace for the OTRREP user

----------------------------------------------------------

Below is the list of online tablespaces in this database which can

can be used for storing data and objects.

Tablespace marked with a \* is the default permanent tablespace.

selecting the SYSTEM tablespace as tablespace for OTRREP when

there is an USERS tablespace available don't make sence!!!

Select the OTRREP user's Standard tablespace.

TABLESPACE\_NAME                CONTENTS  DB DEFAULT USER TABLESPACE  
------------------------------ --------- --------------------------  
DATA\_ASSENTISDEF               PERMANENT  
DATA\_ASSENTISRT                PERMANENT  
FFPMBCDATA                     PERMANENT  
FFPMBCINDX                     PERMANENT  
FFPZGKDATA                     PERMANENT  
FFPZGKINDX                     PERMANENT  
HYPABSDATA                     PERMANENT  
HYPABSINDX                     PERMANENT  
HYPALPDATA                     PERMANENT  
HYPALPINDX                     PERMANENT  
HYPICBDATA                     PERMANENT  
HYPICBINDX                     PERMANENT  
HYPPHZDATA                     PERMANENT  
HYPPHZINDX                     PERMANENT  
HYPZGKDATA                     PERMANENT  
HYPZGKINDX                     PERMANENT  
IDX\_ASSENTISDEF                PERMANENT  
IDX\_ASSENTISRT                 PERMANENT  
INDX                           PERMANENT  
SYSAUX                         PERMANENT  
SYSTEM                         PERMANENT  
USERS                          PERMANENT \*

Pressing <return> will result in the database's default Permanent

tablespace (identified by \*) being used.

Enter USER TABLESPACE Name: USERS

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 will stop.

If you have consistent standard within your company you could simple setup a job in Grid Control for all targets. Copy and Paste the scripts or reference them as external scripts.

In the case of a copy and paste direct into Grid Control SQL scripts job, make sure to check the “WHERE” clauses where a ‘%’ sign is used. Grid Control is using % for internal variables so you must change the pasted script to use ‘%%’.

## Creating DB-Links for the OTRREP schema on the OGC Database

These scripts are located under DOC\OTR-Reporting\Setup\DB-Links

OTR\_CheckDbLinks.sql

OTR\_CrDbLinks.sql

OTR\_DropDbLinks.sql

OTR\_DropDbLinks2.sql

OTR\_Fill\_OTR\_DB.sql

OTR\_GenCrDbLinks.sql

### Fill the OTRREP.OTR\_DB table with data

If the OTRREP.OTR\_DB is empty, which will most likely be the case at this stage, we will start with the OTR\_Fill\_OTR\_DB.sql Script

This will collect all your DB’s from the OGC Repository using the following select.

select distinct database\_name from SYSMAN.MGMT\_DB\_DBNINSTANCEINFO\_ECM order by database\_name;

The script will fill the OTRREP.OTR\_DB Table with Database Name = OraSID, The environment will be set to SEE for all instances and the Description will also get the OraSID as info. This you will later on change over the web GUI.

>@OTR\_Fill\_OTR\_DB

Enter Password for user OTRREP: \*\*\*\*\*\*\*\*\*\*

Enter Database Alias for the OTR Repository [OGC]: OGC2ICB

### Generate the DB\_links

Using the OTR\_GenCrDbLinks.sql script we will now use the OTRREP.OTR\_DB to generate a new script OTR\_CrDbLinks.sql. Make sure that the TNSNAMES.ORA on your OGC host knows about all target DB’s. The link script generated will have the following statement:

create database link MYDB.MY\_DOMAIN.XYZ connect to otrrep identified by otrrep4otr using ‘MYDB.MY\_DOMAIN.XYZ’;

That’s why MYDB.MY\_DOMAIN.XYZ has to be reachable with a tnsping from the OGC host.

>@OTR\_GenCrDbLinks

Enter Password for user OTRREP: \*\*\*\*\*\*\*\*

Enter SQLNET.DEFAULT\_DOMAIN [MBCZH.CH]: MY\_DOMAIN.XYZ

Enter Database Alias for OTR Repository [OGC]: OGC2ICB

Now create the DB-Links. You might want to check the generated script before you let it run…

>@OTR\_CrDbLinks

## Done with Step 1

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

# Web Frontend with 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.ord/download> we need to download the Ready2Run Jetty+OpenBD.

If we have internet access direct from the OGC 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://www.openbd.org/download/2.0/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

