VWorks Automation Control
Standard Edition
Administrator Guide

Original Instructions

Notices

Safety Notices

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.

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.

Contents

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Preface

This preface contains the following topics:

What this guide covers

What is covered

This guide provides administrator instructions for the VWorks Standard edition. The guide describes the software architecture and workflow and provides instructions for the following:

• Generating and installing the license

• Configuring and managing the user access

• Backing up and restoring data and software

Note: For information on VWorks Plus, see the *VWorks Automation Control Plus Administrator Guide.*

Table   Terms used in this guide

Term	Description
VWorks Automation Control	VWorks software component that you use to create the protocols that run your automation devices.
VWorks Plus	Collection of software components required for running the VWorks software with compliance features. This edition includes Control Panel, Shared Services, Content Management, and Content Browser.
VWorks Standard	Collection of software components required for running the standard VWorks software This edition includes Control Panel and Shared Services.
Content Management (OpenLab component)	*VWorks Plus only*. The storage repository for VWorks-related records of interest. An administrator can use the Content Browser to view the VWorks project content in Content Management.
Control Panel (OpenLab component)	The Shared Services user interface for configuring and managing user access and licenses.
Microsoft Control Panel	Part of the Microsoft Windows operating system.
Shared Services (OpenLab component)	Set of administrative services that control VWorks user access and file storage. Shared Services are accessed via the Control Panel.

Related guides

For information about the following VWorks-related topics, see the corresponding Agilent guide.

For information about …	See…
Computer requirements and software installation requirements	*VWorks Automation Control Installation Guide*
Overview of the software components and workflow	*VWorks Standard Quick Reference Guide*
• Setting up labware definitions and liquid classes • Setting up an experiments database and labware inventory database • Migrating protocols from previous versions of VWorks software	*VWorks Automation Control Setup Guide*
• Setting up devices • Writing protocols and creating forms • Running protocols • Troubleshooting protocols	*VWorks Automation Control User Guide*
Setting up a specific device and operating the device using VWorks and device diagnostics software	Relevant Agilent device user guide
General safety information and potential safety hazards that you might encounter when using Automation Solutions products	*Automation Solutions Products General Safety Guide*

Software version

This guide documents VWorks Standard edition 14.0 and later versions.

Accessing user guides

About this topic

This topic describes the different formats of user information and explains how to access it for the Agilent Automation Solutions products.

Where to find user information

The user information is available in the following locations:

- *Knowledge base*. The help system for the Automation Solutions products is available from:

  – Help menu within the VWorks software: Select **Help** > **Knowledge Base** or press F1.

  – From the Windows desktop: Select **Start ( )** > **All Apps** > **Agilent Technologies** > **VWorks Knowledge Base.**

  For guidelines on using the VWorks context-sensitive help and knowledge base features, see *Using the knowledge base*, below.

- *PDF files*. The PDF files of the user guides are installed with the VWorks software (C:\Program Files (x86)\Agilent Technologies\VWorks\UserGuides) and are available in the VWorks Knowledge Base.

- *Website*. You can search the online VWorks Knowledge Base or download the latest version of any PDF file from the Agilent website at www.agilent.com/chem/askb.

Accessing safety information

Safety information for the Agilent Automation Solutions devices appears in the *Automation Solutions Products General Safety Guide* and in the corresponding device safety guide or user guide.

You can also search the knowledge base or the PDF files for safety information.

Using the knowledge base

Knowledge base topics are displayed using web browser software such as Microsoft Edge.

Note: If you want to use Internet Explorer to display the topics, you might have to allow local files to run active content (scripts and ActiveX controls). To do this, in Internet Explorer, open the Internet Options dialog box. Click the Advanced tab, locate the Security section, and select Allow active content to run in files on my computer.

Opening the help topic for an area in the VWorks window
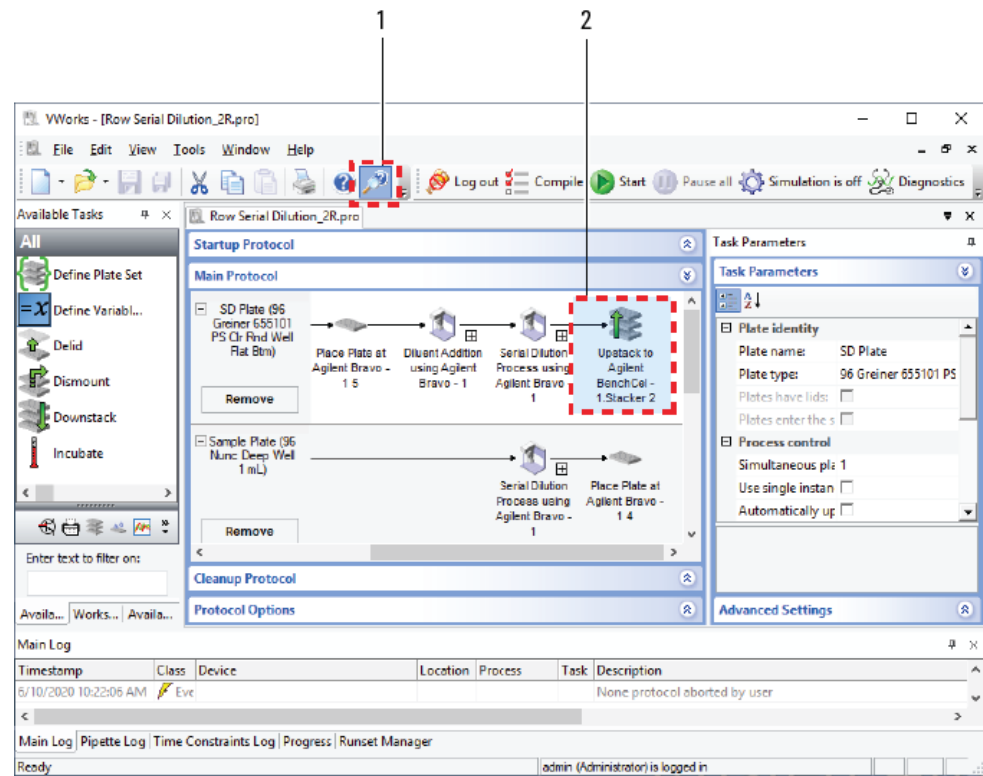
To access the context-sensitive help feature:

1   In the main window of the VWorks software, click the help button [icon]. The pointer

    changes to [icon]. Notice that the different icons or areas are highlighted as you
    move the pointer over them.

