



Backup and Restore Utility for OpenLab Server and  
ECM XT v2.4 and v2.5

## User Guide

# Notices

## Document Identification

DocNo D0012454 Rev. A  
November 2021

## Copyright

© Agilent Technologies, Inc. 2021

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

Agilent Technologies, Inc.  
5301 Stevens Creek Blvd.  
Santa Clara, CA 95051

## Software Revision

This guide is valid for the v2.4 and v2.5 revisions of OpenLab Server and OpenLab ECM XT.

## Warranty

The material contained in this document is provided "as is," and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

## Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

## Restricted Rights Legend

U.S. Government Restricted Rights. Software and technical data rights granted to the federal government include only those rights customarily provided to end user customers. Agilent provides this customary commercial license in Software and technical data pursuant to FAR 12.211 (Technical Data) and 12.212 (Computer Software) and, for the Department of Defense, DFARS 252.227-7015 (Technical Data - Commercial Items) and DFARS 227.7202-3 (Rights in Commercial Computer Software or Computer Software Documentation).

## Safety Notices

### CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

### WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

# Content

|          |  |           |
|----------|--|-----------|
| <b>1</b> | <b>Installing the Backup Utility</b>                           | <b>5</b>  |
|          | <b>Installing the Backup Utility</b>                           | <b>6</b>  |
|          | Backup Utility installation overview                           | 6         |
|          | Install the Backup Utility using the MSI                       | 6         |
|          | Install Backup Utility from the command line                   | 7         |
|          | Installation result  | 8         |
|          | Impact on an already-installed system                          | 8         |
|          | Software Verification Tool (SVT) integration                   | 8         |
|          | <b>Configuring the System for Backup</b>                       | <b>9</b>  |
|          | Configure backup of the Alfresco Solr indexes using the script | 9         |
|          | Configure backup of Alfresco Solr indexes manually             | 10        |
|          | <b>Upgrading the Backup Utility</b>                            | <b>11</b> |
|          | <b>Uninstalling the Backup Utility</b>                         | <b>11</b> |
|          | <b>Troubleshooting the Backup Utility Installation</b>         | <b>11</b> |
| <b>2</b> | <b>Installing the Restore Utility</b>                          | <b>12</b> |
|          | <b>Running the Restore Utility Without Installation</b>        | <b>13</b> |
|          | <b>Installing the Restore Utility</b>                          | <b>14</b> |
|          | Recommended Restore Utility installation procedures            | 14        |
|          | Install the Restore Utility using the MSI                      | 14        |
|          | Install the Restore Utility from the command line              | 15        |
|          | Installation result  | 15        |
|          | Impact on an already-installed system                          | 16        |
|          | Software Verification Tool (SVT) integration                   | 16        |

## Content

|          |  |           |
|----------|--|-----------|
|          | <b>Upgrading the Restore Utility</b>                                     | <b>17</b> |
|          | <b>Uninstalling the Restore Utility</b>                                  | <b>17</b> |
|          | <b>Troubleshooting the Restore Utility installation</b>                  | <b>17</b> |
| <b>3</b> | <b>Backup and Restore Procedures</b>                                     | <b>18</b> |
|          | <b>Important Information about Backup and Restore</b>                    | <b>19</b> |
|          | <b>Creating a Disaster Recovery Plan</b>                                 | <b>21</b> |
|          | <b>Configure a Remote MS SQL Database Server</b>                         | <b>22</b> |
|          | <b>Using the Backup and Restore Utilities</b>                            | <b>24</b> |
|          | <b>Back Up OpenLab Server/ECM XT Using the Backup Utility</b>            | <b>25</b> |
|          | Procedures for using the Backup Utility                                  | 27        |
|          | Backup verification  | 30        |
|          | Configure PostgreSQL for incremental backup                              | 32        |
|          | Configure Data Repository PostgreSQL database for incremental backup     | 35        |
|          | Use non-default paths to configure PostgreSQL for incremental backup     | 36        |
|          | Disable WAL archive for PostgreSQL if no longer using incremental backup | 38        |
|          | <b>Configure a Temporary File Location</b>                               | <b>39</b> |
|          | <b>Restore OpenLab Server/ECM XT Using the Restore Utility</b>           | <b>41</b> |
|          | Restore a system with PostgreSQL or Microsoft SQL database               | 42        |
|          | Reconfiguration during restore   | 46        |



# 1 Installing the Backup Utility

|   |    |
|---|----|
| Installing the Backup Utility                   | 6  |
| Configuring the System for Backup               | 9  |
| Upgrading the Backup Utility                    | 11 |
| Uninstalling the Backup Utility                 | 11 |
| Troubleshooting the Backup Utility Installation | 11 |

This chapter describes how to install and use the Backup Utility for OpenLab Server and OpenLab ECM XT versions 2.4 and 2.5.

## Installing the Backup Utility

This section describes how to install, upgrade, and uninstall the Backup Utility.

### Backup Utility installation overview

- 1 Select one of the following to install the Backup Utility.
  - English operating systems: Install using the BackupTool.msi. See **“Install the Backup Utility using the MSI”** on page 6.
  - Non-English operating systems: Install using the command line. See **“Install Backup Utility from the command line”** on page 7.
- 2 Configure backup of the Alfresco Solr indexes. See **“Configure backup of the Alfresco Solr indexes using the script”** on page 9.

### Install the Backup Utility using the MSI

MSI files are natively executable on Windows, so you can run any MSI file on Windows to install the program without a third-party application or extension. When you install the Backup Utility, the BackupTool.msi determines the OpenLab Server/ECM XT installation location and creates a folder named OpenLab Backup Utility inside it. By default, this folder is C:\Program Files (x86)\Agilent\.

- 1 Go to [SubscribeNet](#), log in with your SubscribeNet credentials, and download the Backup and Restore Utility software package.
- 2 Unzip the software package to the computer where you will install the utilities.
- 3 Navigate to the MSI file (BackupTool.msi).
- 4 Double-click the file to run it. (This starts the installation wizard, and starts installing the program.)

## NOTE

Installation of the Backup Utility places a shortcut on the Start Menu to provide a launching point for the program. This shortcut has an English name regardless of the Windows language system. To install on a non-English operating system, install from the command line. See **“Install Backup Utility from the command line”** on page 7.

## Install Backup Utility from the command line

When installing on a non-English operating system, use the Windows command line to install the Backup Utility.

- 1 Open the command line (cmd.exe), and enter the `msiexec` command to install the Backup Utility. See the example below for command syntax suggested parameters.

Provide the correct language code for your operating system.

- **LANGUAGE\_CODE** - optional property. This property specifies the localizable name for the shortcut. (If this property is not set, then by default it will be set to the English language). Possible values:
  - **ja-JP** - Japanese (Japan)
  - **pt-BR** - Portuguese (Brazil)
  - **zh-CHS** or **zh-Hans** - Chinese (Simplified)

### Example of command to install Backup Utility

```
> msiexec /i "<path_to_msi>\BackupTool.msi" /L*V  
"<path_to_log>\install.log" LANGUAGE_CODE=pt-BR
```

The command performs the following:

- Installs Backup Utility to the folder where OpenLab Server/ECM XT is installed (AGILENT\_HOME)
- Write logs to "<path\_to\_log>\installation.log"
- Creates shortcuts in accordance with specified language code

## NOTE

For the log command, /L\*V, specify the complete path for the log file in <path\_to\_log>. This path must exist.

## Installation result

The installer performs the following actions:

- 1 Creates a folder 'OpenLab Backup Utility' in the folder where OpenLab Server/ECM XT is installed (AGILENT\_HOME).
- 2 Copies files ONLY to this OpenLab Backup Utility directory.
- 3 Creates a shortcut in Windows Menu.
- 4 Registers 3 new backup-specific services on the Windows Services. Some of these services use ports for local communications:
  - Notification Service uses 8045 port
  - Task Status Cache Service uses 8046 port

## Impact on an already-installed system

Installation of the Backup Utility does not change already-installed services and files.