## 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

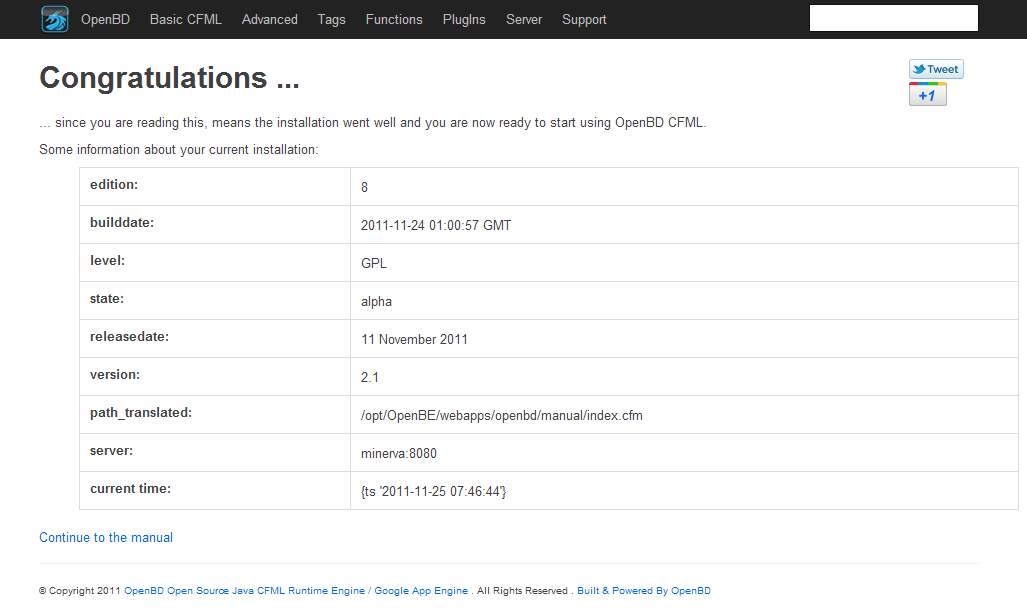
And start the Jetty/OpenBD

# bin/jetty.sh start

## Test your OpenBD Installation

Open a web browser and goto http:// your\_ogc\_otr\_server:8080

You should get a message that your Installation was successful.



By default Jetty, like most every Java Server, 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. Grid Control 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

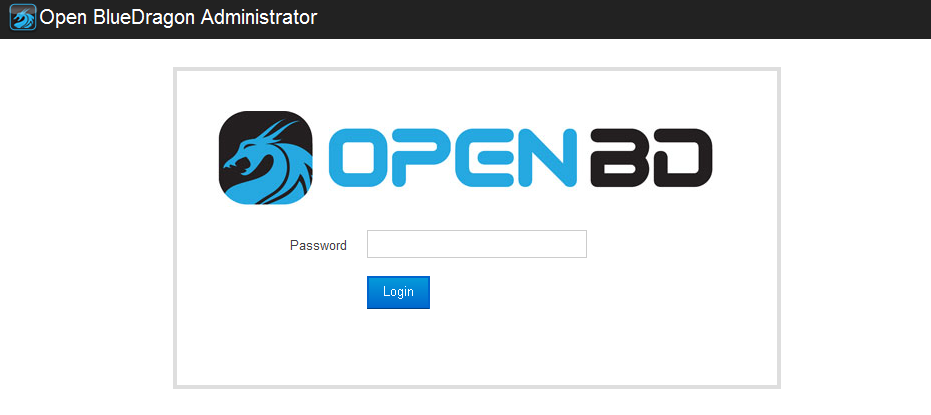
From now on your OpenBD should respond on standard port 80

## Configuring OpenBD for OTR

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

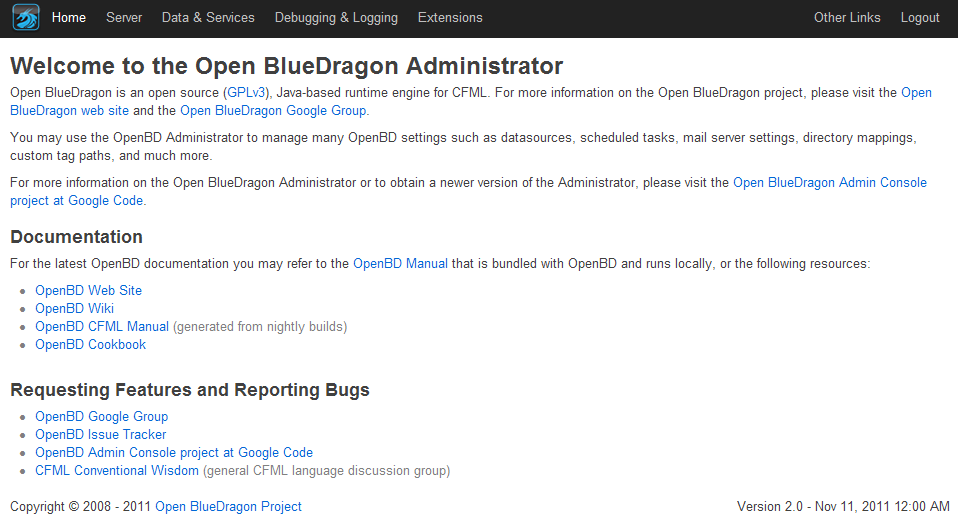
### Login to OpenBD Administrator

Go to the URL, with or without the portnumer depending on if you reconfigured your Jetty Setup or not, http:// your\_ogc\_otr\_server:8080/bluedragon/administrator