2   Click an icon or area of interest. The relevant topic or document opens.

Features in the Knowledge Base window
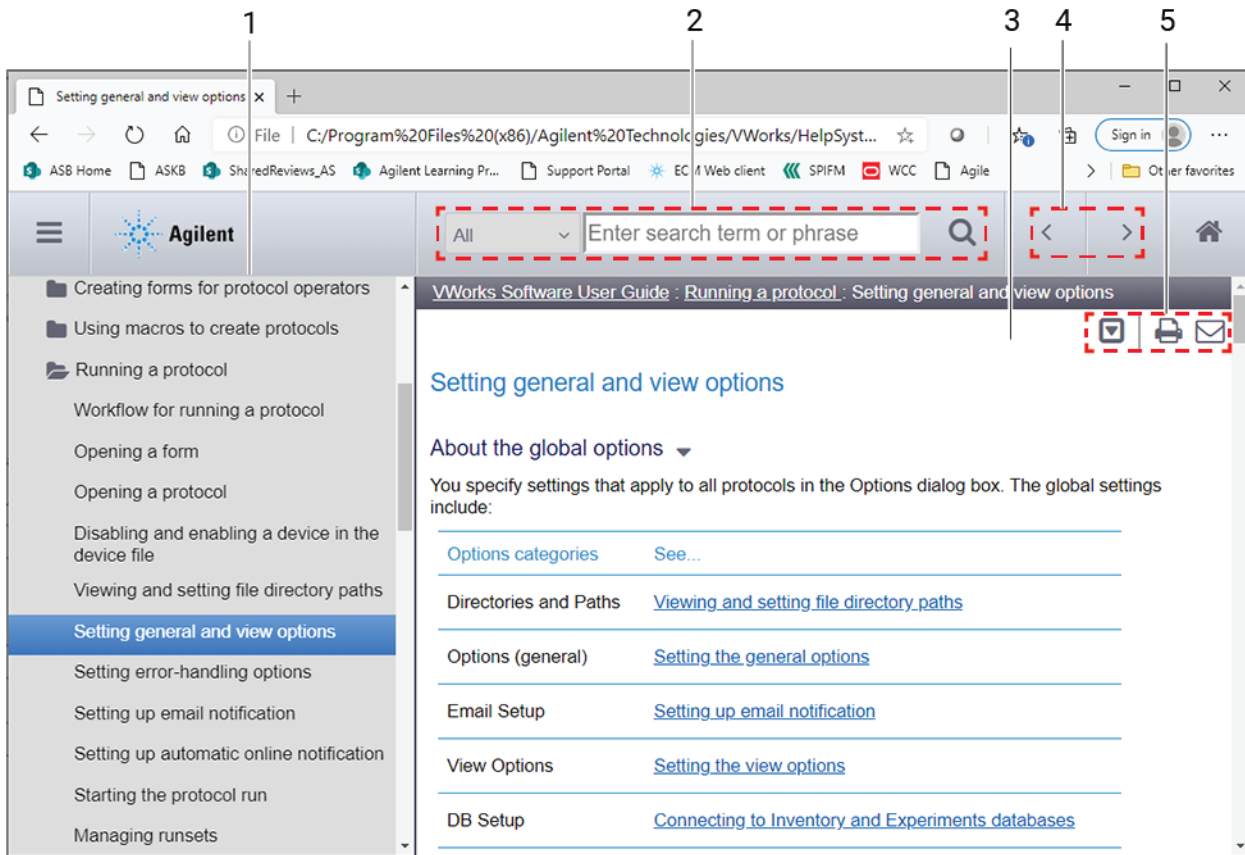
Step	For this task...
1	*Contents pane*. Lists all the books and the table of contents of the books.
2	*Search*. Allows you to search the Knowledge Base (all products or selected products) using keywords.
3	*Topic area*. Displays the selected online help topic.
4	*Navigation buttons*. Enable you to navigate through the next or previous topics listed in the Contents tab.
5	*Toolbar buttons*: Enable you to: • Expand or collapse all the sections in a topic that has drop-down headings. • Print the topic. • Send feedback by email for a given topic.

1 About VWorks Standard

This chapter provides an overview of VWorks Standard edition.

The topics are:

Agilent

Software architecture

VWorks Standard runs on a single computer and controls a standalone automation device or integrated devices in an automation system.

VWorks Standard consists of the following:

- Components of the OpenLab software
- VWorks software

The following figure shows the relationships between these components.