- There are no changes to already-installed files.
- There are no changes to already-installed services.
- There are no changes to the database.

### NOTE

When the Backup Utility is run, a new section is added to the configuration file (configuration.xml).

## Software Verification Tool (SVT) integration

The Backup Utility adds a corresponding record to the SVT when installed and can be verified. The Backup Utility will PASS validation after installation. If the Backup Utility is missing files, then the validation will FAIL.



# Configuring the System for Backup

The installation of the Backup Utility does not configure backup of the Alfresco Solr indexes. For the Backup Utility to work properly, configuration for backup of the Alfresco Solr indexes is required. This can be done using a script or manually, as described in the following sections.

#### NOTE

Upgrading to OpenLab Server/ECM XT v2.6 and higher will rewrite the settings to default. In this case, there are no additional actions required to configure Alfresco Solr indexes backup.

## Configure backup of the Alfresco Solr indexes using the script

Configure the backup of the Alfresco Solr indexes using a PowerShell script named `CheckOrConfigureAlfrescoIndexBackupLocation.ps1` that interactively configures a backup of the SOLR Indexes. The script is located in the ECM XT installation folder. By default, this is `C:\Program Files (x86)\Agilent Technologies\OpenLab Backup Utility\Scripts`. The Backup Utility must be installed before this script can be run.

### Example of running the script

```
PS> .\CheckOrConfigureAlfrescoIndexBackupLocation.ps1
Backup index is not configured yet
Default backup index parameters are:
Backup directory: C:\DataStoreIndex\backup
Number to keep: 2
Cron expression: 0 0 2 * * ?
Configure backup index used default parameters and restart
Alfresco service now? (Y/N): Y
```

## Installing the Backup Utility

### Configure backup of Alfresco Solr indexes manually

```
Configuring of the backup index is started...
Restarting Alfresco service...
Alfresco service is stopping...
Alfresco service is starting...
Configuring of the backup index is completed
```

#### NOTE

Content Management will be inaccessible while the Alfresco service restarts.

## Configure backup of Alfresco Solr indexes manually

- 1 Open the alfresco-global.properties file from <INSTALLATION\_PATH>\OpenLAB Data Store\tomcat\shared\classes (the default location is C:\Program Files (x86)\Agilent Technologies\OpenLABData Store\tomcat\shared\classes directory of your OpenLab Server/ECM XT server).
- 2 Add or update the properties in the following table, and save the file.

| Property   | Description   |
|--|---|
| solr.backup.alfresco.remoteBackupLocation=C:/DataStoreIndex/solr6Backup/alfresco | Index backup location                                 |
| solr.backup.alfresco.numberToKeep=3  | Keep the most current backup plus the 3 prior backups |
| solr.backup.alfresco.cronExpression=0 0 2 ** ?                                   | The default is to run once per day at 2:00 a.m.       |

- 3 Set system properties to enable regular index backups. For example, if the index path is C:\DataStoreIndex, you will need to configure your backup location to be: /DataStoreIndex/solr6Backup/alfresco.
- 4 Create a folder for the SOLR indexes backup C:/DataStoreIndex/solr6Backup/alfresco.
- 5 Restart Alfresco service 'alfrescoTomcat'. This enables the changes saved in the alfresco.global.properties file.

#### NOTE

Content Management will be inaccessible while the Alfresco service restarts.

## Upgrading the Backup Utility

When upgrading OpenLab Server/ECM XT from v2.4 or v2.5, the Backup and Restore Utilities will also be upgraded. All settings are maintained. However, after the upgrade procedure, a scheduled backup requires that you resubmit settings from the Backup Utility. To do this, run the Backup Utility and then pass through all pages with no changes (Next > Next > Next > Apply.)

## Uninstalling the Backup Utility

- 1 Go to **Windows Control Panel > Programs > Programs and Features**.
- 2 Select **Agilent OpenLab Backup Utility**.
- 3 Click **Uninstall**.
- 4 Confirm that you want to uninstall the Backup Utility.

## Troubleshooting the Backup Utility Installation

If the Backup Utility MSI installation fails, collect the log files and send them to Agilent support.

- 1 Open Windows command line tool (cmd.exe).
- 2 Type and execute the following command `msiexec /i "<path_to_msi>\BackupTool.msi" /L*V "<path_to_log>\install.log" [LANGUAGE_CODE=<system_supported_locale>] LANGUAGE_CODE` is an optional parameter and can be omitted in case of English Operation System installation.
- 3 Send installation logs (<path\_to\_log>\install.log) to Agilent support.



## 2

# Installing the Restore Utility

Running the Restore Utility Without Installation 13

Installing the Restore Utility 14

Upgrading the Restore Utility 17

Uninstalling the Restore Utility 17

Troubleshooting the Restore Utility installation 17

This chapter describes how to install the Restore Utility for OpenLab Server and OpenLab ECM XT versions 2.4 and 2.5.

## Running the Restore Utility Without Installation

If you are restoring to a clean system, you can run the Restore Utility from the installation media without prior installation. In this case, **Restore Only** is the only option available when you run the Restore Utility. See **“Restore on a clean machine without OpenLab Server/ECM XT installed”** on page 44.

### NOTE

After successful restoration, if you need to have the ability to back up the system, you should perform additional configuration steps. See **“Configuring the System for Backup”** on page 9.

## Installing the Restore Utility

### Recommended Restore Utility installation procedures

- English operation systems: Install using the RestoreTool.msi. See **“Install the Restore Utility using the MSI”** on page 14.
- Non-English operation systems: Install using the command line. See **“Install the Restore Utility from the command line”** on page 15.

### Install the Restore Utility using the MSI

MSI files are natively executable on Windows, so you can run any MSI file on Windows to install the program without a third-party application or extension. If you use this approach to install the Restore Utility, then the RestoreTool.msi determines the OpenLab Server/ECM XT installation location and creates an OpenLab Restore Utility folder inside it.

- 1 Go to [SubscribeNet](#), log in with your SubscribeNet credentials, and download the Backup and Restore Utility software package.
- 2 Unzip the software package to the computer where you will install the utilities.
- 3 Navigate to the MSI file (RestoreTool.msi).
- 4 Double-click the file to run it. (This starts the installation wizard, and starts installing the program.)

#### NOTE

Installation of the Restore Utility places a shortcut on the Start Menu to provide a launching point for the program. This shortcut has an English name regardless of the Windows language system. To install on a non-English operating system, install from the command line. See **“Install the Restore Utility from the command line”** on page 15.

## Install the Restore Utility from the command line

When installing on a non-English operating system, use the Windows command line to install the Restore Utility.

- 1 Open command line (cmd.exe) and type the `msiexec` command to install the Restore Utility. See the example below for command syntax and suggested parameters.

Provide the correct language code for your operating system.

- **LANGUAGE\_CODE** - optional property. This property specifies the localizable name for the shortcut. (If this property is not set, then by default it will be set to the English language). Possible values:
  - **ja-JP** - Japanese (Japan)
  - **pt-BR** - Portuguese (Brazil)
  - **zh-CHS** or **zh-Hans** - Chinese (Simplified)

### Example of command to install Restore Utility

```
> msiexec /i "<path_to_msi>\RestoreTool.msi" /L*V  
"<path_to_log>\install.log" LANGUAGE_CODE=pt-BR
```

The command performs the following:

- Installs the Restore Utility to the folder where OpenLab Server/ECM XT is installed (AGILENT\_HOME)
- Writes logs to "<path\_to\_log>\installation.log"
- Creates shortcuts in accordance with specified language code

#### NOTE

For the log command, /L\*V, specify the complete path for the log file in <path\_to\_log>. This path must exist.

## Installation result

The installer performs the following:

- 1 Creates an OpenLab Restore Utility folder in the OpenLab Server/ECM XT installation folder.
- 2 Copies files only to this directory.

## Installing the Restore Utility

### Impact on an already-installed system

- 3 Creates a shortcut in the Windows Start Menu.

## Impact on an already-installed system

There is no impact on an already-installed system.

