Acronis

Acronis Backup 11.7
Update 1

PROTECTING ORACLE DATABASE WITH ACRONIS BACKUP

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1   Introduction

More and more often, Oracle databases are used to run and support the most critical applications. An enterprise database may be complex and difficult to administrate and protect, while having little tolerance for downtime.

To address backup requirements for these databases, Oracle offers an integrated command-line backup solution named Recovery Manager (or RMAN). RMAN contains all backup and recovery functionality that is necessary for an Oracle environment of any complexity.

At the same time, RMAN lacks a GUI, has a steep learning curve, and requires an experienced database administrator (DBA) to configure and use correctly. It may be a challenge for smaller companies that just have started using Oracle Database. RMAN is also limited in terms of storage that is supported out of the box (a local folder or SMB share only), does not support complex storage policies, and does not provide a simple disaster recovery scenario for the case when an entire Oracle server fails.

Acronis Backup offers world-class data protection and fast, flexible disaster recovery for any system in any environment. This product continues a long history of Acronis products started with Acronis True Image 6.0 in 2002.

This document describes a verified Acronis solution for protecting Oracle Database data. This solution combines the full power of Acronis Backup and RMAN in a package that is simple to use even for those who are not versed in Oracle Database intricacies.

2 Server backup vs. database backup

Let's see how Oracle data can be protected by using Acronis Backup. In essence, there are two methods. Both methods allow you to utilize the backup management functionality provided by Acronis: centralized management, replication, retention, email notifications and more.

Server backup

Back up an entire Oracle server, using Microsoft VSS (in Windows) or provided scripts (in Linux) to ensure the application-consistent state of the Oracle database.

Recover the entire server to the point in time of backup creation.

Benefits:

- Reduced RTO in case of the entire server failure. You do not need to bring up the system prior to recovering the Oracle database. Moreover, you can easily create a standby virtual server that needs only seconds to spin up.
- Backup and recovery is fully configured in the Acronis Backup UI. No complexity of using Oracle Recovery Manager (RMAN).

Limitations:

- The database must be stored on a regular file system supported by Acronis Backup. Raw partitions and Oracle Automatic Storage Management (ASM) volumes are not supported.
- In Linux, the database (datafiles, redo log files, and control files) must be stored on one volume.

Database backup

Back up an Oracle database by using Oracle Recovery Manager (RMAN) to a local folder, and then back up the resulting files to a different location, keeping only the latest RMAN backups in the local folder. Acronis provides RMAN scripts that can be automatically run before the file backup. Thus, the entire procedure can be set up and executed within a single backup plan.

Recover a database to the point in time of the latest backup from the locally stored RMAN backups. Acronis provides a RMAN script for this recovery. To recover to an earlier point in time, first recover the RMAN backup by using Acronis Backup, and then use the script to recover the database.

The same recovery operations can be performed with a tablespace. Acronis provides a separate script for tablespace recovery.

By using Acronis scripts, you can recover only to a point in time when a backup was created. Should you need to recover to a different point in time, use the redo log, or RMAN, or contact Acronis support.

Benefits:

- A database backup requires less time and storage space than a server backup.
- Support for databases stored on raw partitions or Oracle Automatic Storage Management (ASM) volumes.
- Recovery of individual tablespaces is possible.
- In Linux, databases stored on more than one volume are supported.

Limitations:

- Larger RTO in case of entire server failure.
- Two-step recovery operation.

Comparison

	Server backup	Database backup
Backups	Longer	Faster
Storage space	More	Less
RTO in case of entire server failure	Less	More
Automatically maintained virtual standby server	Yes, ESX or Hyper-V	No
Support for raw partitions/ASM	No	Yes
Support for databases spread over several volumes	Yes, in Windows	Yes
Recovery of individual tablespaces	No	Yes
Ease of use	Backup and recovery are fully configured in the Acronis Backup UI. No complexity of using RMAN.	Two-step recovery involving scripts.