Figure   VWorks Standard edition architecture
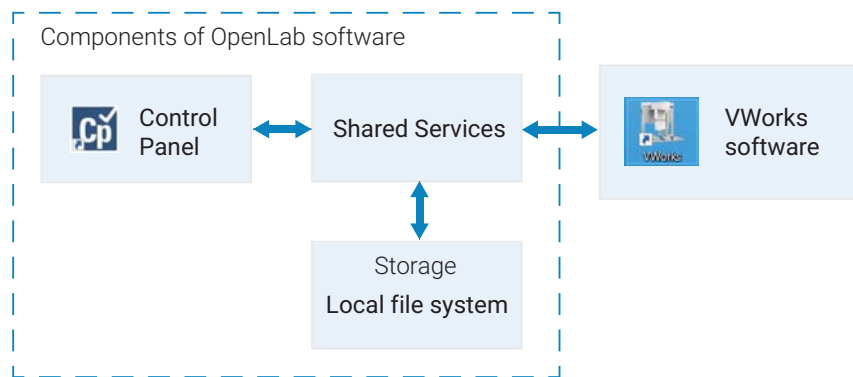
Components of OpenLab software

The components of the OpenLab software include:

- **Control Panel** and **Shared Services**. Control Panel is the user interface for Shared Services, which are set of administrative services. An administrator uses the Control Panel to configure the following:
    - User access management
    - Software licenses
    - Storage
- **Shared Services storage**. VWorks Standard uses the local file system for file storage. The files are stored in a predefined Shared Services project folder:

    /VWorks Projects/VWorks/

    Note: Unlike previous VWorks versions, VWorks Standard does not use the Windows Registry for storing records, such as labware definitions and device profiles.

VWorks software

The VWorks software controls your automation devices. You create labware definitions and liquid classes, set up your devices, create device profiles, and create and run protocols.

Workflow for VWorks Standard

The following table provides the overall workflow for setting up and using VWorks Standard.

Table   Workflow for VWorks Standard

Step	Task	Role	See …
1	Log in to Control Panel (OpenLab component).	Administrator*	"Logging in to Control Panel" on page 4
2	In Control Panel, install and manage the software license.	Administrator	"Licensing the software" on page 5
3	In Control Panel, configure and manage user access to the software.	Administrator	"Configuring the software" on page 13
4	If future VWorks compatibility with legacy OpenLab ECM 3.x servers will be required, set the proper folder structure option in the VWorks software.	Administrator, Technician	"About the VWorks Project settings" on page 26 _VWorks Automation Control Setup Guide_
5	Set up the VWorks software: • _If applicable._ Migrate protocols from earlier versions.	Administrator	_VWorks Automation Control Setup Guide_
	• Verify the labware definitions for any labware you plan to use. • If you have a Bravo Platform, specify the pipetting speed and accuracy. • _If applicable._ Set up MySQL database for labware inventory management (storage devices) and Experiments database.	Administrator or Technician	
6	In the VWorks software, set up your automation devices.	Administrator or Technician	Device user guide, for example, _Bravo Platform User Guide_
7	In the VWorks software, create protocols to run your automation devices.	Administrator or Technician	_VWorks Automation Control User Guide_
8	Run protocols.	Administrator, Technician, or Operator	_VWorks Automation Control User Guide_
9	Perform periodic software and data backups.	Administrator	"Disaster recovery planning" on page 33

*VWorks technicians, operators, and guests may log in to Control Panel and change their passwords, but they cannot configure other Control Panel settings.

Logging in to Control Panel

To log in to the Control Panel:

1   To start the Control Panel, click [Cp icon] on the Windows desktop.

Alternatively, you can click **All apps > Agilent Technologies > Control Panel**.

2   In the Login window, enter your Login (user name) and password.

If this is the first time to log in to Control Panel after installing the software, enter the following:

- Login*: admin*
- Password: *openlab*

Note: After installing the software license, you will configure user accounts in Control Panel and change the password for this login.
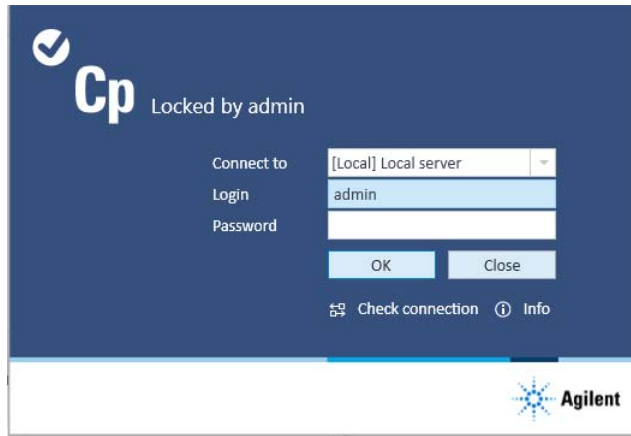
The Control Panel window opens.
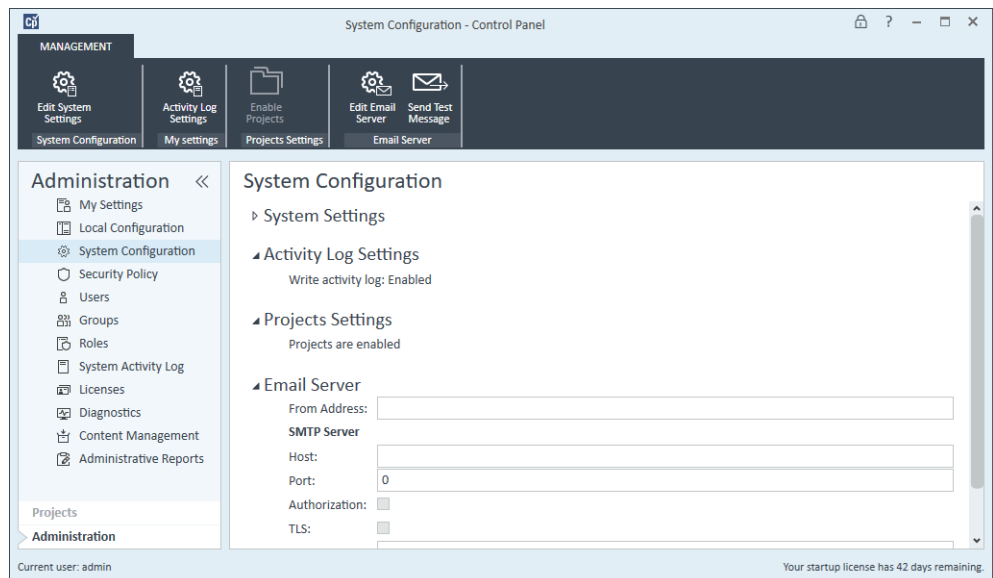
2 Licensing the software