- There are no changes to already-installed files.
- There are no changes to already installed services.
- There are no changes to the database.
- There are no changes to the registered Windows service (no new services are installed).
- There are no changes to TCP and UDP ports used.

## Software Verification Tool (SVT) integration

The Restore Utility adds a corresponding record to the SVT when installed and can be verified. The Restore Utility will PASS validation after installation. If the Restore Utility is missing files, then the validation will FAIL.



## Upgrading the Restore Utility

During an upgrade to a newer version of OpenLab Server/ECM XT, the Backup and Restore Utilities will be upgraded.

## Uninstalling the Restore Utility

- 1 Go to **Windows Control Panel > Programs > Programs and Features**.
- 2 Select **Agilent OpenLab Restore Utility**.
- 3 Click **Uninstall**.
- 4 Confirm that you want to uninstall the Restore Utility.

## Troubleshooting the Restore Utility installation

If the Restore Utility MSI installation fails, collect the log files and send them to Agilent support.

- 1 Open Windows command prompt tool (cmd.exe).
- 2 Type and execute the following command `msiexec /i "<path_to_msi>\RestoreTool.msi" /L*V "<path_to_log>\install.log" [LANGUAGE_CODE=<system_supported_locale>] LANGUAGE_CODE` is an optional parameter and can be omitted in case of English Operation System installation.
- 3 Send installation logs (`<path_to_log>\install.log`) to Agilent support.



## 3

# Backup and Restore Procedures

|   |    |
|---|----|
| Important Information about Backup and Restore          | 19 |
| Creating a Disaster Recovery Plan                       | 21 |
| Configure a Remote MS SQL Database Server               | 22 |
| Using the Backup and Restore Utilities                  | 24 |
| Back Up OpenLab Server/ECM XT Using the Backup Utility  | 25 |
| Configure a Temporary File Location                     | 39 |
| Restore OpenLab Server/ECM XT Using the Restore Utility | 41 |

## Important Information about Backup and Restore

It is mandatory that every OpenLab Server/ECM XT server is backed up regularly. Periodic full backups and differential backups between the full backups are created by OpenLab Server/ECM XT server administrators. These backups are the only way to restore an OpenLab Server/ECM XT server if a hardware or software failure occurs.

The backup only reduces the amount of data loss if a catastrophic system failure occurs. Performing backups guarantees that any data that was committed at the time of the backup can be restored. Data that was queued for upload and not yet committed or was added or updated in the system after the backup was performed will not be recoverable by restoring a backup.

It is also mandatory that the restore procedures are tested to ensure that the backups are performed properly, and can be used for a restore. To do an effective restore, a disaster recovery plan must be created. See **“Creating a Disaster Recovery Plan”** on page 21.

### CAUTION

**In cases where a restored system will run at the same time as the source system (where the backup was taken,) it is imperative that the restored system is on a network isolated from the source system. For example, if a test system is created from a backup of the production system, it must be on a network that is isolated from the production system. If the test system and the production system are on the same network, it may cause the two servers to create a cluster and interact with each other. This can lead to data corruption and loss.**

In addition, it is important to turn clustering off on the restored system using the following steps:

- 1 On the restored server, open

`C:\Program Files (x86)\Agilent Technologies\OpenLAB Data Store\tomcat\shared\classes\alfresco-global.properties.`

Find the `alfresco.cluster.enabled` property and set it to false, as follows:

`alfresco.cluster.enabled=false`

- 2 Restart the AlfrescoTomcat service.

OpenLab Server/ECM XT stores files and indexes on your server's file system. The location of this folder is determined when the product is installed. Other data, such as folder information, audit trails, and signatures are stored in a relational database.

A full backup captures a complete set of data from OpenLab Server/ECM XT, including uploaded files and its databases. An incremental backup contains changes that have occurred since the last full backup. The incremental backup process is faster than the full backup because only the changed elements are backed up.

If you are upgrading your server, perform the following procedures on your machine before upgrading. Clear all work areas and file upload queues before the upgrade procedure. Do not have data in any queues when performing the upgrade to a different operating system. Make sure all file uploads are complete. Clear the file buffer upload queue before the upgrade.

The Backup Utility can be used for performing immediate backup or backup by a schedule for Open OpenLab Server/ECM XT Server (All-in-one or 2-server).

## Creating a Disaster Recovery Plan

Prepare a recovery plan for the unlikely case that OpenLab Server/ECM XT becomes inoperable due to a hardware or software failure. This plan must include information and procedures for completely restoring the operating system, the OpenLab Server/ECM XT software and data - if necessary, to a physically different server. Ensure that the disaster recovery plan has been tested and confirmed to be working.

OpenLab Server/ECM XT backup and restore are supported only for the exact same type of database configuration. If you attempt to backup and restore between different types of archived databases (including the same databases with different configurations), the Control Panel will display an error. The "Disaster Recovery Plan" must include the following:

- Server hardware information: CPU, Memory, and Hard disk configuration information
- Server identity: Name, IP, domain, URL, and so forth
  - Server administrator information: username and passwords for logging into the server. If applicable, usernames and passwords for the database.
- Server software information: OS version, Patch level
- OpenLab Server/ECM XT Installation Parameters:
  - Installation folder
  - Installation log file
  - OpenLab Server/ECM XT database type
  - OpenLab Server/ECM XT content and archive folders
  - OpenLab Server/ECM XT indexes folder
  - OpenLab Server/ECM XT Content Management database name
  - Shared Services language
  - Shared Services database name
  - Installed licenses
  - Registered applications
- 3rd party software information: applications and their revisions and install paths
- Procedures for your topology. See the backup and restore procedures in the OpenLab Server/ECM XT Administration Guide provided with your software.
- Backup media location and organization details

## Configure a Remote MS SQL Database Server

If you have already installed an MS SQL server, follow the instructions in this section. Otherwise, install MS SQL Server and set up mixed mode when configuring the installation.

### Step 1. Configure SQL Server Network

- 1 Click **Start > Microsoft SQL Server > SQL Server Configuration Manager**.
  - a Expand **SQL Server Network Configuration**.
  - b On the left panel, select **Protocols** for <instancename>.
  - c On the right panel, right-click **Named Pipes** and select **Enable** (if it is disabled).

Named pipes are a windows system for inter-process communication. In the case of SQL server, if the server is on the same machine as the client, then it is possible to use named pipes to transfer the data, as opposed to TCP/IP.

- 2 Select **SQL Server Services** and run Stopped services.

The SQL ServerBrowser program runs as a Windows service and listens for incoming requests for Microsoft SQL Server resources and provides information about SQL Server instances installed on the computer.

The SQL Server Agent is a Microsoft Windows service that executes scheduled administrative tasks, which are called jobs in SQL Server.

- 3 For any service that was stopped,
  - a Right-click the service and select **Properties**.
  - b On the **Service** tab, in the **Start Mode** drop-down menu, select **Automatic**.

### Step 2. Restart SQL Services

Restart all SQL services or restart the PC. If you choose to restart all SQL services, there are two ways to open Services:

- Click **Start** and enter **Services** in the search field, then open Services and restart all SQL services.
- Click **Start**, then open **Control Panel > Administrative Tools > Services**, and restart all SQL services.

#### Step 3. Configure antivirus settings

If you have an antivirus installed, you must configure it for the MS SQL server to work with remote TCP connections via the port for 1433 (default) and 1434 (custom instance).

Also, add sqlserver.exe to the exceptions. This allows the application to work both in the domain network and public and private.

This is necessary for the SQL server because the antivirus can block "unwanted" network traffic.

For example, add path %ProgramFiles%\Microsoft SQL Server\MSSQL15.CUSTOMINSTANCE\MSSQL\Binn\sqlservr.exe.