Common limitations

- Only single-instance database configurations are supported.
- It is not possible to back up individual pluggable databases (PDB). They are backed up as part of the container database (CDB).
- The database must be in the ARCHIVELOG mode (the **NOARCHIVELOG** flag is disabled).

  A database in the NOARCHIVELOG mode can be backed up only in the closed state, while the Acronis solution is aimed at backing up databases without a downtime. While such a database is open, the Oracle VSS writer errors out, switching the database to the backup mode is not possible, and RMAN cannot be used.

3   Supported Oracle Database Engine versions

Oracle Database Engine versions 11 and 12, all editions.

Only single-instance configurations are supported.

4 Installation

4.1 Acronis Backup components

To protect Oracle data, you need the following Acronis Backup components:

- **Agent for Windows** or **Agent for Linux** must be installed on the server where Oracle Database is running.

  Use any of the Backup Advanced licenses that allow installation of these agents. Other components do not require licenses.

- **Management Console** must be installed on this server or on another machine that is running Windows or Linux and that has network access to the server.

- [Optional] **Management Server** lets you centrally manage multiple machines: create backup plans, monitor their execution, deploy agents, and more. It can be installed on a Windows machine that has network access to all of the managed machines and to the machine where Management Console is installed.

- [Optional] **Agent for VMware** or **Agent for Hyper-V** must be installed on your VMware ESX or Hyper-V host if you want to maintain a virtual standby server.

For installation instructions, refer to http://www.acronis.com/en-us/support/documentation/AcronisBackup_11.7/index.html#6611.html.

4.2 Scripts

Installation file

Download the installation file that contains scripts from the Acronis web site.

- For Windows: **AcronisBackupForOracle.msi**
- For 32-bit versions of Linux: **AcronisBackupForOracleLinux.i686**
- For 64-bit versions of Linux: **AcronisBackupForOracleLinux64.x86_64**

Installation

Run the installation file on the server where Oracle Database is running.

To install in Windows

1. Log on as an administrator and start the installation file.
2. Accept the license agreement.
3. [Optional] Change the folder where the scripts will be installed.

   The default location is as follows:

   - In 32-bit versions of Windows: **%ProgramFiles%\Acronis\Oracle**
   - In 64-bit versions of Windows: **%ProgramFiles(x86)%\Acronis\Oracle**

4. Click **Proceed** to continue.
5. After the installation completes, click **Close** to exit.

To install in Linux

1. Run the appropriate installation file (an .i686 or an .x86_64 file) as the root user.
2. Accept the license agreement.

3. After the installation completes, click **Exit**.

After the installation, the scripts are located in **/usr/lib/Acronis/Oracle**.

5 About the scripts

5.1 List of the scripts

The following table lists the scripts provided by Acronis.

Script name	For Windows or Linux?	Description
main.js	Windows	The main script that performs all operations related to Oracle backup and recovery.
main.sh	Linux	
main.cfg	Windows, Linux	The configuration file contains the database access parameters and other parameters that are common for other scripts. This is the only file that you may need to edit.
backup_full_pre.bat	Windows	Calls the main script to perform a full database backup by RMAN.
backup_full_pre.sh	Linux	
backup_incr_pre.bat	Windows	Calls the main script to perform an incremental database backup by RMAN.
backup_incr_pre.sh	Linux	
restore_full.bat	Windows	Calls the main script to recover the entire database.
restore_full.sh	Linux	
restore_db.bat	Windows	Calls the main script to recover the database without the control file and the server parameter file.
restore_db.sh	Linux	
restore_tb.bat	Windows	Calls the main script to recover only the tablespace.
restore_tb.sh	Linux	
last_log.bat	Windows	Calls the main script to show its latest log.
last_log.sh	Linux	
pre_snapshot.sh	Linux	Puts the database in the backup mode.
post_snapshot.sh	Linux	Returns the database from the backup mode.
*.rman	Windows, Linux	RMAN scripts for various operations. Not for independent use.
*.sql	Windows, Linux	SQL*Plus scripts for various operations. Not for independent use.
Other	Windows, Linux	Auxiliary scripts. Not for independent use.

