



SBAdmin

System Backup Administrator
for AIX and Linux

Quickstart Guide for Oracle Database Backups

This document gives an overview to the Oracle Database backup feature for **Storix System Backup Administrator (SBAdmin) Version 6.1**. This is intended to guide users through their first experience with the new feature. It is assumed that the user has a working knowledge of the current SBAdmin product as well as the **Oracle RMAN** utility. For detailed information about SBAdmin, please see the **SBAdmin Users Guide** (available by selecting [Help->User Guides->SBAdmin User Guide](#) from within the SBAdmin graphical user interface). For detailed information about RMAN, please refer to your Oracle documentation or contact your Oracle support representative.

The **Oracle Database Backup Feature** integrates SBAdmin with Oracle's RMAN utility. The Oracle RMAN scripts used by SBAdmin are created within the SBAdmin interface. Those scripts are used by SBAdmin backup jobs and restores. Backups are written using the SBAdmin process so your Oracle backups will become part of your regular SBAdmin backup tasks. Backup history, backup labels, retention policies, etc will be the same as you have become accustomed to using SBAdmin.

Oracle Database Backup support is an optional feature which can be enabled for any SBAdmin client with an Oracle database. Therefore, it's important to understand that an **Oracle Database Server** is simply another **SBAdmin Client**. There is a separate **Storix System Backup Administrator Oracle Database Backup Guide**, which includes details on:

- configuring which databases you intend to backup
- interface for creating Oracle RMAN backup scripts
- interface for creating Oracle RMAN restore scripts
- running and monitoring Oracle database backups

The process for backing up or restoring Oracle database data is basically the same as all other SBAdmin backup types. Minor differences are addressed below.

The **QuickHelp** (right-mouse button) is available for all of the Oracle Database backup features. To get additional information on any button, list or entry field in the GUI interface, just right-click on the item. A yellow window will pop up with more information.

1. Initial Setup for performing Oracle Database Backups and restores

- A. Install Software (see installation instructions that accompany the software)
- B. Configure Oracle Database Backup license.
 - 1) Start the SBAdmin interface by typing "**sbadmin &**" at the command-line.
 - 2) From the SBAdmin interface:
 - a. Select [File->Preferences->Software License](#)

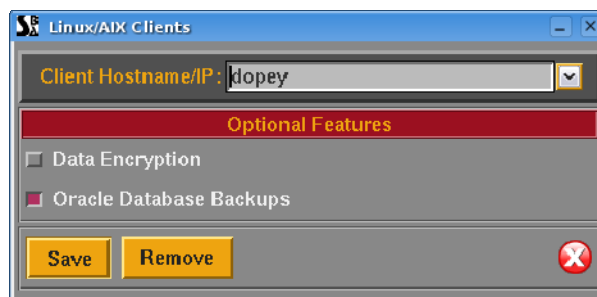


- b. Click on **Oracle Database Backup**
- c. If you have a permanent key, select **Permanent license** and enter the **License key** provided by Storix.
- d. For the trial, just select **30-day free evaluation**.
- e. Press **Save/Exit**

Once you have an Oracle License installed a new item titled “**Oracle**” will appear in the menu-bar of the **sbadmin** graphical user interface.

If you are using the *Network Administrator* license, you must enable Oracle support for each of your Oracle database Servers. This assumes you have already added your Oracle database servers as clients to SBAdmin.

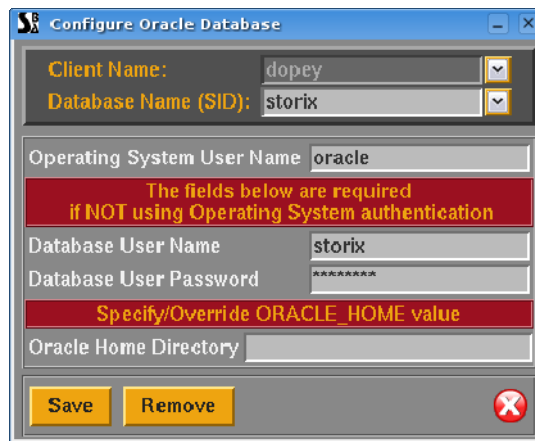
- 3) From the GUI, select **Configure->Clients**



- a. Type the name of the client (Oracle DB server) in the entry field at the top, or use the down-arrow button to select from a list of configured clients.
- b. Select the **Oracle Database Backups** button in the **Optional Features** section.
- c. Repeat for each client that contains an Oracle database.