If you don't have an antivirus, you must configure Windows Defender Firewall:

- 1 Navigate to **Control Panel > System and Security > Windows Defender Firewall > Advanced Settings > Inbound Rules**.
- 2 Right-click **File and Printer Sharing (SMB-In)** from the list and select **Enable Rule**.
- 3 On the left panel, right-click **Inbound Rules**, and select **New Rule**.
- 4 Select **Program**, and then click **Next**.
- 5 Select **This program path**, enter the path to sqlserver.exe, and click **Next**.
- 6 Select **Allow the connection** and click **Next**.
- 7 Select all check boxes and click **Next**.
- 8 Add name and click **Finish** to create the rule.

You must also add a rule for ports 1433 and 1434 if they have another instance.

- 1 Select **Port** and click **Next**.
- 2 Add the port and click **Next**.
- 3 Select **Allow the connection** and click **Next**.
- 4 Select all check boxes and click **Next**.

# Using the Backup and Restore Utilities

The Backup and Restore Utilities are tools that make it easy to back up and restore your OpenLab Server/ECM XT system. Agilent recommends using the Backup and Restore utilities whenever possible.

For All-in-one and 2-server topologies, use the automated tools for backup and restore described in the following sections. To back up and restore a 4-server or scalable topology, use the manual backup and restore procedures described in the OpenLab Server/ECM CT Administration Guide provided with your software. The following table describes the OpenLab Server/ECM XT topologies supported by the Backup and Restore Utilities.

### CAUTION

**Anti-virus scanning during backup can prevent successful completion of the backup. Make sure that the backup location is excluded for both regular/scheduled scans and real-time protection. If the backup location cannot be excluded from real-time protection and real-time protection cannot be turned off, it is possible the final backup tasks might not finish successfully.**

**If you have an anti-virus running during backup, you can verify that the backup finished successfully with these steps:**

**After the backup completes, check that the backup location contains only "Current" (or "Current" and "Incremental") sub-folder(s)**

**Check that the log file corresponding to the backup time contains an entry stating "The backup has completed" at the end. Backup logs are placed in the "C:\ProgramData\Agilent\LogFiles\Backup" folder.**

**Table 1. Supported topologies for Backup and Restore Utilities**

| Topology        | Backup Utility | Restore Utility | Notes  |
|-----------------|----------------|-----------------|--|
| All-in-One      | +              | +               |  |
| 2-Server        | +              | +               | Remote PostgreSQL is not supported with OpenLab Server/ECM XT v2.4 and v2.5. |
| 4-Server        | Manual only    | Manual only     | Oracle database backup and restore uses manual procedures                    |
| Scalable system | Manual only    | Manual only     | Oracle database backup and restore uses manual procedures                    |



## Back Up OpenLab Server/ECM XT Using the Backup Utility

Use the Backup Utility to perform immediate or scheduled backups for supported topologies. The Backup Utility supports full and incremental backups. For a list of topologies supported by the Backup Utility, see **“Using the Backup and Restore Utilities”** on page 24.

The backup captures a complete set of data, including:

- Configuration file
- Databases for Shared Services, Content Management, and Data Repository. OpenLab Server/ECM XT 2.4 does not contain the Data Repository component. The Backup Utility will skip the back up of this component.
- Solr Indexes. For OpenLab Server/ECM XT 2.4 and 2.5, it is required to run a special script that configures a backup of the Solr Indexes. See **“Configure backup of the Alfresco Solr indexes using the script”** on page 9. Or, configure the backup of Solr indexes manually. See **“Configure backup of Alfresco Solr indexes manually”** on page 10.
- Local Content and Archive storage locations
- Alfresco cache
- Certificate server. There are no Certificate Services on the OpenLab Server/ECM XT 2.4 system. The Backup Utility will skip the back up of this component.

### NOTE

The Backup Utility does not back up data from an AWS S3 Storage location.

### NOTE

Use of the Backup Utility for Oracle databases is not supported. In case of Oracle database, the database backup will be skipped and must be backed up manually. See the Oracle documentation for instructions on how to back up an Oracle database. Oracle database backups should be performed before backup of other parts of the system.

### NOTE

The user should have “Logon as a batch”, “Logon as a service” permissions and be an administrator on the OpenLab Server/ECM XT server and Database server if the system is configured with a specified (non-system) user account.

**CAUTION**

If you use the Agilent OpenLab Backup Utility to schedule backups, do not use SQL Server Management Studio, SQL Scripts, or tools to back the OpenLab Content Management databases. This will prevent the tool from performing incremental backups.

**Space required**

The free space required for the backup procedure depends on different factors, including the server configuration, backup location, and database backup size. In the most resource-intensive case, make sure free space in the backup location is at least twice as large as the sum of all on-prem file storage and database size. This is needed to avoid rewriting a previous successful backup with a backup that finished in the middle for any reason.

**Configure databases for Incremental Backup**

If you plan to use incremental backups, you must configure the Data Repository PostgreSQL database first. See [“Configure Data Repository PostgreSQL database for incremental backup”](#) on page 35. This configuration does not apply to OpenLab Server/ECM XT 2.4, as it does not contain the Data Repository component.

If you plan to use incremental backups for a PostgreSQL database, you must configure your database first. See [“Configure PostgreSQL for incremental backup”](#) on page 32.

**Troubleshooting**

The Backup Utility collects logs in the %ProgramData%\Agilent\LogFiles\Backup folder. During the backup procedure, all steps are checked, and the procedure will stop on the first failed step. A link with the failed step opens the current backup log file to help identify the issue. In case of a failed backup, the partial backup is stored in a Temp folder in the backup location.

## Procedures for using the Backup Utility

Back up using Backup Utility

| Steps  | Options  | Notes   |
|--|--|---|
| <p>1 Start Backup Utility from Start &gt; Agilent Technologies &gt; Backup Utility.<br/>If a request for User Account Control access appears, click Yes. Click Next.</p> | <p>The Status page displays the date and time of the latest successful backup.</p> <p>Click the link to go to the backup location.</p> | <ul style="list-style-type: none"> <li>• System administrator privileges are required to run and execute the Backup Utility</li> <li>• If a backup is scheduled, the page displays the current backup status and the next backup start date and time.</li> <li>• If a backup is currently running, the status shows Running. If a scheduled backup has failed, the status shows Failed.</li> <li>• The Last successful backup shows the date/time when the latest successful backup ("by schedule" or "backup now" types) was taken and its location. The link points to the backup location (on-prem or AWS S3). It will contain information right after the first successful backup.</li> </ul> |
| <p>2 On the Backup option page, select the backup option.</p>  | <ul style="list-style-type: none"> <li>• Set backup schedule</li> </ul>  | <ul style="list-style-type: none"> <li>• Use this option as part of an automatic backup procedure.</li> <li>• Provide the backup type and schedule settings. The schedule time uses a 24-hour format.</li> <li>• Scheduling automatic backups is recommended. To disable automatic backups during maintenance periods, clear the <b>Enable backup schedule</b> check box. Be sure to enable the scheduled backups when maintenance is completed.</li> </ul>   |

Back up using Backup Utility (continued)

| Steps   | Options  | Notes   |
|---|--|---|
|   | <ul style="list-style-type: none"> <li>• Backup now               <ul style="list-style-type: none"> <li>◦ Hot backup</li> <li>◦ Cold backup</li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>• Back up using hot or cold backup starts immediately.</li> <li>• There is no impact on a scheduled backup.</li> <li>• This option can be helpful for checking the correctness of the backup settings, how much disc space and how much time a single backup requires. In addition, this option can be a part of the testing of the whole recovery procedure.</li> </ul>   |
| <p>3 On the Configure page, configure your backup settings.</p> | <ul style="list-style-type: none"> <li>• For backup schedule, enable and set up schedule for backups</li> <li>• Select if you want your system to be available during backup               <ul style="list-style-type: none"> <li>◦ Yes for hot backup</li> <li>◦ No for cold backup</li> </ul> </li> <li>• Select to enable incremental backups. Enter the time and days for incremental backups</li> </ul> | <ul style="list-style-type: none"> <li>• It is highly recommended to enable the backup by schedule. Clearing the <b>Enable backup schedule</b> check box turns the scheduled backup off.</li> <li>• When full and incremental backups are scheduled on the same day, the full backup will be performed.</li> <li>• Incremental backups require at least one full backup performed first.</li> <li>• If a scheduled full backup fails, the subsequent incremental backups will fail until the next successful scheduled full backup. To prevent failure of the incremental backups, perform an immediate backup to the location designated for the scheduled backups.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>• For Backup now, select if you want your system to be available during backup               <ul style="list-style-type: none"> <li>◦ Yes for hot backup</li> <li>◦ No for cold backup</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>• Hot backup: System remains operational during backup</li> <li>• Cold backup: Requires stop of all OpenLab Server/ECM XT operations. The Backup Utility does this automatically.</li> </ul>   |
| <p>4 Provide backup location</p>                                |  | <p>The backup can be configured to a folder without permissions for the current Windows user. The backup executes from the System user, which allows saving of a successful backup. In this case of scheduled backup, the backup will be executed, but the current Windows user will not be able to view the results without the appropriate privileges.</p>  |