5.2 Editing main.cfg

This section lists parameters that you can modify in the file **main.cfg**. Most of the parameters are used regardless of whether you protect a database or an entire server.

- **BACKUP_DIR**: the local folder where RMAN backups will be stored.

  This parameter is used when you back up the Oracle database rather than the entire server. The disk where you want to store RMAN backups must have free space enough for two copies of the database.

  The default path is **C:\local_rman_backups** in Windows and **/tmp/local_rman_backups** in Linux.

> ***Note*** *In Windows, use double backslash characters instead of single ones. For example, the default path is specified as* ***C:\\local_rman_backups****.*

- **TARGET**: connection string for the database.

  The default value is **/**. With this value, the script will log on to Oracle by using the operating system authentication. In Windows, the script will use the account specified in the backup plan (see the "Backing up an Oracle database" (p. 17) section). In Linux, the script will use the **ORACLE_USER** variable value (see later in this section). Both in Windows and in Linux, the account that you specify must have the SYSDBA system privilege in Oracle.

  If you want to use database authentication, specify the connection string in the following format:

  `<username>/<password>[@<connect identifier>]`

  Here,

  - `<username>/<password>` are the credentials that the script will use to log on to Oracle. This account must have the SYSDBA system privilege in Oracle.

  - `<connect identifier>` is an Oracle Net connect identifier. It can be a net service name, a database service name, or a net service alias. The connect identifier is required in Oracle Database Engine 12 to ensure that the connection string points to a container database (CDB) rather than a pluggable database (PDB).

  Example. If you want the script to connect with username **HR** to the database that has the Oracle Net alias **FLEETDB**, type **HR/password@FLEETDB** as the **TARGET** parameter value.

- **TABLE_SPACE**: the tablespace to be recovered by scripts **restore_tb.bat** (in Windows) and **restore_tb.sh** (in Linux). The default value is **TABLESPACE1**.

In Linux, you may need to additionally modify the following Oracle environment variables to reflect the actual Oracle Database settings:

- **ORACLE_BASE**: the home directory for the Oracle software. The default value is **/u01/app/oracle**. To learn the actual value, run the **env | grep ORACLE_BASE** command.

- **ORACLE_HOME**: the subdirectory of the home directory where the database files are located. The default value is **$ORACLE_BASE/product/12.1.0.2/db_1**. To learn the actual value, run the **env | grep ORACLE_HOME** command.

- **ORACLE_SID**: the system identifier of the database. The default value is **orcl12c**. To learn the actual value, run the **env | grep ORACLE_SID** command.

- **ORACLE_USER**: the account that the script uses to log on to Oracle when the **TARGET** parameter value is **/** (see the **TARGET** parameter above). The default value is **oracle**. The account that you specify here must have the SYSDBA system privilege in Oracle.

- **RMAN_PATH**: the directory where RMAN is located (if you back up a database) or where SQL*Plus is located (if you back up an entire server). Usually, these tools are located in the same directory.

  The default value is **$ORACLE_HOME/bin**. To learn the actual directory where RMAN is located, run the **which rman** command. To learn the actual directory where SQL*Plus is located, run the **which sqlplus** command. For example, if the **which rman** command output is **/u01/app/oracle/product/12.1.0.2/db_1/lib/rman**, set the **RMAN_PATH** value to **$ORACLE_HOME/lib**.

6 Protecting an entire server

Use this method to protect the entire server where Oracle Database is installed. You will be able to recover the server to the original or a different machine. The Oracle Database will be recovered among other data and will be fully operational.

All operations described in this section are performed in the Acronis Backup UI. To access the UI, run the management console and connect it directly to the server where Oracle Database is running or to the management server.

6.1 In Windows

In Windows, Microsoft VSS is used to create application-consistent data snapshots. Thus, no Acronis scripts are required. In Windows, the database must be stored on the server local disks.