2. Configure the Oracle Databases that are available for backup

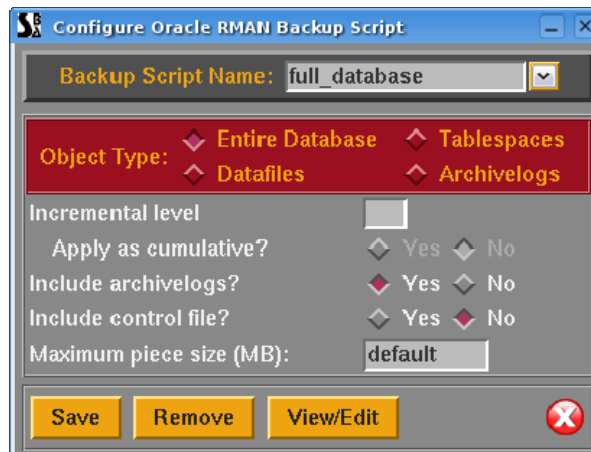
- A. Select **Oracle->Configure Oracle Databases**



- 1) If you are using the *Network Administrator* version, select the **Client Name** at the top. Enter the **Database Name (SID)** or select the SID from the list.
- 2) If you use *Operating System authentication*, then only fill out the **Operating System User Name**. If you have setup additional database users (must have DBA authority), you can enter the **Database User Name** and **Password**. If you do not enter database user information, it is assumed that database administration can be performed by logging in with the **Operating System User Name**.
- 3) Enter the **Oracle Home Directory** if the environment variable `$ORACLE_HOME` is not already set for the oracle user. To verify, type "`su - (OS user name)`", then "`echo $ORACLE_HOME`". If already set, you need not enter it here.
- 4) Select **Add/Change** to save. Repeat this process for each database you intend to backup.

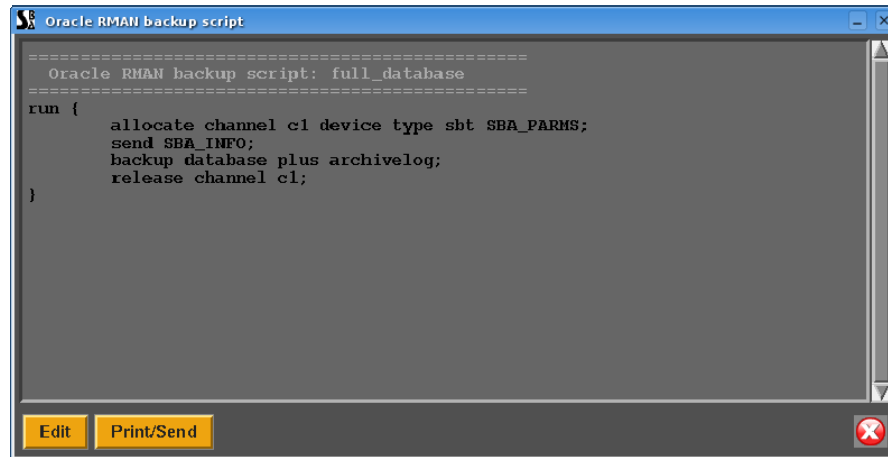
3. Create scripts to interact with Oracle RMAN backup utility.

A. To create your RMAN scripts for Backups:



- 1) Select **Oracle->Configure RMAN Backup Scripts**
- 2) Select or enter **Backup Script Name**.
- 3) Select the type of database backup you would like to perform:
 - a. **Entire Database** - This is a backup of the entire database. You have options for incremental level, include the archivelog and control file, as well as the maximum piece size in MB (to

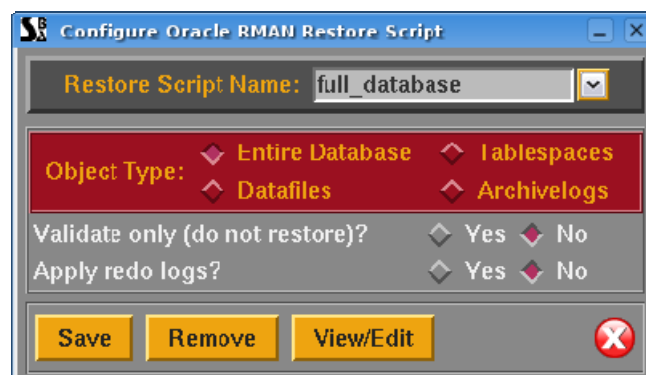
- override RMAN default).
- b. **Datafiles** - This is a backup of the raw database files. You have options to enter the datafile number or the full pathname of the datafiles separated by spaces, incremental level, include archivelog and control files, as well as the maximum piece size in MB (to override RMAN default).
 - c. **Tablespace** - This is a backup of specific table data. You have options to enter the tablespace names separated by spaces, incremental level, include archivelog and control files, as well as the maximum piece size in MB (to override RMAN default).
 - d. **Archive Logs** - This is a backup of only the archivelogs. There are multiple options for the range to include as well as the maximum piece size in MB (to override RMAN default).
- 4) To view the script which is created with your above options, select **View/Edit**.