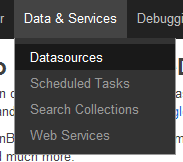


The default Password is **admin**

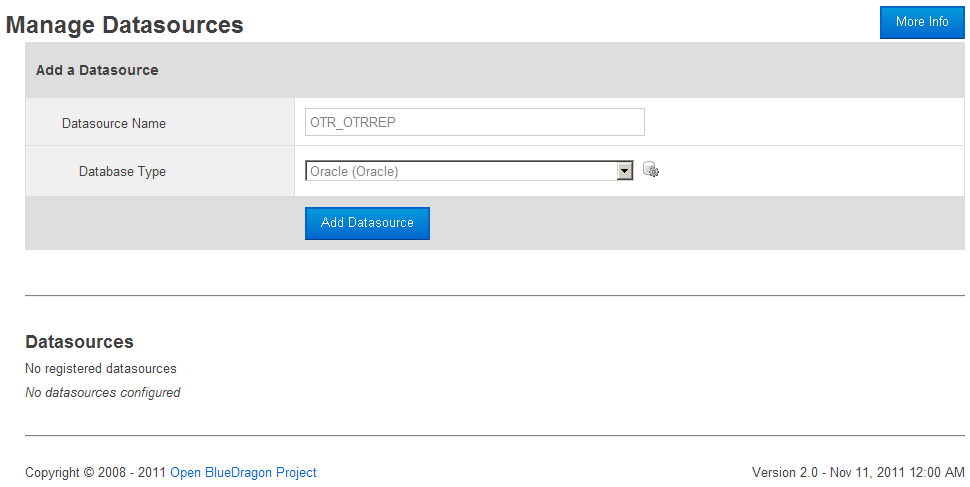
### OpenBD Administrator Main Screen



To add new Datasources select the menu Data & Services

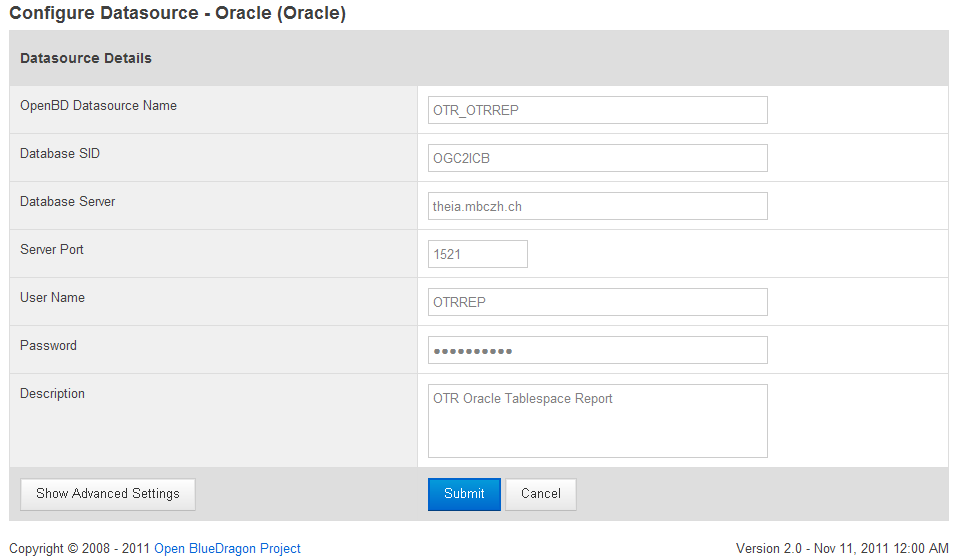


### Add Datasource OTR\_OTRREP



Datasource Name: **OTR\_OTRREP** and Type is of course **Oracle** and click **Add Datasource**

#### Adding connection info



Database SID: **<Your Grid Control OracleSID>**

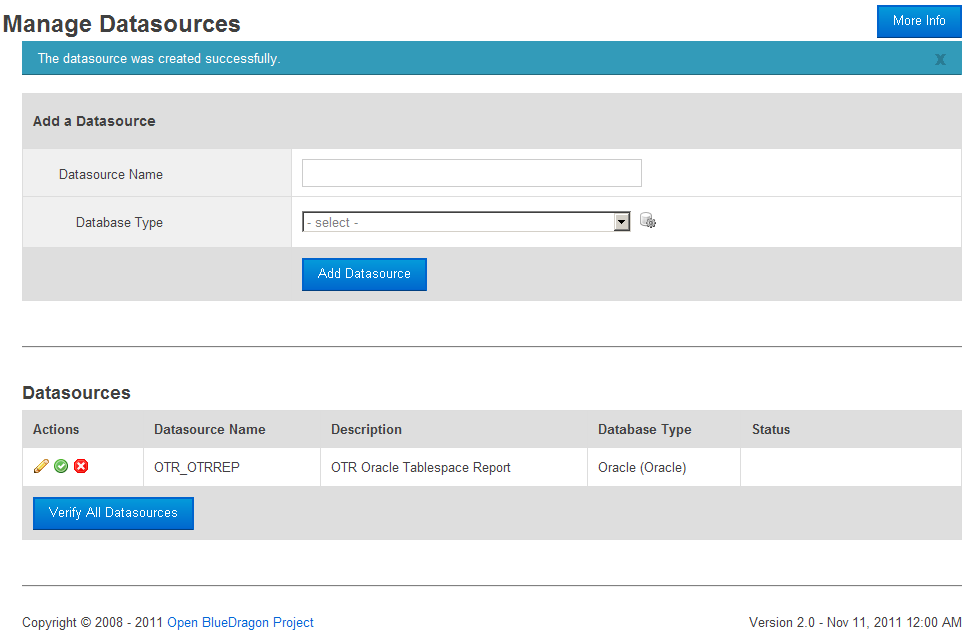
Database Server: **<Host of your OGC Instance>**