Creating a backup plan

1. Click **Create backup plan**.
2. Click **Items to back up**, and then select the check box next to the Oracle server name.

    This will select the entire machine as the data source and you will be sure that all necessary files are included in a backup. This also ensures that the database will remain protected if you relocate the files in the future.

    If you are sure that the database files are always on the same volumes, you may want to back up only these volumes.

3. In **Location**, select the backup location.
4. If the **Single-pass disk and application backup** section is present, select **Disabled** next to **Single-pass backup**. This functionality is designed for Microsoft SQL Server and Microsoft Active Directory backups.
5. Specify the backup scheme and backup schedule.

    We recommend that you set up the **Custom** scheme with weekly full, daily incremental backups.

Next, you can specify the retention rules. By default, the backups will be kept indefinitely.

6. [Optional] Configure the regular conversion to a virtual machine, as described in the "Regular conversion to a virtual machine" (p. 13) section.

7. Click **Backup options** and do the following:

   a. Ensure that the **Multi-volume snapshot** option is enabled.

   b. Ensure that the **Volume Shadow Copy Service** option is set to **Use Volume Shadow Copy Service (VSS)**. Unless you have a reason to do otherwise, we recommend that you use the default value of the **Snapshot provider** box.

   These settings will guarantee that the database is correctly frozen and flushed during the snapshot creation. As a result, the backed-up application will be fully consistent.

   Click **OK** to close the window.

8. [Optional] Configure other parameters of the backup plan. For the detailed information, refer to the context help.

9. Click **OK** to save the backup plan.

   The backup plan will run according to the specified schedule.

6.2   In Linux

In Linux, because Microsoft VSS is not available, you need to freeze applications for the time of taking a data snapshot (a.k.a. data capture). Otherwise, the backed-up application will only be crash-consistent.

To help you do this, Acronis offers two scripts. One of them puts the database in the backup mode. Specify it as a pre-data capture command. The other script returns the database from the backup mode. Specify it as a post-data capture command.

Unlike the entire backup procedure, the data capture process takes seconds. Therefore, the database idle time will be minimal.

Prerequisites

▪ The scripts are installed on the server.

▪ In Oracle Database Engine 11g, patch 12371955 is applied.

   This Oracle Database Engine version contained a bug that was fixed in 2012. For the information about the bug and the patch, refer to https://blogs.oracle.com/UPGRADE/entry/fundamental_oracle_flaw_revealed_really.

Creating a backup plan

1. Click **Create backup plan**.

2. Click **Items to back up**, and then select the volume that stores the database.

3. In **Location**, select the backup location.

4. Specify the backup scheme and backup schedule.

We recommend that you set up the **Custom** scheme with weekly full, daily incremental backups.

Next, you can specify the retention rules. By default, the backups will be kept indefinitely.

5. [Optional] Configure the regular conversion to a virtual machine, as described in the "Conversion to a virtual machine" (p. 13) section.

6. Click **Backup options**.

7. If the machine contains volumes managed by Linux Logical Volume Manager (LVM), ensure that the **LVM snapshotting** option is set to **Acronis Backup**.

8. Click **Pre/post data capture commands** and specify the following commands:

    a. Select the **Execute before the data capture** check box, and then click **Edit** next to it.

    b. In **Command**, browse to **/usr/lib/Acronis/Oracle/**, and then select file **pre_snapshot.sh**.

    c. In **Working directory**, enter **/usr/lib/Acronis/Oracle/**.

    d. Click **OK** to save the changes.

    e. Select the **Execute after the data capture** check box, and then click **Edit** next to it.

    f. In **Command**, browse to **/usr/lib/Acronis/Oracle/**, and then select file **post_snapshot.sh**.

    g. In **Working directory**, enter **/usr/lib/Acronis/Oracle/**.

    h. Click **OK** to save the changes.

    Details. The post-data capture command will run even if taking a snapshot fails. This will ensure that the database will not be stuck in the backup mode.