- 5) To manually edit the script, select the **Edit** button, then add your changes to the text in the window, then select Save to save the changes.
- 6) If you have not manually changed the RMAN script, select **Save** to save your settings. If you customized the script, just close the **Configure** window, else the **Save** button will overwrite your custom changes.

B. To create your RMAN scripts for restores:

- 1) Select **Oracle->Configure RMAN Restore Scripts**



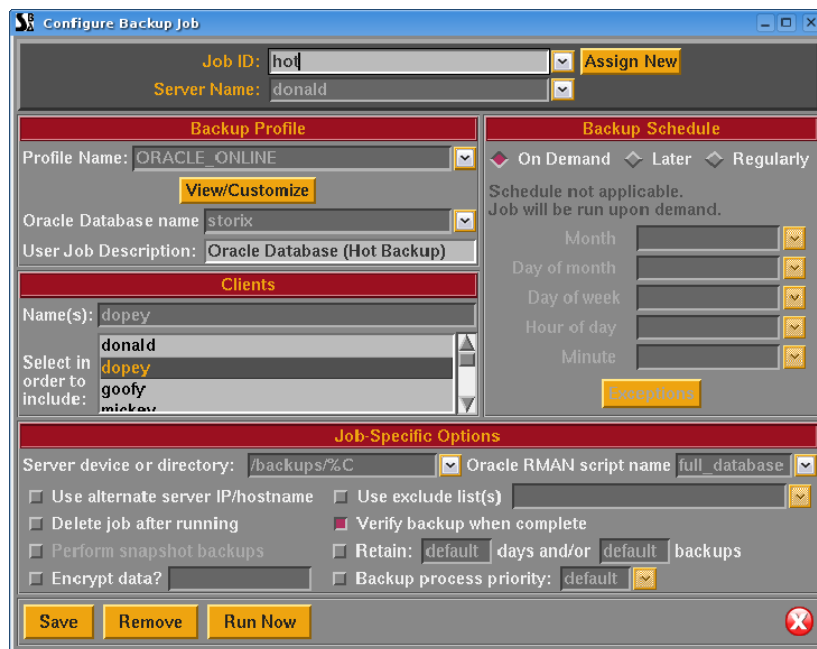
- 2) Select or enter the **Restore Script Name**
- 3) Select the type of restore you would like to perform:

- a. **Entire Database** - Only use this option if you plan to restore from an "Entire Database" backup.

- You also have the option to apply the redo logs (RMAN “**recover**” command).
- b. **Datafiles** - Use this option if you plan to restore specific data files. You also have the option to apply the redo logs.
 - c. **Tablespace** - Use this option if you plan to restore specific tablespace data. You also have the option to apply the redo logs.
 - d. **Archivelogs** - Use this option to restore just archive logs. You have to option to select all or a range.
- 4) Select **Yes to Validate Only (do not restore)** if you want to perform the restore operation without actually restoring data to the database. You may want to save this script under another name, such as “*full_database_validation*”, and use it to verify not only that the backup data is readable but that the database is in a state which would allow the data to be restored. The entire restore process will complete but no data in the database will be changed. If this option is set to **No**, the data will be restored to the database.
 - 5) To manually edit the script, select the **Edit** button, then add your changes to the text in the window, then select **Save** to save the changes.
 - 6) If you have not manually changed the RMAN script, select **Add/Change** to save your settings. If you customized the script, just close the Configure window, else the **Add/Change** button will overwrite your custom changes.

4. Create an Oracle Database backup job

- A. Select **Configure->Backup Jobs**
- B. Create a new backup job name and press **Save**.



Creating a backup job is the same for all other backup types, with the following exceptions:

- 1) Select a **Profile Name** that reflects the type of backup you want to perform. There are two default profiles provided, ORACLE_ONLINE for online (hot) backups and ORACLE_OFFLINE for offline (cold) backups.
 - a. An online backup requires that the database be in **ARCHIVELOG** mode.