Back up using Backup Utility (continued)

| Steps   | Options  | Notes  |
|---|--|--|
|   | <ul style="list-style-type: none"> <li>File system</li> </ul>  | <ul style="list-style-type: none"> <li>Backup location is for on-prem backup, local or on a Windows share. Network drive is not supported.</li> <li>If you are using a network share, server should be configured with a specified user account. To configure Server with this setting, run the Server Configuration Utility &gt; Access Credentials. The user should have Logon as a batch permissions and be an administrator.</li> <li>Server configuration with SYSTEM account supports local folders only.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>AWS S3 (Amazon AWS S3 location)               <ul style="list-style-type: none"> <li>Provide S3 bucket region, name, and access keys</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Enable Versioning of objects in the AWS S3 Bucket setting.</li> <li>Make sure that AWS S3 settings are valid. A message will appear in AWS S3 if service is unreachable or settings are invalid.</li> </ul>   |
| 5 Set up notifications. If you selected to Backup now, this is skipped. | <ul style="list-style-type: none"> <li>Enable backup notifications</li> <li>From address</li> <li>To address</li> </ul>  | <ul style="list-style-type: none"> <li>Use a "From" address that is configured in the Control Panel. For information on how to set up email addresses, see the Control Panel online help.</li> <li>Use a comma to separate multiple "To" addresses.</li> <li>Each address can be represented in long-form (name and email) or in short-form (only email).</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>Subject starts with text</li> </ul>   | This specifies a prefix in the notification e-mail subject.  |
|   | <ul style="list-style-type: none"> <li>Send a test message</li> </ul>  | Use Sent test message to ensure that the Notification settings are correct.  |
| 6 Review and start backup. To start backup, click <b>Apply</b> .        |  | Progress is tracked on the Processing page.  |
| 7 When backup is complete, click <b>Done</b> .                          |  |  |

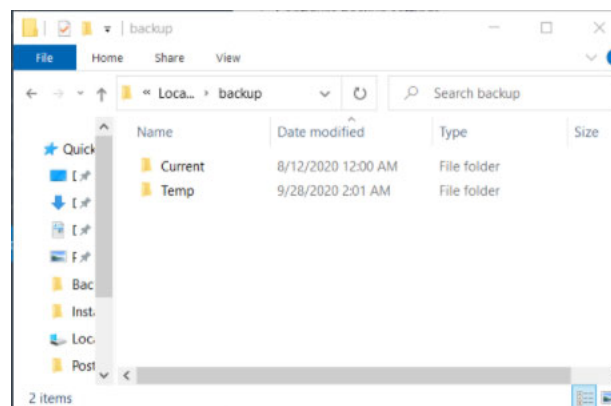
#### NOTE

If you are using Sample Scheduler, the Sample Scheduler services must be restarted after a cold backup.

Backup folders are created in the location specified when you run the Backup utility.

| Name                                     | Date modified    | Type          | Size  |
|--|------------------|---------------|-------|
| CertificateService                       | 3/1/2021 3:22 PM | File folder   |       |
| DR                                       | 3/1/2021 3:22 PM | File folder   |       |
| DSArchiveDir                             | 3/1/2021 3:22 PM | File folder   |       |
| DSContentDir                             | 3/1/2021 3:22 PM | File folder   |       |
| DSIndexDir                               | 3/1/2021 3:21 PM | File folder   |       |
| Installation                             | 3/1/2021 3:22 PM | File folder   |       |
| PostgreSQLDataDir                        | 3/1/2021 3:22 PM | File folder   |       |
| Verification                             | 3/1/2021 3:22 PM | File folder   |       |
| backup.xml                               | 3/1/2021 3:22 PM | XML Document  | 1 KB  |
| Backup_log_03-01-2021(15_21_59.037231... | 3/1/2021 3:22 PM | Text Document | 39 KB |

In the event of a failed backup, the partial backup is saved in a Temp folder in your backup location.



## Backup verification

The backup verification step verifies the backed-up data after the completion of the backup procedure.

This step generates two reports. Both reports are located in the Verification sub folder.

- VerificationReport.xml - This file contains the technical information about the backup, including information about backed-up entities such as files, their hashes, databases' entities, and so on. In case of restoration, this report will be used for comparison of the files and databases' entities.
- VerificationReport.html - This report contains information about backup, number of verified files, information about failed file verification, database entity verification results in a human-readable view.

The verification step checks that main entities (uploaded files, database entities) are backed up properly. The number of files for verification is specified in the configuration file after backup configuration (10% by default). Backing up an Oracle database is not supported by the Backup Utility, so the validation of database entities will be skipped.

Files stored in On-Prem locations will be verified and included in the report after the backup procedure. Files from AWS S3 storage locations will not be verified because they are backed up using the AWS procedure and are not part of verification. In case of a mix of on-prem and AWS S3 file storage, file verification is also not performed, and only the total number of files in Content Management are listed and compared.

In case of restoration, all entities which have been included in the backup report will be verified.

Any entity (or its version) modified after the backup start time will not be included in the reports and will not be verified during the restoration procedure.

### **Files Verification**

For File Verification, the following logic is used:

- The Backup Utility first counts all backed up files and randomly takes 10% of the amount of the files. The taken percent of the files for the verification is always rounded up, for example, for 3 files 10% is 0.3, and this value rounded to 1. It is useful for a small amount of the files in the Content Management, the tool guarantees that at least 1 file will be verified.
- Then the utility takes a random version of each file. For example, if a file in Content Management has three revisions (1.0, 2.0, and 3.0), the utility will randomly take one of them.
- The verification also excludes deleted files.
- The verify procedure compares checksum and size of backed up files with file information from Content Management. If the checksums are equal, the verification is passed. Otherwise, the verification is failed.

The percentage of files verified can be modified by changing the **PercentFilesVerification** property in the Backup section of the **configuration.xml** file. This file is located in the %ProgramData%\Agilent\Installation folder. Only a user with System Administrator privileges can update this file. Acceptable values are in the range from 1 to 100 included. Negative, fractional, and values more than 100 are not acceptable.

A new value will be applied during a backup, for 'Backup now' at the Processing Page before the first step, for 'Backup by schedule' when a backup is started.

### Database Verification

Verification includes checking of number of database entities for:

- Methods
- Samples with unique names
- Shared Services Activity Log
- Content Management Activity Log

## Configure PostgreSQL for incremental backup

Cumulative incremental backup is a process that saves data files and objects that have been modified since the last full backup. It is a data backup technique that only updates modified data rather than the complete data. Perform these steps on the PostgreSQL Database server-side for System PostgreSQL (olcm-postgresql-x64-11) and locally for Data Repository PostgreSQL.

PostgreSQL does not have a tool that performs incremental backup but has an incremental backup strategy. This strategy means that you can combine a file-system-level backup with a backup of the WAL files.

To recover successfully using continuous archiving (also called "online backup" by many database vendors), you need a continuous sequence of archived WAL files that extends back at least as far as the start time of your backup. So to start, set up and test your procedure for archiving WAL files before you make your first base backup.