9. Configure other parameters of the backup plan. For the detailed information, refer to the context help.

10. Click **OK** to save the backup plan.

    The backup plan will run according to the specified schedule.

6.3   Conversion to a virtual machine

When creating a backup plan that protects an entire server, you can set up regular conversion of a backup to a virtual machine. This will provide you with a standby virtual server. In case of a disaster, this virtual server can be powered on in seconds and used instead of the failed physical server until it is recovered.

Prerequisites

- The system and boot volumes of the server are selected for backup.
- The backup location supports conversion to a virtual machine. Conversion from the following locations is *not* available: CD, DVD, Blu-Ray Discs, tape devices, and Acronis Cloud Storage.
- Acronis Backup Agent for VMware or Agent for Hyper-V is installed on the virtualization host.

Conversion steps

1. Click **Show validation, convert to virtual machine**.
2. In **Convert to virtual machine**, select **Convert**.
3. If the backup replication to another location is enabled, in **Convert from** select the location from which you want to convert backups.
4. In **When to convert**, click **After a full backup is created**, and then click the **After an incremental backup is created** check box. This will ensure that the virtual machine will be updated after each full and incremental backup of the server.
5. Click **Target host**, click **Change**, and then specify the IP address or hostname of a machine where Agent for VMware or Agent for Hyper-V is installed. Specify the credentials to access this machine.
6. Select the target host.
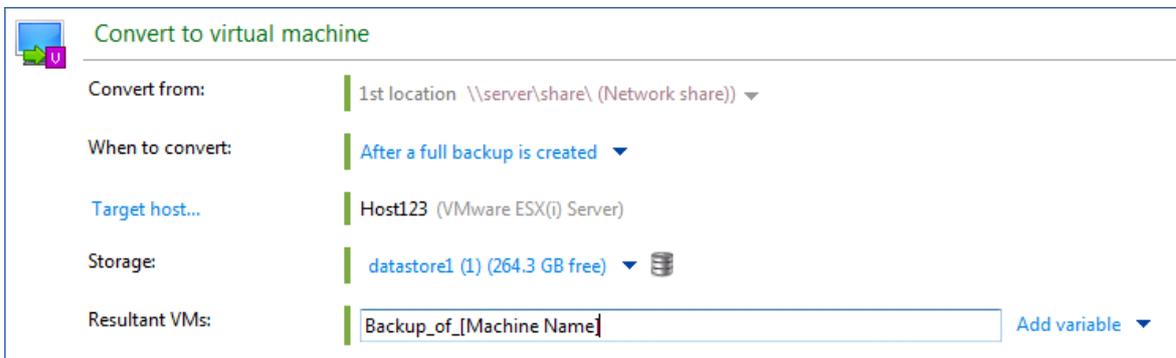
Convert to virtual machine	
Convert from:	1st location \\server\share\ (Network share) ▾
When to convert:	After a full backup is created ▾
Target host...	Host123 (VMware ESX(i) Server)
Storage:	datastore1 (1) (264.3 GB free) ▾ 🗄
Resultant VMs:	Backup_of_[Machine Name] Add variable ▾

7. [Optional] Change the default value of the storage. For an ESXi virtual machine, the storage is a datastore; for a Hyper-V virtual machine, the storage is a folder.
8. [Optional] Change the default value of the resulting virtual machine name.

For the detailed information about the conversion settings, refer to the context help.