This chapter describes how to obtain your software license. The topics are:

About the software licensing

License types

The license or activation key in the license file can be for one of the following VWorks editions:

- VWorks Standard
- VWorks Plus

A trial license for the software allows you to run either edition for 60 days after the installation. In order to run the software after the 60-day period, you must install your license file.

License file

A license file contains your software license. You generate and download the license file in SubscribeNet. This file will be installed on the computer where the VWorks software is installed. The license file is bound to this computer, and cannot be moved to another computer without regenerating the license in SubscribeNet.

About the Control Panel Licenses page

The following figure shows the Licenses page in Control Panel.
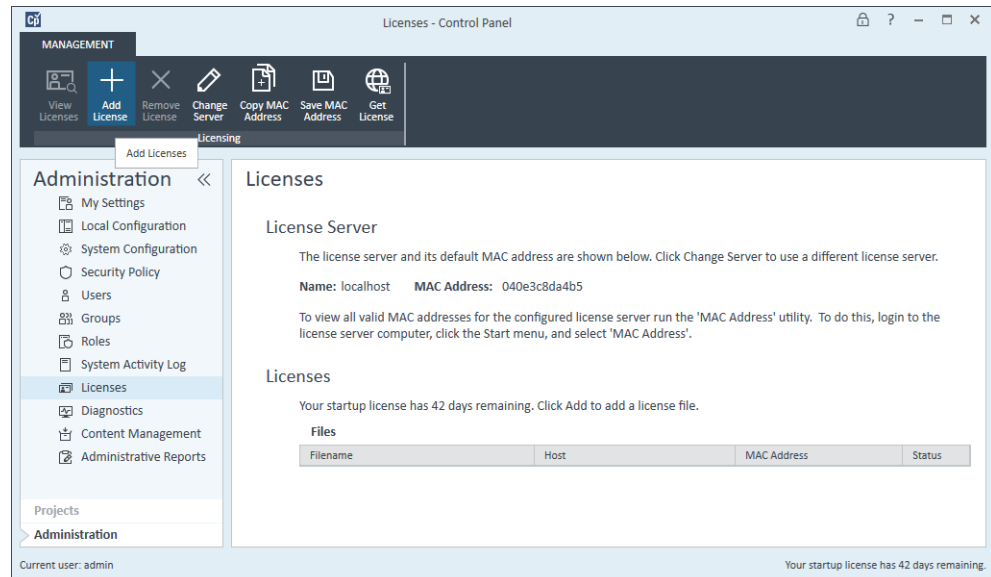
To view the Licenses page:

1   Log in to Control Panel [Cp] . For details, see "Logging in to Control Panel" on page 4.

2   In the Control Panel navigation pane, click **Administration > Licenses**. The Licenses page appears.

   The ribbon at the top of the page includes the following controls that you can use to manage your software licenses:

   •   **Add License** and **Remove License**. Allows you to install and uninstall license files.

   •   **Copy MAC Address**. Copies the MAC address of the license server.

   •   **Save MAC Address**. Saves the MAC address of the license server to a text file (.txt) at the specified location.

   •   **Get License**. Links to the Agilent SubscribeNet Electronic Software and License Delivery web page, where you can obtain a license.

   •   **Change Server**. Not applicable. This feature is only for systems that have a license server on a separate computer from the client software.

Workflow for software licensing

Step	For this task...	See...
1	Make sure you have the prerequisites for getting a license.	"Prerequisites for getting a license" on page 8
2	Generate and download your license.	"Getting a license" on page 9
3	Install your license using Control Panel.	"Installing your license" on page 10
4	Restart the computer for the license to have an immediate effect.	–

Prerequisites for getting a license

License prerequisites

To generate, download, and install a license for your product, you will need:

- The authorization code label provided in the envelope containing your Software Entitlement Certificate.

  If you have not received an envelope for your product, contact your vendor or internal support.

- The URL for SubscribeNet from the Software Entitlement Certificate.

- The name of the computer (local host) where the VWorks software and the OpenLab components are running.

  Note: If any changes are made to the computer name or domain reference after the license is installed, remove the license. A new license will need to be created in SubscribeNet, downloaded, and installed.

- The MAC address. See the following procedure to retrieve the MAC address.

  Note: If the network adapter that provides the MAC address used during license creation is removed from the computer, your license will no longer be valid. A new license will need to be generated with a currently available MAC on the license server.