Server Port: **<Listener Port for your OGC Instance>**

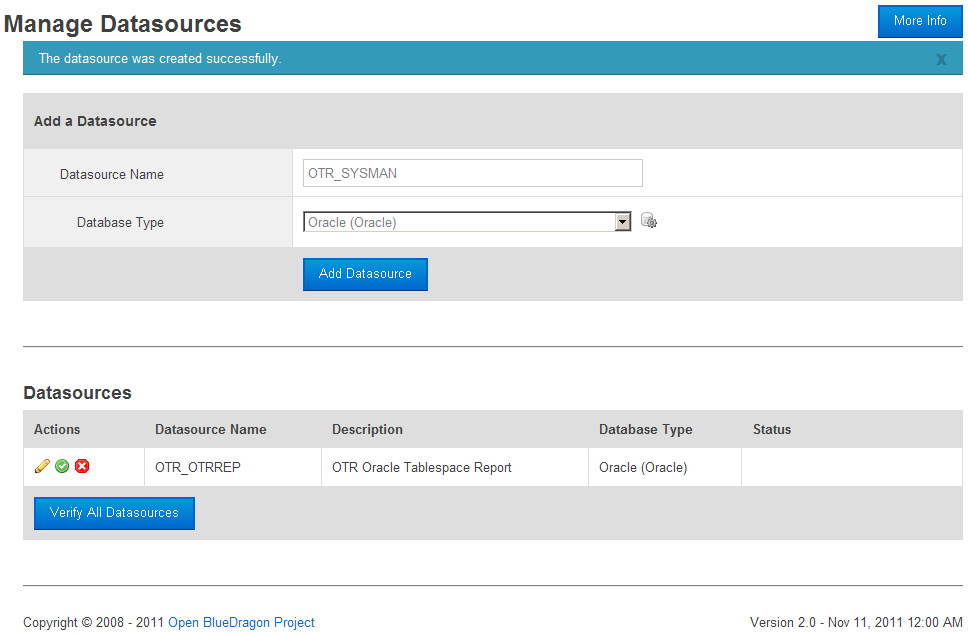
User Name: **OTRREP**

Password: **otrrep4otr**

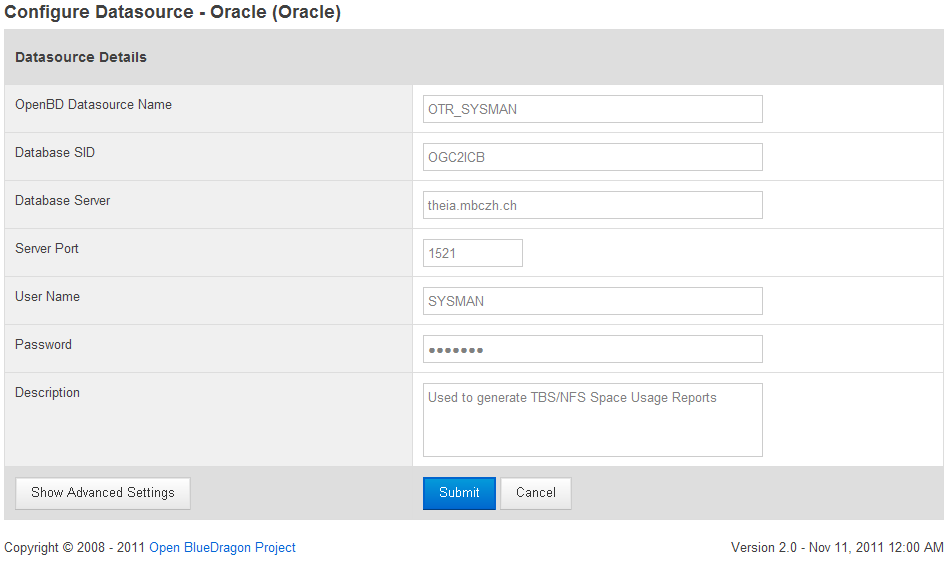
Description: **OTR Oracle Tablespace Report**



### Add Datsource OTR\_SYSMAN



Datasource Name: **OTR\_SYSMAN** and the type **Oracle** and click **Add Datasource**