6.4   Recovering an entire server

To recover a server that cannot boot, you need Acronis bootable media. If the operating system is up and running, you can configure and start the recovery from the operating system. The steps are the same in both cases.
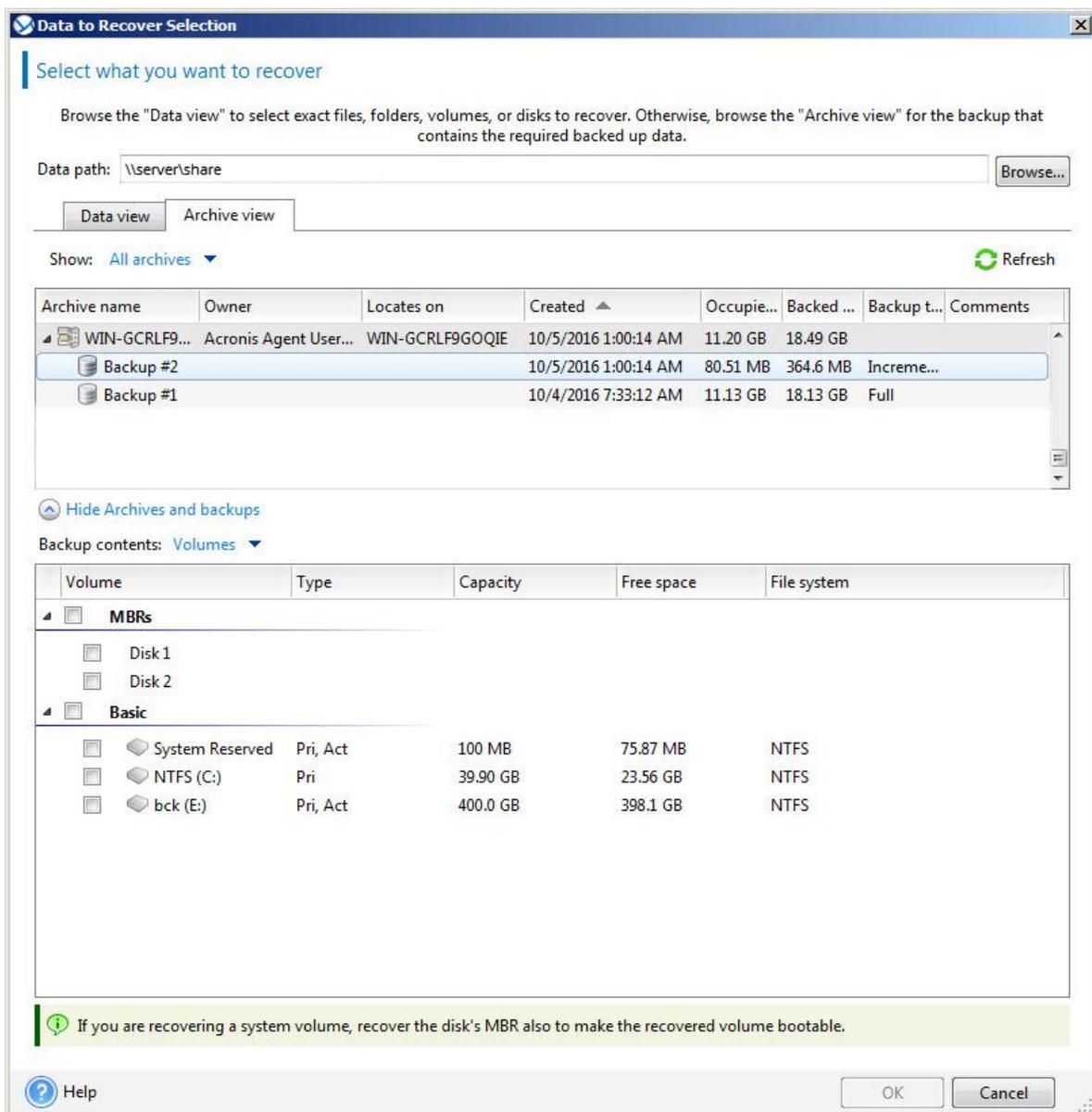
About bootable media

Bootable media is a CD, DVD, USB flash drive, or other removable media that enables you to run the agent without the help of an operating system. The main purpose of bootable media is to recover an operating system that cannot start.

We highly recommend that you create and test a bootable media as soon as you start using disk-level backup. Also, it is a good practice to re-create the media after each major update of the backup agent.

To create bootable media, you need Acronis Bootable Media Builder installed on a machine running Windows or Linux. Run the media builder and follow the instructions. For the detailed information, refer to the context help.