To enable WAL archiving,

- Set the wal\_level configuration parameter to replica or higher (by default it has a replica value)



- Set `archive_mode` to `on`, and specify the shell command to use in the `archive_command` configuration parameter
- Set `0` for `archive_timeout` configuration parameter

In practice, these settings are always placed in the `postgresql.conf` file. In `archive_command`, `%p` is replaced by the path name of the file to archive, while `%f` is replaced by only the file name. (The path name is relative to the current working directory. For example, the server's data directory.) Use `%%` if you need to embed an actual `%` character in the command.

The next command is a tested example. Users can specify their own command for archiving, but it should meet the following requirements:

- The path to archive location is strictly defined.
- Archived WAL files for Data Repository database server should be located at `"C:\\ProgramData\\Agilent\\Backup\\PgWalArchives\\DR"` by default.
- Archived WAL files for System database server should be located at `"C:\\ProgramData\\Agilent\\Backup\\PgWalArchives\\System"` by default.
- WAL files should be archived in plain format as is. Archives or other formats are not allowed.

#### NOTE

The System database server is a server that contains Shared Services and Content Management databases.

#### NOTE

If the archived WAL files location is non-default, you must set them up in the `BackupUtility.conf` file. See ["Use non-default paths to configure PostgreSQL for incremental backup"](#) on page 36.

Example of `postgresql.conf`

```
-----
-----
# WRITE-AHEAD LOG
#-----
-----
# - Settings -
wal_level = replica
.
.
.
# - Archiving -
archive_mode = on
archive_timeout = 0
archive_command = 'IF exist "C:\\ProgramData\\Agilent\\Backup\\
```

```
PgWalArchives\System" (copy "%p" "C:\ProgramData\Agilent\Backup\PgWalArchives\System\%f" ) ELSE (mkdir
"C:\ProgramData\Agilent\Backup\PgWalArchives\System" && copy
"%p"
"C:\ProgramData\Agilent\Backup\PgWalArchives\System\%f") '
```

After update of these configuration parameters in postgresql.conf, you need to restart the olcm-postgresql-x64-11 service. Otherwise, these options will not be applied.

If OpenLab Server/ECM XT was installed with the default settings for Database Server, then this configuration file is located at "C:\ProgramData\Agilent\PostgreSqlData-11-OLCM\postgresql.conf". If PostgreSQL was installed in a non-default location, use the path to PostgreSQL Data Directory that was specified during installation.

#### Default path to OLCM configuration file

For OpenLab Server/ECM XT 2.5:

C:\ProgramData\Agilent\PostgreSqlData-11-OLCM\postgresql.conf

For OpenLab Server/ECM XT 2.4:

C:\ProgramData\Agilent\PostgreSqlData-10-OLCM\postgresql.conf.

#### Service name

For OpenLab Server/ECM XT 2.5:

olcm-postgresql-x64-11

For OpenLab Server/ECM XT 2.4:

olcm-postgresql-x64-10

## Configure Data Repository PostgreSQL database for incremental backup

### NOTE

This section does not apply to OpenLab Server/ECM XT 2.4.

The Data Repository uses its own PostgreSQL database. This database must be configured for incremental backup. Configure the Data Repository PostgreSQL database for incremental backup regardless of the Server/ECM XT database you are using (PostgreSQL, Microsoft SQL, or Oracle.) Use the procedure listed in **“Configure PostgreSQL for incremental backup”** on page 32, with the following differences.

Use the archive\_command provided below instead of the value used to configure the System PostgreSQL database server:

```
archive_command = 'IF exist
"C:\\ProgramData\\Agilent\\Backup\\PgWalArchives\\DR" (copy "%p"
"C:\\ProgramData\\Agilent\\Backup\\PgWalArchives\\DR\\%f" ) ELSE
(mkdir "C:\\ProgramData\\Agilent\\Backup\\PgWalArchives\\DR" &&
copy "%p"
"C:\\ProgramData\\Agilent\\Backup\\PgWalArchives\\DR\\%f") '
```

### Default path to the Data Repository configuration file

C:\ProgramData\Agilent Technologies\OpenLab Platform\Data  
Repository\postgresql\11\data\postgresql.conf

After updating the Data Repository configuration parameters in postgresql.conf, restart the PostgreSQL 11.9.1 (x64) service.

### Service name

PostgreSQL 11.9.1 (x64)

## Use non-default paths to configure PostgreSQL for incremental backup

Use the following procedure if you need to store WAL files in non-default locations as specified in **“Configure PostgreSQL for incremental backup”** on page 32 and **“Configure Data Repository PostgreSQL database for incremental backup”** on page 35.

- 1 Follow the instructions in **“Configure PostgreSQL for incremental backup”** on page 32, and set up the required location as:  
C:\ProgramData\Agilent\Backup\PgWalArchives\System
- 2 Follow the instructions in **“Configure Data Repository PostgreSQL database for incremental backup”** on page 35, and set up the required location as:  
C:\ProgramData\Agilent\Backup\PgWalArchives\DR

Make sure that the required PostgreSQL services are restarted according to the instructions.

- 3 Add specified paths to the BackupUtility.config file so the appropriate WAL-files locations will be used by the Backup Utility.
  - a Open for edit the BackupUtility.config file placed in the same subfolder as the Backup Utility. By default, BackupUtility.config is placed in:  
C:\Program Files (x86)\Agilent Technologies\OpenLab Backup Utility
  - b Update the utility configuration parameters as follows:
    - SystemPgWalFolder – Replace the value using the location specified in step 1. The value should be a full local path. Network drives are not supported. Supported topologies include All-in-one topologies and 2-server topologies with PostgreSQL database.
    - DrPgWalFolder – Replace the value using the location specified in step 2 above. The value should be a full local path. Network drives are not supported. Supported topologies include All-in-one and 2-server topologies starting from v2.5.
  - c Save the BackupUtility.config file.
  - d Run the Backup Utility.

### CAUTION

**After setting up a new WAL files location, incremental backups can be performed successfully only after a successful full backup.**

**NOTE**

To revert parameters for a temporary file location to the default values, you must remove the utility configuration and run the Utility. The configuration utility will be created with default parameters.

**NOTE**

The Backup Utility configuration parameters are used not only for setting up non-default paths for configuring PostgreSQL for incremental backup but also for configuring temporary file locations. See **“Configure a Temporary File Location”** on page 39.

The Backup Utility is able to validate unsupported values in the utility configuration and handle broken utility configurations.

| Issue description  | Fix   |
|--|---|
| <p>The Backup Utility fails on the <b>Configure backup by schedule/Configure backup settings</b> step, and log file contains a message:<br/>           ‘DrPgWalFolder’ parameter value in the utility config should be a local path. Network drive is not supported.<br/>           The path ‘C:\Fol?er’ is not valid.</p> | <p>Retry steps from the instructions and make sure that the specified values are local paths.</p>   |
| <p>The Backup Utility fails on the <b>Configure backup by schedule/Configure backup settings</b> step, and log file contains a message:<br/>           ‘Cannot read the utility config’</p>  | <p>Make sure that the utility configuration has a valid XML format, and re-run the Backup Utility.</p> <p>or</p> <p>Remove the utility configuration, and re-run the Backup Utility to create the utility configuration with default parameters. Update the BackupUtility.config file according to the current instructions if the default values are not acceptable.</p> |
| <p>The Backup Utility fails on the <b>Configure backup by schedule/Configure backup settings</b> step, and log file contains a message:<br/>           ‘SystemPgWalFolder’ and ‘DrPgWalFolder’ should be unique in a single machine.</p>   | <p>Make sure that ‘SystemPgWalFolder’ and ‘DrPgWalFolder’ contain different path values in the case of an All-in-one topology.</p>  |

## Disable WAL archive for PostgreSQL if no longer using incremental backup

If you no longer plan to use incremental backups, disable the PostgreSQL WAL files archive procedure in the postgresql.conf file, as follows.