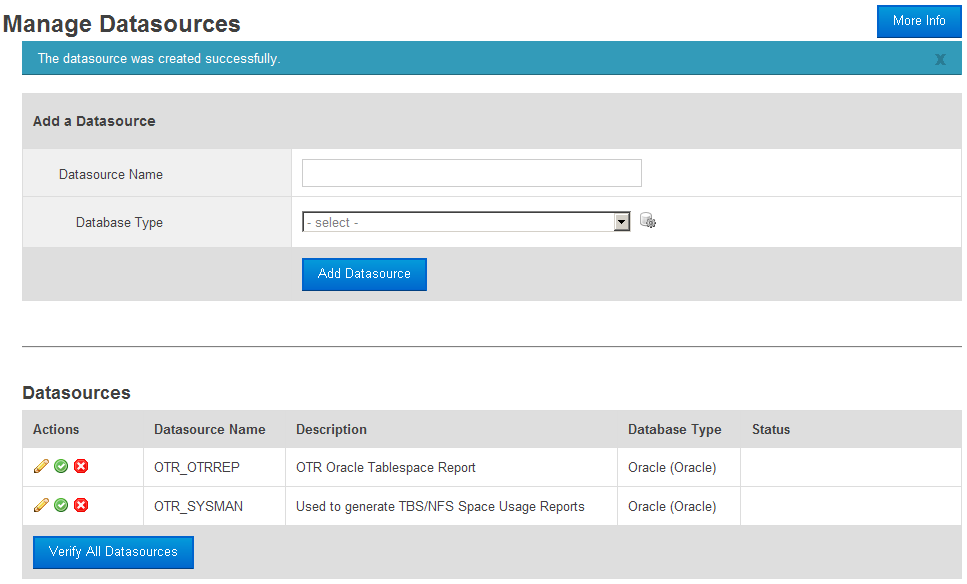


User Name: **SYSMAN**

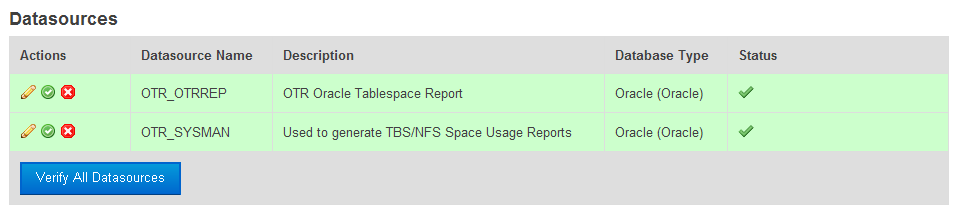
Password: **<SYSMAN Password>**

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



# Installing 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.network23.net/otr> or get the complete source from Google Code http://....

### Copy the otr.war over to your server

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

Most likely is the Linux/UNIX server, where the Grid Control’s EM and/or OMS is 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.

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

# 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 = "MBCZH.CH" />

<!--- Datasource Settings --->

<cfset Application.datasource = "OTR\_OTRREP" />

<cfset Application.dbusername = "OTRREP" />

<cfset Application.dbpassword = "otrrep4otr" />

The **Application.oracle.domain\_name** should correspond to the SQLNET.DEFAUL\_DOMAIN within your Oracle environment.

It’s possible that Schema Owner OTRREP is using another password than what is defined for the default setup.

### 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 = "My Company Inc. - 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

### General Settings

<!--- General Application Settings --->

<cfset Application.obd\_host = "http://minerva/" />

<cfset Application.obd\_desktop\_host = "http://localhost/" />

<cfset Application.ogc\_logon\_url = "http://minerva:4889/em/console/logon/logon" />

<cfset Application.ogc\_external\_table = "/orascripts/scripts/monitoring/xt/OGC" />

<cfset Application.host\_instance\_pdf\_dir = "/opt/pro/dir/ccr/oracle/" />

**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 Grid Control login screen.

**Application.ogc\_external\_table** is the path where your external table source is located. This file contains info about your Customers, Instances and Tablespaces. (See chapter ***Tablespaces***)

**Application.host\_instance\_pdf\_dir** is the location where the weekly PDF reports will be located.

## 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, we 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 goto the URL <http://yourserver[:8080]/otr> you should see the Main screen now displaying your Company Name.

# Get your OTR ready for use

To get your OTR read to be used we now need to fill it with usable data.

## Start with Customers

Since this is a new setup you won’t have any customers in your database. So start by selecting the Menu Customers. The list will be empty and only a “new” Icon will be available. Click this and start to fill out the form. (See chapter ***customers***)

## Check your DB instances

If you used the script in chapter ***Creating DB-Links for the OTRREP schema*** it should now contain all your Instances.

What you need to do is to edit these records. Changing the environment to define if it’s a Shared or Dedicated Server, Standard or Enterprise Edition, it it’s an Internal Instance like the Grid Control.

Give the Instance a usable Description and set the system password (used to extend a tablespace).

## 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 Tablespaces the system will create a new file for you and will contain all your instances and the description. Customer ID will be set to XYZ and Tablespace will be set to the value <NOT\_DEFINED>.

Export this as XLS and edit this file locally on your PC.

Copy each row for as many tablespaces you want to monitor for each Instance and customer. Replace the XYZ with correct Customer ID and save the Excel file.

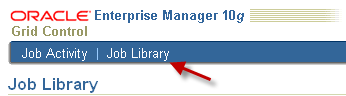
Now you can upload the file again to OTR and your Tablespace list will now be usable.

## Define a GATHER\_APPL\_TBS\_SPACE\_STATS Job

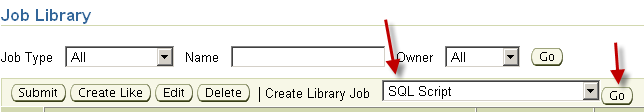
To get your weekly monitoring to collect the Tablespace usage statistics you can now define a Job in Grid Control.



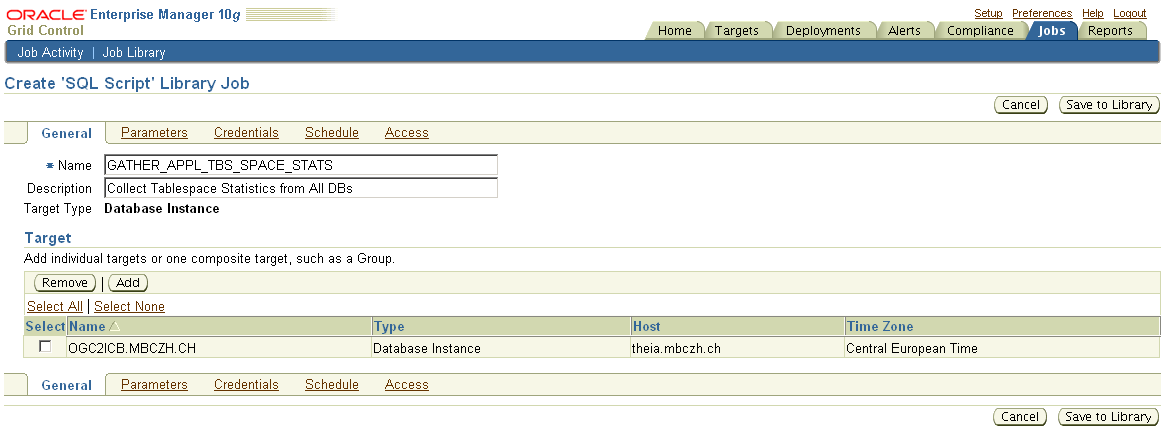
Select the Job Tab and the Job Library.