To recover an Oracle database server

1. Connect the console to the server or boot the server from the bootable media.
2. Click **Recover**.
3. Click **Select data**.
4. In **Data path**, enter the backup location. If prompted, specify the credentials to access this location.
5. Select the backup that corresponds to the recovery point you want to use.

6. In **Backup contents**, select all of the backed-up items (MBRs and volumes).

   *Note   Under bootable media, you may see a message saying that logical volume structure (LVM) is detected in the backup. This means that the original Linux server contained logical volumes. You can recreate the volume structure by clicking **Apply RAID/LVM**. This will destroy all data stored on the disks involved in the logical volumes structure.*

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7. Under **Where to recover**, review the mapping of the selected volumes to the target volumes. If you are unsatisfied with the mapping result, you can re-map the volumes manually.

8. [Optional] Configure other parameters of the recovery task. For the detailed information, refer to the Acronis Backup help.

9. Click **OK** to start the recovery.

Once the recovery is finished, the server boots up. The database runs on system startup if configured.

7 Protecting an Oracle database

This method makes use of RMAN to merge the Oracle backup functionality with the Acronis Backup functionality, bringing you the benefits and features of both.

7.1 Backing up an Oracle database

Preparation

Select the local folder that will store RMAN backups. The disk allocated for storing RMAN backups must have free space enough for two copies of the database. Do not select the same disk as the one where the database is located.

The default path is **C:\local_rman_backups** in Windows and **/tmp/local_rman_backups** in Linux. To change this path, edit the **BACKUP_DIR** parameter value in the **main.cfg** file as described in the "Editing main.cfg" (p. 9) section.

If necessary, change other script configuration parameters.

Creating backup plans

To back up an Oracle database, create one or two backup plans. One of them is mandatory, it will first create a full RMAN backup, and then create a full backup of the resulting files to a different location. The other one is optional, it will first create a backup of archived logs, and then create an incremental backup of the resulting files to the same archive as the full backup. Use the second backup plan to back up archived logs more often than the database.

A full RMAN backup must be created before backups of archived logs. Otherwise, you will not be able to recover the database until the full backup is created. If, according to the schedule, the incremental backup will run first, run the full backup manually before that.

To create the backup plans, run the management console and connect it directly to the server where Oracle Database is running or to the management server.

To create a backup plan for full backups

1. Click **Create backup plan**.
2. Click **Items to back up**. In **Data to back up**, select **Files**. Select the folder that will store the RMAN backups.
3. In **Location**, select the backup location.
4. In **Backup scheme**, select **Simple**.

    The **Custom** scheme cannot be used here, because different RMAN scripts should be run before the full and incremental backups.
5. Specify the backup schedule. We recommend that you create full backups once a week.
6. [Optional] Specify the retention rules. By default, the backups will be kept indefinitely.
7. Click **Show backup type, validation**, and then ensure that the **Backup type** is set to **Full**.
8. Click **Backup options**, and then click **Pre/post commands**.
9. Select the **Execute before the backup** check box, and then click **Edit** next to it.
10. Specify the following settings, and then click **OK** to save the changes.

    [In Windows]

- In **Command**, browse to **C:\Program Files (x86)\Acronis\Oracle**, and then select file **backup_full_pre.bat**.
- In **Working directory**, enter **C:\Program Files (x86)\Acronis\Oracle**.

[In Linux]

- In **Command**, browse to **/usr/lib/Acronis/Oracle/**, and then select file **backup_full_pre.sh**.
- In **Working directory**, enter **/usr/lib/Acronis/Oracle/**.

11. [In Windows] If you use the default value (**/**) of the **TARGET** parameter in the **main.cfg** file, click **Show plan's credentials, comments, label**, click **Plan's credentials**, click **Use the following credentials**, and then specify the user name and password of the Windows account that will log on to Oracle. This account must have the SYSDBA system privilege in Oracle.