Retrieving your MAC address

To retrieve your MAC address:

1 In the Control Panel navigation pane, click **Administration > Licenses**.

2 Use the **Copy MAC Address** or **Save MAC Address** function to obtain the MAC address for license generation.
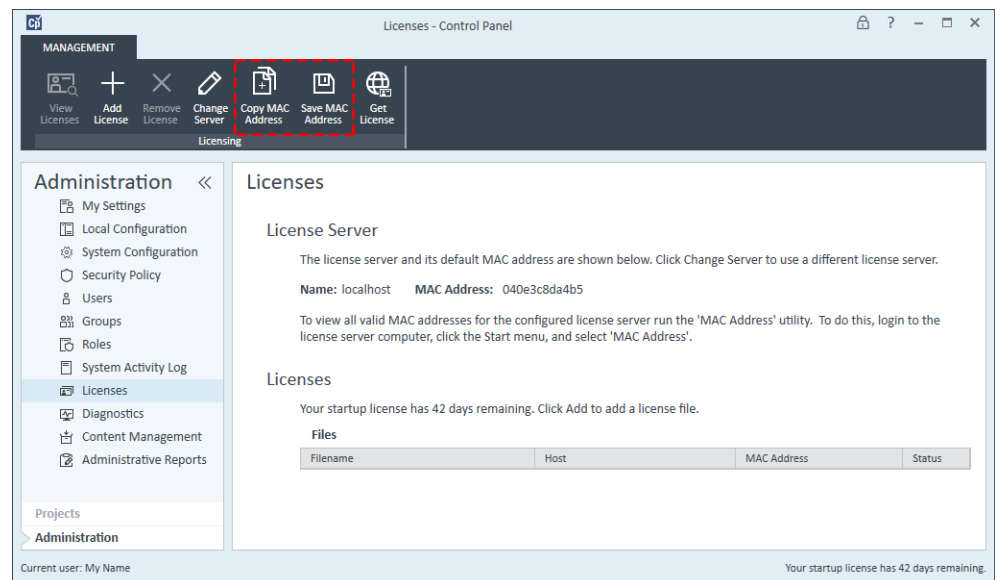
Getting a license

This section describes how to generate and download your license in SubscribeNet.

- If you are a new user who has not registered with SubscribeNet, see "New SubscribeNet users" on page 9.

- If you have registered with SubscribeNet, see "Users registered with SubscribeNet" on page 9.

New SubscribeNet users

To generate and download your license:

1   Go to https://agilent.subscribenet.com/control/agil/AgilRegisterToAccount to register the product with SubscribeNet.

2   On the registration page, enter the authorization code from the label and complete the profile information.

Note: Required fields are marked with an asterisk (*).

The email address you enter will become your SubscribeNet login ID.

3   Click **Submit**. The system will generate and display an account name for you. SubscribeNet will send a welcome email with your login ID and password.

4   Log in to SubscribeNet using your login ID and password.

Note: Once you log in, you can use the online user manual link for help with any questions you have.

5   Select **Generate or View licenses** from the left navigation bar.

6   Follow the prompts to generate your new license.

You will be prompted for the HOST NAME of the computer. The host name you enter must match with the network name of the computer where the Control Panel (OpenLab) is running. Do not include any DNS suffix (domain.com) references in the entered computer name.

7   When the system generates the license, view its details, and then click **Download License File**. Save the license file to your computer and to a backup location, such as a portable storage device.

Use your login ID and password when you revisit the Agilent SubscribeNet site to regenerate a license file, add new authorization codes, or further configure the license for your system.

Users registered with SubscribeNet

To generate and download your license:

1   If you already have a SubscribeNet account, go to https://agilent.subscribenet.com/

Note: If you lost your SubscribeNet password, go to https://agilent.subscribenet.com/control/agil/password to have it emailed to you.

2   Select the SubscribeNet account associated with this authorization code.

3   From the SubscribeNet navigation pane, select **Register Authorization Code**.

This will allow you to enter your new authorization code, which will make available the new license entitlements.

4 Follow step 5 through step 7 in the previous procedure ("New SubscribeNet users" on page 9) to generate or view your new licenses.

Installing your license

You add the license to your system using Control Panel (OpenLab component).

To install your license:

1 If you have not already done so, log in to Control Panel. For details, see "Logging in to Control Panel" on page 4

2 In the Control Panel navigation pane, click **Administration > Licenses**.

3 In the ribbon, click **Add License.**

VWorks Automation Control Standard Administrator Guide
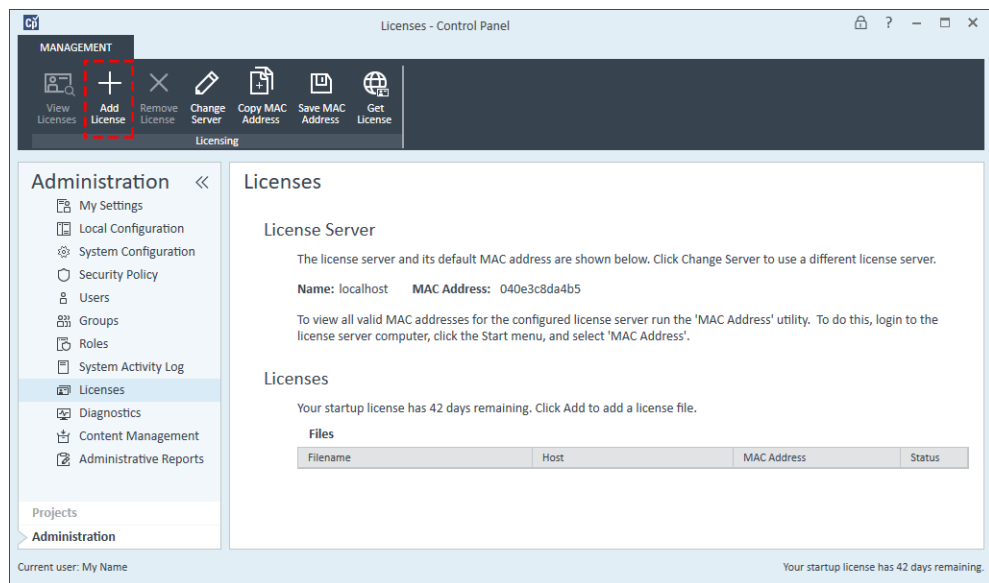
4 In the **Add Licenses** dialog box, select one of the following:

- **Select a license file**. Browse to and open the license file (.lic) saved from the license generation process in SubscribeNet.
- **Paste the contents of a license file**. Copy the license text from a text file and paste the copy in the provided field.
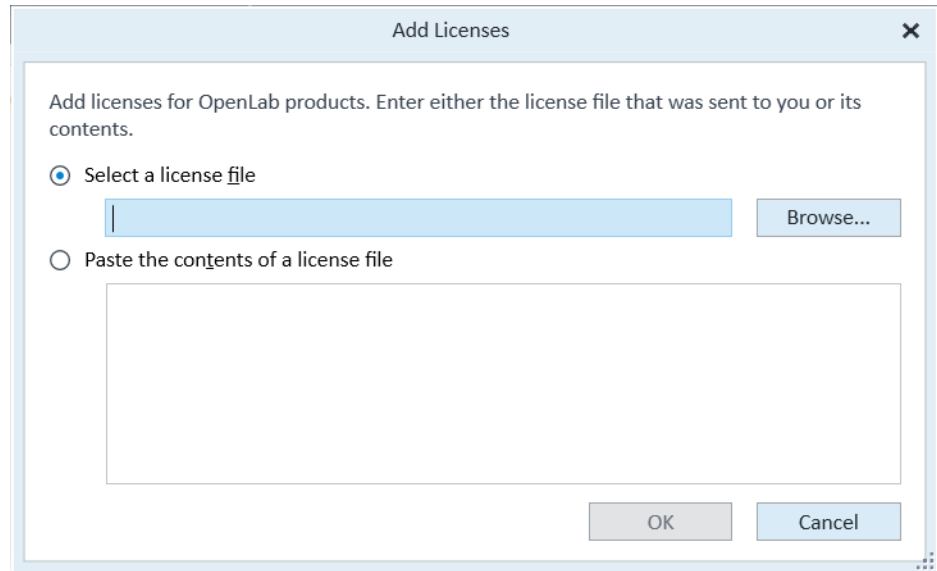
5 Click **OK**. The Licenses page in the Control Panel displays the status of installed licenses.

IMPORTANT   Restart the computer for the license to have an immediate effect.

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3 Configuring the software

This chapter describes how to use Control Panel to configure the Shared Services for VWorks Standard.
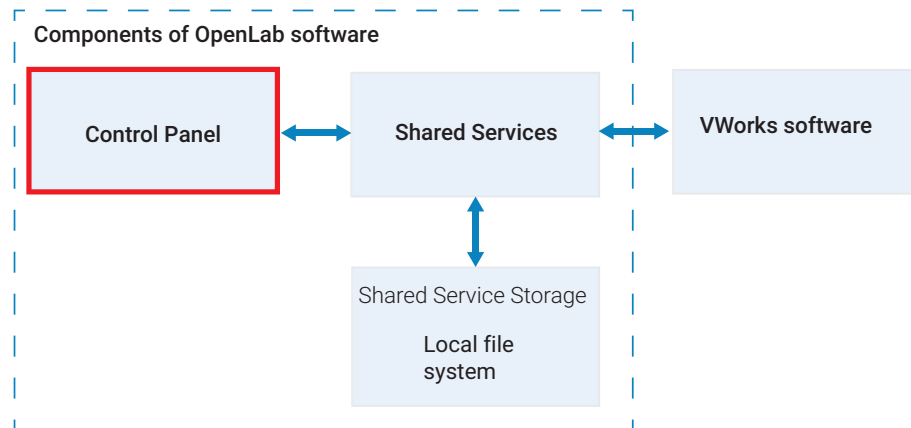
The topics in this chapter are:

- "Configuring authentication" on page 14
- "Configuring the security policy" on page 16
- "Configuring users, groups, and roles" on page 17
- "About the VWorks Project settings" on page 26
- "About configuring instruments" on page 28

Note: The changes that you make in Control Panel are recorded in the System Activity Log. For details, see "System Activity Log" on page 40.

Configuring authentication

Authentication options

VWorks Standard supports only Internal or Windows Domain as authentication providers.

Internal (default)

The Internal option uses OpenLab components of the VWorks Standard edition to perform the authentication. You create the users and manage user access in the Control Panel, and Shared Services provides the user authentication.

Internal authentication is the only mode in which you can create new users within the Control Panel (OpenLab).

After the software installation, internal authentication is configured by default. If you want to use internal authentication, you can proceed to "Setting the security policy parameters" on page 16.

Windows Domain

The Windows Domain option uses Microsoft Windows to perform the user authentication. You use the Control Panel (OpenLab) to map to users that exist in the active Windows directory and to assign them to VWorks roles and privileges.

Table   Workflow for Windows Domain authentication

Step	For this task...	See...
1	Configure Windows Domain authentication.	"Configuring Windows Domain authentication" on page 15
2	Create users and user groups and configure the Security Policy in Microsoft Windows.	Microsoft Windows user documentation
3	Use Control Panel (OpenLab) to: **a** Import the Windows users and user groups from the active Windows directory. **b** Assign the imported users and user groups to VWorks roles to configure their user privileges.	"Configuring users, groups, and roles" on page 17

Configuring Windows Domain authentication

To configure Windows Domain authentication:

1 If you have not already done so, log in to the Control Panel .

2 In the **System Configuration** page, click **Edit System Settings** in the top-left corner of the ribbon. The Edit System Settings dialog box opens.