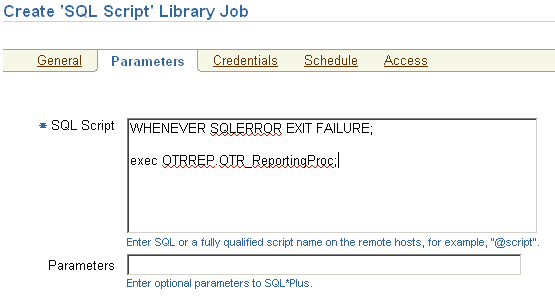
We will define a SQL Script job so select ‘SQL Script’ and click on the Go button



Give the Job a name, for example: **GATHER\_APPL\_TBS\_SAPCE\_STATS** and a description **Gather Tablespace Statistics from all DBs**. Add your Grid Control Instance as Target.



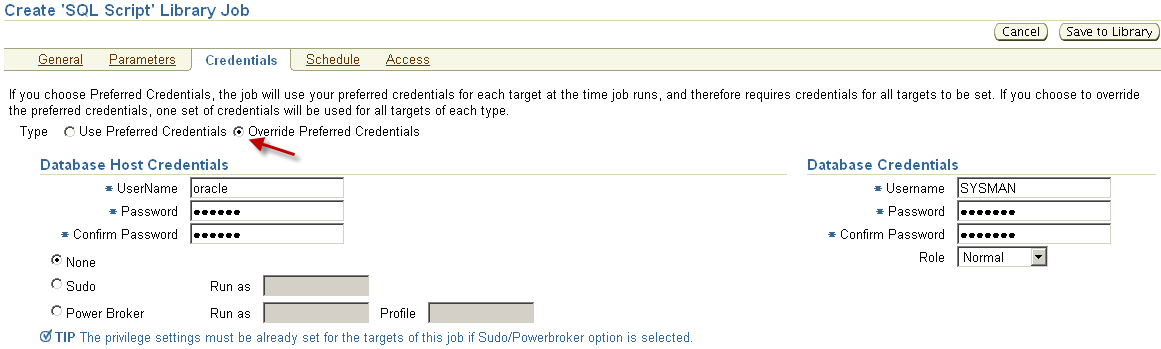
Define the SQL Script by selecting the Parameters Tab



We will use the OTRREP.OTR\_ReportingProc procedure so just enter the following as SQL Script

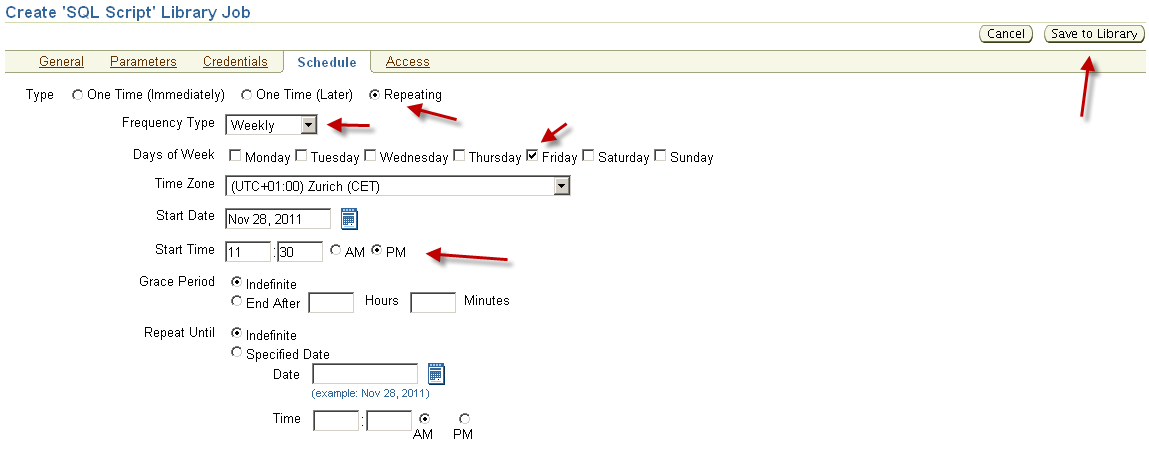
**exec OTRREP.OTR\_ReportingProc;**

Define the credentials for the Job

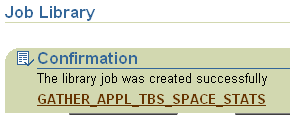


Enter the Host credentials for your OGC Instance, usually user **oracle**. Database credentials should be **SYSMAN**.

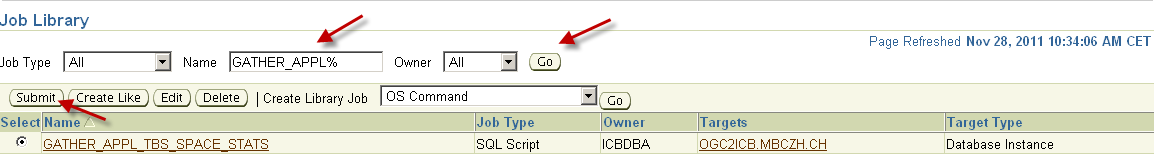
Define when the Job is to be run using the Schedule Tab.



