Adabas for Linux and Cloud

External Backup Support

Version 7.1.1

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ADABAS & NATURAL

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External Backup Support

This document contains information about external backup support.

The following topic is covered:

- *External Backup Support*

1 About this Documentation

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *`folder.subfolder.service`*, APIs, Java classes, methods, properties.
`Italic`	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

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Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

2 External Backup Support

Adabas supports backing up databases using foreign, external backup systems. Such systems have several advantages over the backup utility ADABCK:

- a database that is split across several disks can be backed up or restored in a relatively short time.
- a volume mirror with the database containers can be easily restored.

These features can considerably reduce the time required to recover a database from a disaster situation.

External Backup

For an offline database, there are no special considerations to be taken into account, and the external backup system can be used without any Adabas-specific actions being required. However, there must not be any updating utility functions active (e.g. ADAMUP).

For an online database (if it is to meet the 24 x 7 requirement), the external backup system can only be used if the Adabas database is in a synchronized state. The parameter EXT_BACKUP of the operator utility ADAOPR can be used to ensure this: the keywords PREPARE and CONTINUE can be used.

EXT_BACKUP=PREPARE brings the database into a transaction-consistent state. New transactions will be blocked, but transactions that are currently open will continue processing. Database access and control calls are not delayed. The following restrictions apply:

- EXT_BACKUP=PREPARE will only be permitted if there are no updating utility functions active (e.g. ADAMUP).
- New utility update functions will be blocked or rejected.
- The ADAOPR functions SHUTDOWN, CANCEL, LOCK, STOPUSER, UNLOCK and FEOF=PLOG are not permitted once the EXT_BACKUP = PREPARE call has finished processing.
- Non-activity timeout checks are suspended.

If the EXT_BACKUP=PREPARE call is successful, the database is in the required state, and the following message is written to the database log file:

```
%ADANUC-I-EXTBPREP, preparing for external backup, (time stamp)
```

The external backup system can now be started to perform the backup. Once the backup has been made, EXT_BACKUP=CONTINUE should be used to lift the transaction-blocking mode and continue normal database operations. The following actions are performed:

- A new PLOG (implicit FEOF=PLOG) with a new session number is opened.
- Updating utility functions are reenabled.
- Non-activity timeout checks are reenabled.
- Suspended transaction commands are resumed.

After successful completion of the EXT_BACKUP=CONTINUE call, the following message is written to the database log file:

```
%ADANUC-I-EXTBCONT, continue from external backup, (time stamp)
```

External Restore

If an Adabas database is to be restored from an external backup system, the database must be offline, so there are no Adabas-specific considerations to be taken into account

Notes:

1. ADAOPR will write a SYNX checkpoint.
2. If an external backup system is used to backup/restore at the volume level (activation of disk mirrors), the PLOG must not be located on the same volume as the database.
3. If an external backup is to be aborted, you can issue EXT_BACKUP=ABORT from ADAOPR. In this case, the PLOG isn't switched, and no checkpoint is written.

Examples

The examples subdirectory of the installation contains some procedures that simplify the use of external backups and restores. There is one program each for backup and restore - these procedures are triggered by a configuration file. See the configuration file *xxx_conf* for detailed information. These procedures currently support the following system:

- Network Appliance (Filer snapshots, files napp_*)