Set `archive_mode=off` and comment `archive_timeout` and `archive_command` lines with the `#` symbol.

Example of postgresql.conf

```
# -Archiving-  
archive_mode=off  
#archive_timeout=0  
#archive_command='...'
```

This is required to prevent extra disk space usage in case of enabled WAL file archive when incremental backups are not configured.

## Configure a Temporary File Location

Utilities store temporary files during backup and restore procedures. Default temporary folders are:

- For Backup Utility: C:\ProgramData\Agilent\Backup\Temp
- For Restore Utility: C:\ProgramData\Agilent\Restore\Temp

If there is not enough free space in your C drive to store the temporary files, use the following procedure to reconfigure the temporary file location.

- 1 Open for edit the BackupUtility.config file placed in the same subfolder as the Utility. By default, BackupUtility.config is placed in: C:\Program Files (x86)\Agilent Technologies\OpenLab Backup Utility, and RestoreUtility.config is placed in C:\Program Files (x86)\Agilent Technologies\OpenLab Restore Utility. The RestoreUtility.config file can also be found on the installation media with RestoreUtility.exe.
- 2 Update the utility configuration parameters as follows:
  - TempFolderOnCmNode – Update if not enough disk space is detected on a machine where the Utility has been run. The value should be a full local path. Network drives are not supported. Supported topologies include All-in-one topologies and 2-server topologies with PostgreSQL or Oracle databases.
  - TempFolderOnRemoteDbNode – Update if using a remote MS SQL Server and not enough disk space is detected on a machine where the MS SQL server is installed. The value should be a full local path. Network drives are not supported.
- 3 Save the utility configuration file.
- 4 Run the Utility.

**NOTE**

To revert parameters for a temporary file location to the default values, you must remove the utility configuration and run the Utility. The utility configuration will be created with default parameters.

**NOTE**

The Backup Utility configuration parameters are used not only for setting up non-default paths. See **“Use non-default paths to configure PostgreSQL for incremental backup”** on page 36.

## Backup and Restore Procedures

### Configure a Temporary File Location

The Backup Utility is able to validate unsupported values in the utility configuration and handle broken utility configurations.

| Issue description   | Fix  |
|---|--|
| <p>The Backup Utility fails on the <b>Configure backup by schedule/Configure backup settings</b> step, and the log file contains a message:<br/>           'TempFolderOnCMNode' parameter value in the utility config should be a local path. Network drive is not supported.<br/>           The path 'C:\Fol?er' is not valid.</p> | <p>Retry steps from the instructions and make sure that the specified values are local paths.</p>  |
| <p>The Backup Utility fails on the <b>Configure backup by schedule/Configure backup settings</b> step, and the log file contains a message:<br/>           'Cannot read the utility config'</p>   | <p>Make sure that the utility configuration has a valid XML format, and re-run the Backup Utility.</p> <p>or</p> <p>Remove the utility configuration, and re-run the Backup Utility to create the utility configuration with default parameters. Update the BackUtility.config file according to the current instructions if the default values are not acceptable.</p>      |
| <p>The Restore Utility fails on the <b>Stop Services</b> step, and the log file contains a message:<br/>           'TempFolderOnCMNode' parameter value in the utility config should be a local path. Network drive is not supported.<br/>           The path 'C:\Fol?er' is not valid.</p>   | <p>Retry steps from the instructions and make sure that the specified values are local paths.</p>  |
| <p>The Restore Utility fails on the <b>Stop Services</b> step, and the log file contains a message such as:<br/>           'Cannot read the utility config'</p>   | <p>Make sure that the utility configuration has a valid XML format, and re-run the Restore Utility.</p> <p>or</p> <p>Remove the utility configuration, and re-run the Restore Utility to create the utility configuration with default parameters. Update the RestoreUtility.config file according to the current instructions if the default values are not acceptable.</p> |



## Restore OpenLab Server/ECM XT Using the Restore Utility

Use these procedures to restore your system from an existing backup if the OpenLab Server/ECM XT server becomes inoperable due to a hardware or software failure.

The restore procedure will restore only committed data captured by the successful backup procedure. Any data that was queued for upload and not yet committed or was added or updated after the backup was performed are not recovered by restoring a backup.

### CAUTION

**In cases where a restored system will run at the same time as the source system (where the backup was taken,) it is imperative that the restored system is on a network isolated from the source system. For example, if a test system is created from a backup of the production system, it must be on a network that is isolated from the production system. If the test system and the production system are on the same network, it may cause the two servers to create a cluster and interact with each other. This can lead to data corruption and loss.**

**In addition, it is important to turn clustering off on the restored system using the following steps:**

- 1 On the restored server, open

**C:\Program Files (x86)\Agilent Technologies\OpenLAB Data Store\tomcat\shared\classes\alfresco-global.properties.**

**Find the `alfresco.cluster.enabled` property and set it to false, as follows:**

**`alfresco.cluster.enabled=false`**

- 2 Restart the AlfrescoTomcat service.

---

### Verification

When restoring to an existing installation, you can also verify the restoration was performed correctly. Verification reports are saved at C:\ProgramData\Agilent\Restore\Verification.

### Troubleshooting the restore procedure

The Restore Utility collects logs in the “%ProgramData%\Agilent\LogFiles\Restore” folder. During the restore procedure, all steps are checked and the whole restore procedure stops on the first failed step. A link with the failed step opens the current restore log file to help identify the root cause of the problem. There are validations on each page during restore configuration to prevent possible errors with incorrect credentials, no access to content and archive locations, incorrect format, and other common configuration issues.

## Restore a system with PostgreSQL or Microsoft SQL database

Use the Restore Utility to restore a supported OpenLab Server/ECM XT system with a PostgreSQL or MS SQL Server database. For a list of topologies supported by the Restore Utility, see **“Using the Backup and Restore Utilities”** on page 24.

In all other cases follow the manual restore procedure described in the OpenLab Server/ECM XT Administration Guide.

During the restore procedure, validations on each page prevent possible errors, such as incorrect credentials, no access to content and archive locations, incorrect formats, and other common configuration issues.

For supported topologies, use the following procedure to restore your system using the Restore Utility.

#### NOTE

The Restore Utility can restore a system from cold and hot backups created with the Backup Utility. The Restore Utility can be run on systems with OpenLab Server/ECM XT installed or on clean systems (see **“Restore on a clean machine without OpenLab Server/ECM XT installed”** on page 44).

#### NOTE

For OpenLab Server/ECM XT 2.4, the Restore Utility skips to restore the Data Repository component. On the Processing page, this step is marked as Skipped.

#### NOTE

The Restore Utility does not support restoring an Oracle database. See the Oracle documentation for instructions on how to restore an Oracle database.

**NOTE**

If you are using Sample Scheduler, the Sample Scheduler services must be restarted after the restore procedure.

**NOTE**

If you are using non-default paths for configuring PostgreSQL for incremental backup in a backed-up system, update 'SystemPgWalFolder' and 'DrPgWalFolder' in the BackupUtility.config file after the restore procedure on a clean system according to values in the postgresql.conf files. See **"Use non-default paths to configure PostgreSQL for incremental backup"** on page 36.

**Using the Restore Utility for systems with OpenLab Server/ECM XT installed**

Use the procedure below to restore a previously-installed system that was backed up using the Backup Utility.