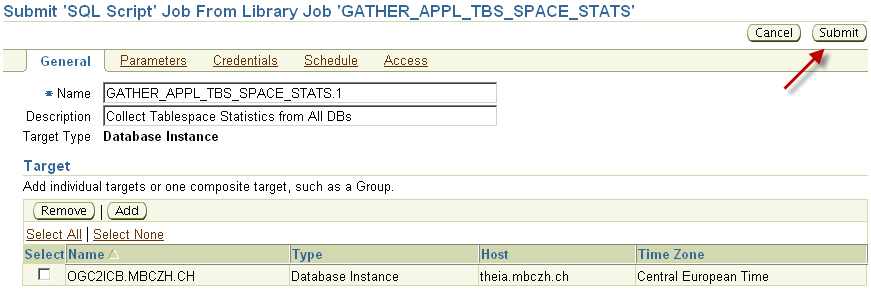
It will be a repeating Weekly Job. The job is to be run on Fridays at 11:30 PM (23:30). Save the job to the Library.



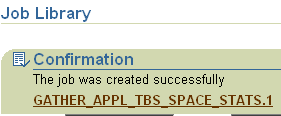
Look up the new Job from the Library. In the Name field just enter GATHER\_APPL% and click on Go.



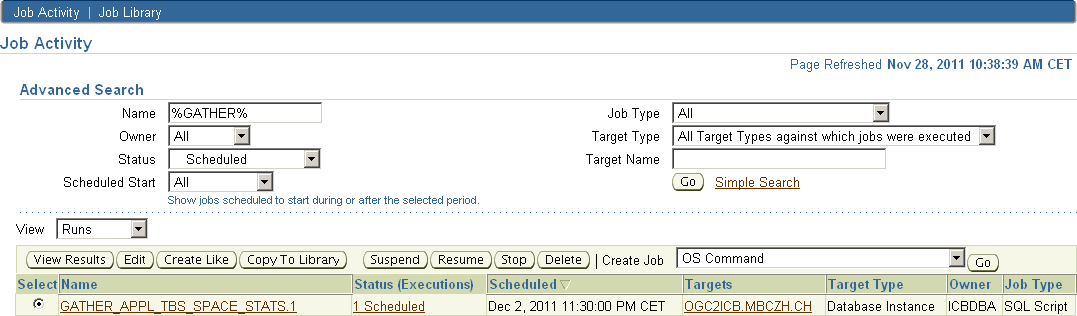
When you have found the correct Job simply click on Submit. Make a quick check on the Job details and finally click on Submit again.



You will get a confirmation that the Job was scheduled.



To see you newly scheduled Job select the Jab Activity and enter GATHER% in the Name field and click on Go. Your Job will be listed and show when it will be run.



## Define Job for creating Host/Instance PDF.

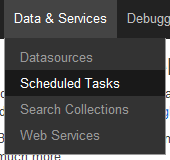
If you could like to have a weekly PDF generated containing info about which Instance is running on which Host, you can create this job over the OpenBD Administrator. The job should be generated on a weekly basis just as the Gather Statistics Job and be run just before or after Friday midnight, shortly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

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

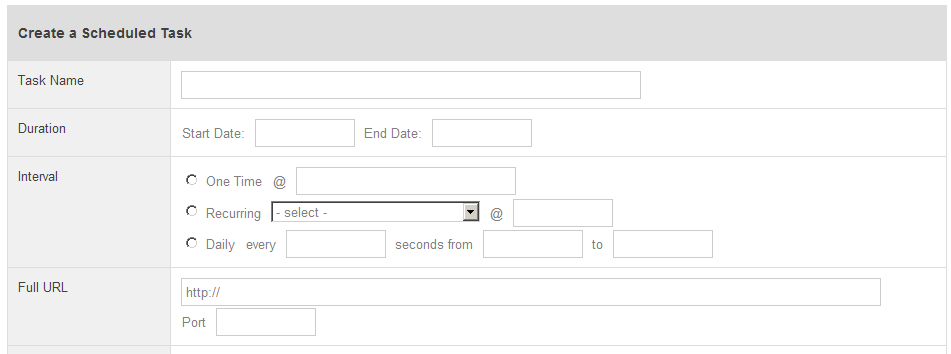
Login to the Administrator using the URL <http://your_server[:port]/bluedragon/administrator/>

If you haven’t changed the Administrator Password it will be **admin**.

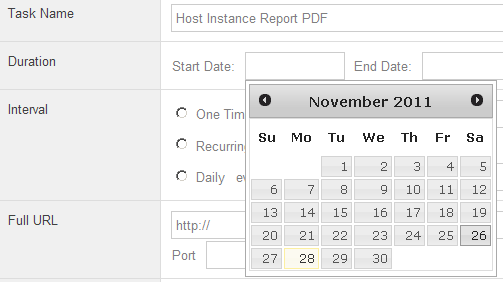
Select the Menu Data & Services and the Scheduled Tasks



Define the Task



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



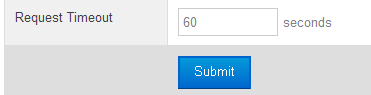
Set the Interval to Weekly at 01:00 which means that the job will be run on Saturday morning at 01:00 AM



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.