3 Select the authentication provider **Windows Domain** from the list, and then click **Next**.
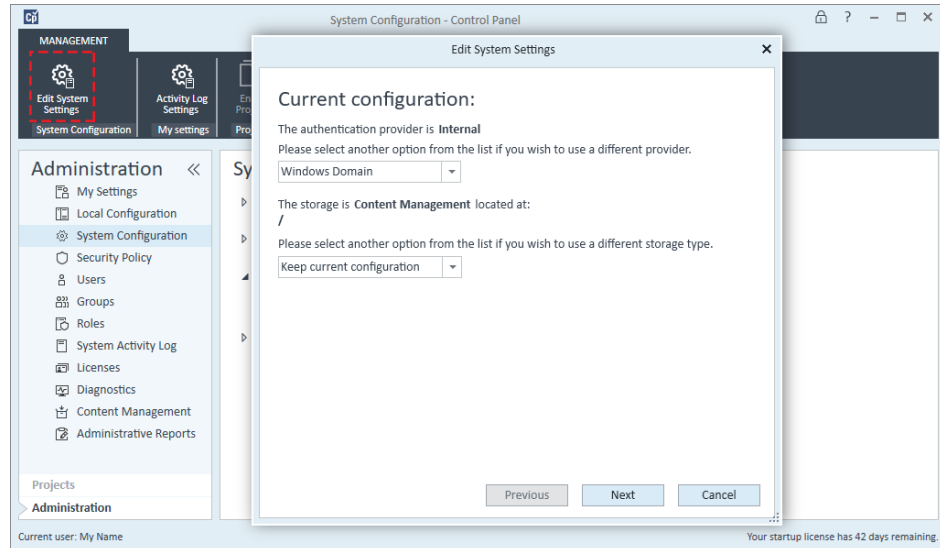
| IMPORTANT | Do not change the storage type. The storage type is determined automatically based on the VWorks edition for which you have a license. |

4 In the **Edit System Settings** dialog box, select the **Windows Domain** check box, click **Next**, and then confirm your settings.

When complete, the Control Panel will restart.
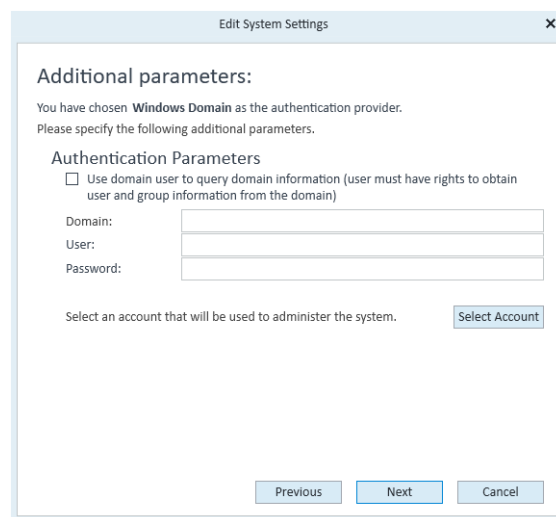
Configuring the security policy

Adjust the security policy as follows:

- **Internal authentication**. You can set all security policy parameters in the Control Panel using the following procedure.

- **Windows Domain authentication**. You can set only the inactivity time in the Control Panel. All other parameters are defined by the Windows system. See the Microsoft Knowledge Base for instructions.

Setting the security policy parameters

Note: The Control Panel setting for **Inactivity time before locking the application** applies to the Control Panel, but this setting does not apply to the VWorks software.

To configure the security policy in Control Panel:

1   If you have not already done so, log in to the Control Panel.

2   In the Control Panel navigation pane, click **Administration > Security Policy**.

3   In the ribbon, click **Edit Security Policy**.

4   Edit the settings per your requirements, and then click **OK**.
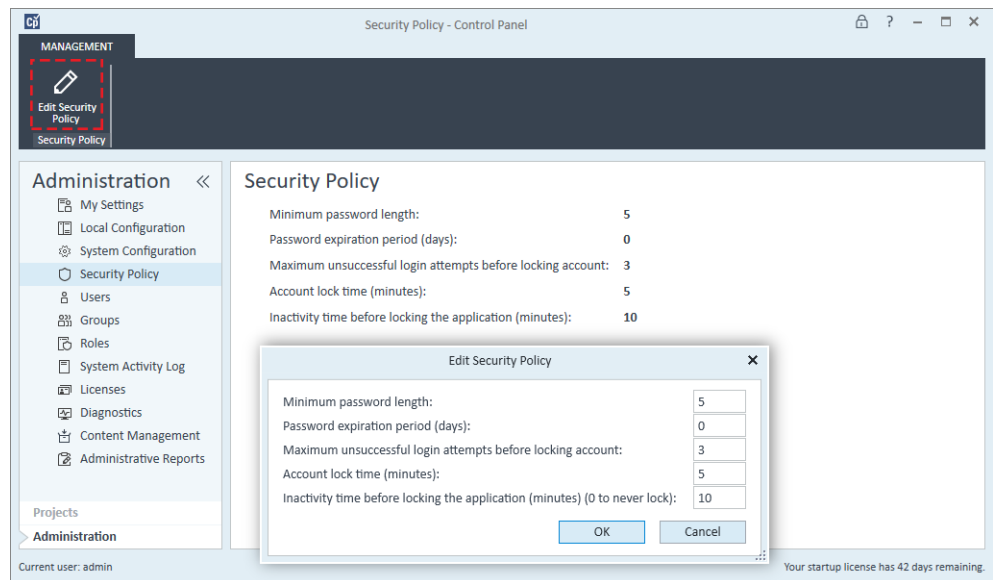
5   When the restart message appears, restart Control Panel to ensure that any changes take effect.

Configuring users, groups, and roles

This section contains the following topics:

VWorks user roles and privileges

You configure a primary administrator account in the Control Panel with all privileges (Everything role) before setting up other users. This administrator account is for a superuser who has access privileges to everything in the software.