**CAUTION**

**Stop all OpenLab Server/ECM XT operations before performing the restore process. Make sure that any clients, instruments, or other parts of the system are not using the server during the restore process.**

Restore to an existing installation using Restore Utility

| Steps  | Options  | Notes   |
|--|--|---|
| 1 Start Restore Utility from Start > Agilent Technologies > Restore Utility. |  | You must have System Administrator privileges to run and execute the Restore Utility.   |
| 2 On the Backup Location page, choose your backup location.                  | <ul style="list-style-type: none"> <li>• Select File system as the Backup location if the backup is located locally or on Windows share. Select the backup folder that was used by the Backup Utility, and click Next.</li> <li>• Select AWS S3 as the Backup location if the backup is located on Amazon AWS S3 storage. Specify the AWS S3 backup bucket region and name, keys, and then click Next.</li> <li>• Restore and Verify are selected by default. For normal recovery, select Restore only.</li> </ul> | <ul style="list-style-type: none"> <li>• Verification reports are saved at C:\ProgramData\Agilent\Restore\Verification.</li> <li>• Verification is available only for systems on which the OpenLab software has already been installed.</li> <li>• If Verify only is selected, the next page will be Review followed by the Processing page.</li> </ul> |

Restore to an existing installation using Restore Utility (continued)

| Steps  | Options   | Notes  |
|--|---|--|
| 3 The Database Server page settings are pre-populated based on the backed-up system.   | <ul style="list-style-type: none"> <li>If the current environment state has changed since the backup, modify these settings.</li> <li>For SQL Server, provide the server name and database administrator credentials.</li> <li>For PostgreSQL, provide connection settings and database administrator credentials.</li> <li>For more information about reconfiguring during Restore, see <b>“Reconfiguration during restore”</b> on page 46.</li> </ul> | Restoration of Oracle database is not supported and must be restored manually. See your Oracle documentation for instructions on how to restore an Oracle database.                  |
| 4 The Access Credentials page settings are pre-populated based on the backed-up system.  | <ul style="list-style-type: none"> <li>If the current environment state has changed since the backup, modify these settings.</li> <li>Click Validate to confirm the credentials you entered are valid.</li> </ul>   |  |
| 5 The Content Paths page settings are pre-populated based on the backed-up system.   | <ul style="list-style-type: none"> <li>Only file system storage locations can be changed on this screen.</li> <li>Click Validate to confirm the credentials you entered are valid.</li> </ul>   | Multiple Content and Archive locations are supported.  |
| 6 Review the settings and click Apply.   |   | Progress is tracked on the Restore page.   |
| 7 The restore procedure progress is tracked on the Restore page.   | When prompted at the Run Server Configuration Utility step, enter the Shared Services administrator credentials.  | If you selected “Restore and Verify” or “Verify only”, a verification step is displayed as the last step. Click the verification status “done” link to open the verification report. |
| 8 When the restore procedure is complete, click Done.  |   |  |
| 9 Perform Step 4- Step 6 of the Manual OpenLab Server/ECM XT Server Restore Procedure in the OpenLab Server/ECM XT Administration guide. |   |  |

### Restore on a clean machine without OpenLab Server/ECM XT installed

Use this procedure to restore a backed up OpenLab Server/ECM XT system to a machine that does not have OpenLab Server/ECMXT installed.

**NOTE**

If you plan to use an MS SQL database, MS SQL Server must be installed prior to running the Restore Procedures. Otherwise, an error will occur during the database server setting step, and the restore process cannot continue.

For PostgreSQL, the utility will restore all PostgreSQL databases on a clean system along with other ECM XT data. You will need to install the software after the restore is complete.

**NOTE**

Remote PostgreSQL is not supported with OpenLab Server/ECM XT v2.4 or v2.5.

Procedure to restore using Restore Utility on a clean machine

| Steps  | Options  | Notes  |
|--|--|--|
| 1 From the installation media, go to Setup > Packages > OpenLab Restore Utility and launch RestoreUtility.exe. |  | For information on how to download and unzip your software installation media, see the OpenLab Server/ECM XT Installation Guide.   |
| 2 On the Backup Location page, choose your backup location.  | <ul style="list-style-type: none"> <li>Select File system as the Backup location if the backup is located locally or on Windows share. Select the backup location that had been used by the Backup Utility.</li> <li>Select AWS S3 as the Backup location if the backup is located on Amazon AWS S3 storage. Specify the AWS S3 backup bucket region and name, and keys.</li> </ul>  | When restoring to a machine where OpenLab Server/ECM XT is not installed, verification is not available.   |
| 3 The Database Server page settings are pre-populated based on the backed-up system.                           | <ul style="list-style-type: none"> <li>If you are restoring a PostgreSQL server on a machine without PostgreSQL installed, you will be prompted to continue the restore process. Click Yes to continue. PostgreSQL will be installed after the restore procedure is complete and OpenLab Server/ECM XT is installed.</li> <li>If a Microsoft SQL database is configured, MS SQL Server must be installed to continue the restore procedure.</li> </ul> | <ul style="list-style-type: none"> <li>For more information about reconfiguration during restore, see <b>"Reconfiguration during restore"</b> on page 46.</li> <li>Do not change the pre-populated server settings.</li> </ul> |
| 4 The Access Credentials page settings are pre-populated based on the backed-up system.                        | <ul style="list-style-type: none"> <li>If the current environment state has changed since the backup, you can modify these settings.</li> </ul>  |  |
| 5 The Content Paths page settings are pre-populated based on the backed-up system.                             | <ul style="list-style-type: none"> <li>Only file system storage locations can be changed on this screen.</li> </ul>  | Multiple Content and Archive locations are supported.  |

Procedure to restore using Restore Utility on a clean machine (continued)

| Steps | Options  | Notes   |
|-------|--|---|
| 6     | Review the settings and click Apply.   |   |
| 7     | The restore procedure progress is tracked on the Restore page. When the restore procedure is complete, click Done. | After the OpenLab Server/ECM XT software is installed, run the Restore Utility with the Verify only option selected. This will check data and generate a verification report. |

After a successful restore procedure, proceed with standard installation of OpenLab Server/ECM XT. All the values reviewed and configured during restore procedure will be automatically captured during OpenLab Server/ECM XT installation and should not be changed during the process.

## Reconfiguration during restore

Reconfiguration may be needed:

- If the server with the database has moved to another computer
- The port or administrative credentials have changed
- A user restores the backup from another server
- Database moved to another instance on the server
- Storage locations have changed
- Content management index path changed

It is possible to reconfigure PostgreSQL and MS SQL settings during the restore procedure. On the Database Server page, the preloaded information about the connection to a database is displayed. If you change anything on this page, you must be sure that this information is correct. The utility will check values and will show a message with details in case of a problem. The reconfiguration of Oracle database settings is not supported and must be done separately.

### Reconfiguring a PostgreSQL database server

On the Database Server page, you can change and validate the server name, port, super user, and password. If another user is used, they must have the same privileges as the default super user (postgres). Remote PostgreSQL is not supported with OpenLab Server/ECM XT v2.4 or v2.5.

To check the entered values, click **Validate** or **Next**.

#### Reconfiguring MS SQL database server

On the Database Server page, you can change and validate the server name, named instance, port, super user, and password. If another user is used, they must have the same privileges as the default super user (sa).

A named instance is the name that a user specifies when installing the MS SQL server (if it differs from the default.)

To use the Windows user, it must be added to the MS SQL server security settings. See the OpenLab Server/ECM XT Installation Guide section on Configuring a Remote Database Server.

To check the entered values, click **Validate** or **Next**.

#### Reconfiguring Access Credentials

On this page, you can change an account that has been used to access all content storage paths. Make sure this account is in the Administrator group on both the OpenLab Server/ECM XT server and Database server machines.

Separate accounts for individual storage locations are not supported.

Make sure the user has "Log on as a service" permission.

To check the entered values, click **Validate** or **Next**.

#### Reconfigure Content Paths

In the Content Paths page, you can change any on-premise storage location (local folder or network path) for the restored data by entering a new path as the Restore Location. AWS S3 buckets used as Storage Locations cannot be reconfigured during the restore procedure.

You can also specify a new index location by entering a new path as the restore location. The Index Path must be an absolute or UNC path.

#### NOTE

Network drives are not supported for the index location.

To check the entered values, click **Validate** or **Next**.

**Review and start the restore**

On the Review page, review the summary of OpenLab Server settings you are configuring.

If everything is correct, click **Apply** to start the restore process. Click **Back** if you want to change something.



[www.agilent.com](http://www.agilent.com)

© Agilent Technologies, Inc. 2021  
DocNo D0012454 Rev. A  
November 2021