- b. For offline backups, the database will be automatically shutdown before the backup and restarted after the backup. You can change this behavior by editing the original ORACLE_OFFLINE **Profile** settings or selecting the **View/Customize** button in the **Backup Profile** section.

- 2) Select the **Oracle Database** name previously configured.
- 3) Select the **Oracle RMAN script name** previously configured.

Additional field options are the same as other backup types. You will have to select the **Client** and **Server** (if using *Network Administrator*), and the **Server/Backup device or directory**. The backup job can then be scheduled to run at a later date, regularly, or on demand.

It is also a good idea to select the **Verify backup when complete** button. This will re-read the backup data to ensure it is readable, but does not validate this against the Oracle database. Refer to the **Validate Only** option when creating an *RMAN restore script* (above) for performing a restore validation.

Press **Save** to save this backup job for future use.

5. Run an Oracle Database backup

- A. The process of running this job does not differ from any other backup types. Just select **Actions->Run a Backup Job**, and then select the **Run Now** button when configuring a backup job, or the **Run** button when the Job Information is displayed on the **Main Screen**.
- B. If you selected to verify when the backup is complete when you configured the backup job, this will occur automatically. Note that this option will re-read the backup data to ensure it is readable, but does not validate this against the Oracle database. Refer to the **Validate Only** option when creating an *RMAN restore script* (above) for performing a restore validation.

6. Restore Data from an Oracle Database backup

- A. Select **Actions->Restore Data from a Backup**



- B. Select the **Server** (if *Network Admin*) and **Device or Directory** where the backup was written. If the backup was to a disk file, you will also need to select the specific backup from the list provided.
- C. The process to restore data from a backup is very similar to other backup types with the exception of the following.

- 1) Select the **RMAN restore script name** previously configured. If you chose an RMAN script to restore that does not match the data you backed up (i.e. restoring *Entire Database* from an *Tablespace* backup) the restore process will fail. Note that if you select a restore script name that was created with the **Validate Only** flag, the entire restore will run, the data will be validated against the database, but no data will be written to the database.
- 2) You also have the option to **Shutdown before starting** the restore and **Restart when complete**. *If the database is currently active, the shutdown will be required.* If you do not shutdown an active database before the restore is started, you will receive errors from RMAN and the process will terminate.

Note that RMAN will determine the backup that is required to perform the restore (if any) based on the contents of your restore script. The backup information will be displayed at the start of the restore process and the backup media selected will be verified against the backup requirements provided by RMAN. If necessary, repeat this process, selecting the correct backup media, or alter your RMAN backup script so that RMAN will request the backup you selected.

RMAN will always request the most recent backup of the data it requires. If you want to restore from an older backup, you will need to alter your backup script to tell RMAN to request the older backup with a line such as:

```
set until time "TO_DATE('08/10/06 23:00:00', 'MM/DD/YY HH24:MI:SS');
```

This must appear inside the **"run"** block of the script before the **"restore"** command. Refer to your Oracle RMAN documentation for more information.

Crosschecking and Deleting Expired Backups

You must periodically run an RMAN **crosscheck**, to find Oracle catalog records (either in the *Control File* or *Recovery Catalog*) that are not found in the *Media Manager* catalog (maintained by SBAdmin). These catalogs will not correlate after backups have been *expired* by SBAdmin. The crosscheck will mark the backups as *expired* in the Oracle catalogs, which prevents Oracle from requesting that backup when a restore is performed.

If the backup information is restored to the *Media Manager catalog* (by rebuilding a backup label from media in SBAdmin), another **crosscheck** will make that Oracle catalog record available again.

The Oracle catalog records that are marked as *expired* by the **crosscheck** are never actually deleted from the Oracle catalogs unless you perform an RMAN **delete** operation. When doing this, all records marked as *expired* will be removed from the catalogs. It will no longer be possible to restore from a backup (even after rebuilding the backup label) because Oracle will no longer have record that this backup was ever performed.

SBAdmin makes this maintenance task easier by providing the following:

- A. Select [Oracle→Crosscheck Backups](#)
- B. Select the **Client** (Oracle DB Server) name and the **Database Name** (SID).
- C. Press **Run Crosscheck**. A window will appear with the progress of the crosscheck, and any backups that are expired by this process will be listed. When complete a **Delete Expired Backups** button will become available. After reviewing the backup list for accuracy, you may press this button to delete the expired backups from the Oracle catalogs. Note that you cannot recover these backups after they have been deleted.