12. Configure other parameters of the backup plan. For the detailed information, refer to the context help.

13. Click **OK** to save the backup plan.

To create a backup plan for incremental backups

1. Click **Create backup plan**.

2. Click **Items to back up**. In **Data to back up**, select **Files**. Select the folder that will store the RMAN backups.

3. In **Location**, select the same backup location and specify the same archive name as for full backups.

4. In **Backup scheme**, select **Simple**.

5. Specify the backup schedule. We recommend that you create incremental backups on each day of week except for the day you selected for full backups.

6. [Optional] Specify the retention rules. By default, the backups will be kept indefinitely.

   Tip   To avoid resource-consuming consolidation, you may want to remove the backup files manually. To ensure the data integrity:

   - Remove a full backup and all of its dependent backups simultaneously.
   - Always do this in Acronis Backup console, not in a file manager.

7. Click **Show backup type, validation**. In **Backup type**, select **Incremental**.

8. Click **Backup options**, and then click **Pre/post commands**.

9. Select the **Execute before the backup** check box, and then click **Edit** next to it.

10. Specify the following settings, and then click **OK** to save the changes.

    [In Windows]

    - In **Command**, browse to **C:\Program Files (x86)\Acronis\Oracle**, and then select file **backup_incr_pre.bat**.
    - In **Working directory**, enter **C:\Program Files (x86)\Acronis\Oracle**.

    [In Linux]

    - In **Command**, browse to **/usr/lib/Acronis/Oracle/**, and then select file **backup_incr_pre.sh**.
    - In **Working directory**, enter **/usr/lib/Acronis/Oracle/**.

11. [In Windows] If you use the default value (**/**) of the **TARGET** parameter in the **main.cfg** file, click **Show plan's credentials, comments, label**, click **Plan's credentials**, click **Use the following credentials**, and then specify the user name and password of the Windows account that will log on to Oracle. This account must have the SYSDBA system privilege in Oracle.

12. Configure other parameters of the backup plan. For the detailed information, refer to the context help.

13. Click **OK** to save the backup plan.

7.2   Recovering Oracle data

Recovery from the latest backup

Recovery from the latest RMAN backup can be done in a couple of clicks by running a recovery script.

To recover Oracle data from a RMAN backup

1. [Only when recovering a tablespace] In the **main.cfg** file, change the **TABLE_SPACE** parameter value to the tablespace that you want to recover. The default value is **USERS**.

2. Run one of the recovery scripts, depending on the Oracle data that you want to recover.

   - To recover the entire database, run **restore_full.bat** (in Windows) or **restore_full.sh** (in Linux).

   - To recover the database without the control file and the server parameter file, run **restore_db.bat** (in Windows) or **restore_db.sh** (in Linux).

   - To recover only the tablespace, run **restore_tb.bat** (in Windows) or **restore_tb.sh** (in Linux).

Recovery to an earlier point in time

If you need to recover data from an earlier RMAN backup, first recover this backup from the respective Acronis Backup backup.

The folder where RMAN backups are located contains a file **scn.in** with the System Change Number (SCN). The SCN determines the point in time to which the scripts recover Oracle data. Normally, the SCN in this file reflects the point in time of the latest backup. When you recover the folder from a backup, this file should be overwritten. This will enable recovery to an earlier point in time.

To recover a RMAN backup from an Acronis Backup backup

1. Connect the console to the server where Oracle Database is running.

2. Click **Recover**.

3. Click **Select data**.

4. In **Data path**, enter the backup location. If prompted, specify the credentials to access this location.

5. Select the backup that corresponds to the recovery point you want to use.

6. In the tree under **Backup contents**, select the top-level node, and then click **OK**. It is critical to select the entire folder so that the file containing SCN is also recovered.

7. In **Destination**, keep the default value **Original**.

8. In **Overwriting**, keep the default value **Overwrite existing files**.

9. [Optional] Configure other parameters of the recovery task. For the detailed information, refer to the context help.

10. Click **OK** to start the recovery.