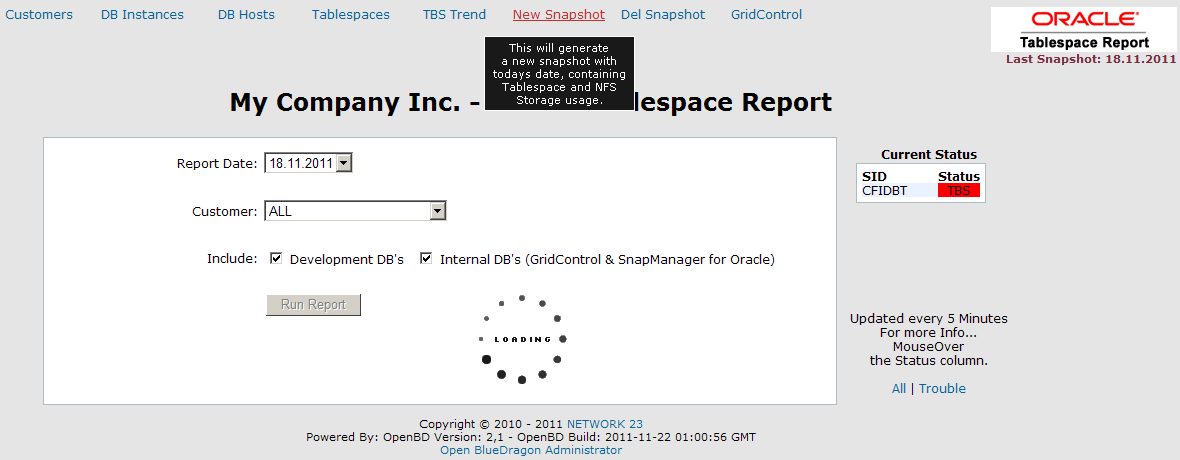


Your job is now defined. You could test the job but since we don’t have any statistical data collected yet it won’t generate any PDF.

# Test your Setup.

As long as you’re not testing your setup on a Friday you could now create your first Manual Snapshot.

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



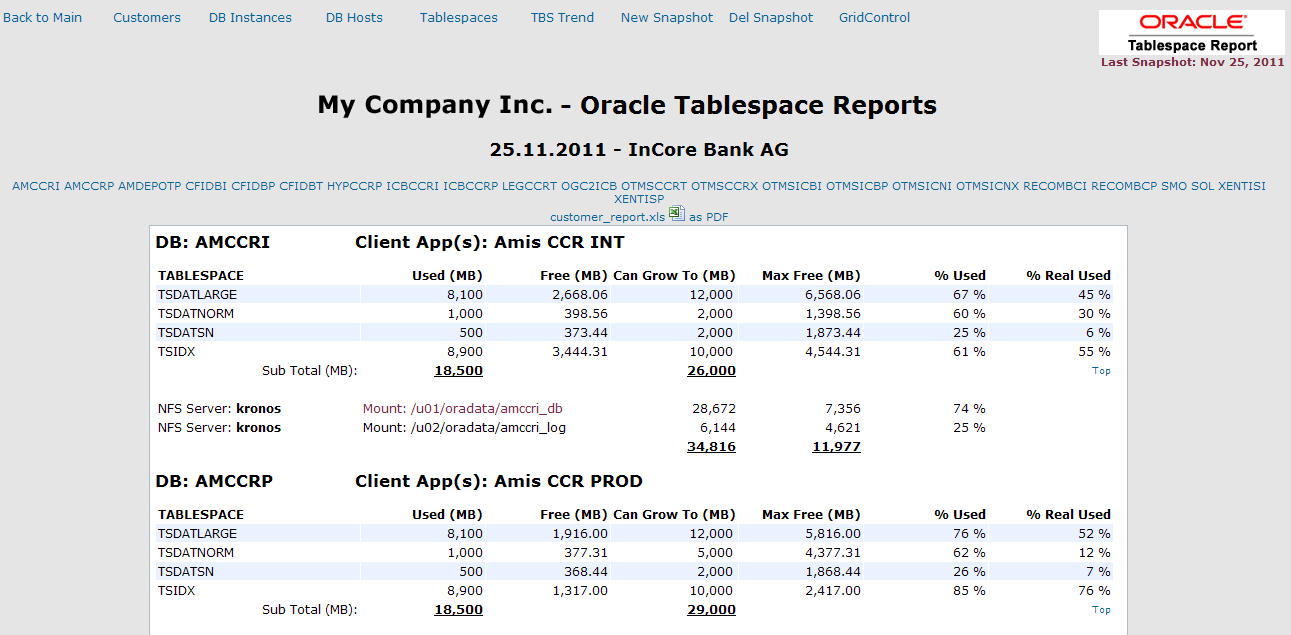
Note: If no snapshots has been made you can’t generate any usage reports!!!

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 Grid Control or some other internal type of DB (SMO, RMAN etc.)



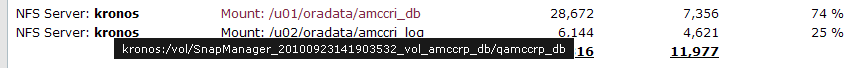
The report output will contain info about Instance, Tablespace name, Used MB, Free MB, Can Grow To MB, Max Free MB, % Used and % Real used which reflects the Can grow to space.



The report also contains NFS space usage in MB. How much space an 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 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:



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.