In addition to this primary administrator account, you can create or import users and assign VWorks roles and privileges listed in the following table. Each VWorks user is assigned to a group, which is associated with one of four predefined VWorks roles. Each role defines what the users of the associated group are allowed to view or do. Roles are equipped with numerous specific privileges.

IMPORTANT   The VWorks software supports only the roles of VWorks Administrator, VWorks Technician, VWorks Operator, and VWorks Guest. The VWorks software does not support additional roles that you may create in the Control Panel.

Roles supported by the VWorks software	Has privileges to …
VWorks Administrators	• Unlock the Control Panel (OpenLab component). • View and edit project folder structure. • Manage user accounts. • Run a protocol that contains compiler errors. • Perform all the functions of VWorks Technicians.
VWorks Technicians	• Perform all functions listed in the VWorks Tools menu. • Create and save protocols. • Manage devices through the device manager. • Perform all the functions of VWorks Operators.
VWorks Operators	• Run protocols. • Operate devices in real-time using diagnostics software. • Perform all the functions of VWorks Guests.

Roles supported by the VWorks software	Has privileges to …
VWorks Guests	• Log in and log out of VWorks. • Access the VWorks Knowledge Base through the Help menu. • Use context-sensitive help.

The effect of privileges:

• If you do not have the privilege to perform a function associated with a particular menu command, the text of the command is gray.

• If you do not have the privilege to perform the functions accessed from a particular tabbed page, the tab is not visible to you.

• In some cases, if you do not have the privilege to perform an operation, when you attempt the operation you get an error message telling you that your privileges are insufficient.

Workflow for configuring users and groups

To create the required VWorks users, do one of the following:

• **Internal authentication**. You create each user in the Control Panel (OpenLab component) and add them to one of the VWorks groups with predefined roles. See "Creating a user (internal authentication only)" on page 18.

• **Windows domain authentication**. You import the Windows domain users into Control Panel (OpenLab component) using the following procedures:

   – "Importing Windows users and assigning them to groups" on page 20

   – "Importing user groups from Windows" on page 21 and "Assigning imported user groups to VWorks roles" on page 22

Creating a user (internal authentication only)

Use this procedure if your system configuration uses internal authentication.
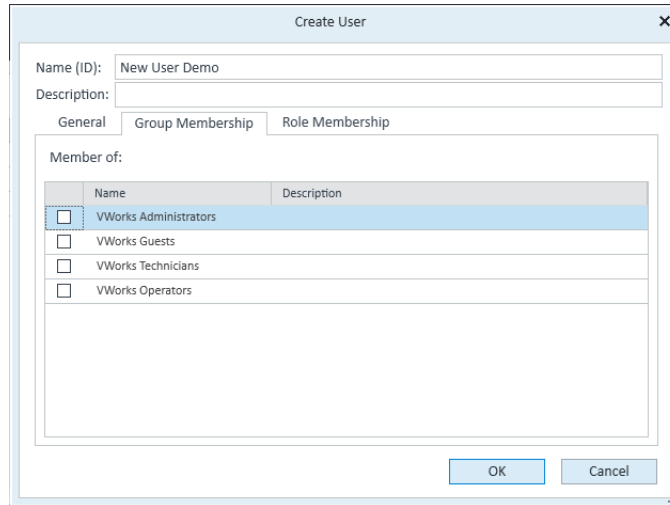
To create a new user:

1   If you have not already done so, log in to the Control Panel .

2   In the Control Panel navigation pane, click **Administration > Users**. The Users page appears, which displays the current list of users that have been assigned to VWorks groups.

3   In the ribbon, click **Create User**. The Create User dialog box opens.
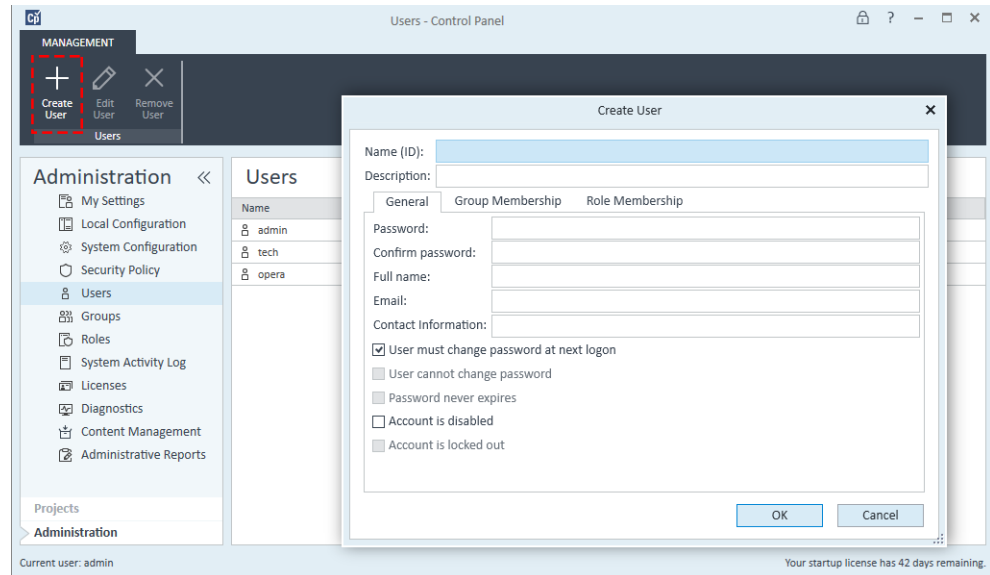
4   Enter a **Name (ID)** and **Description** for the user.

5   In the **General** tab, enter a **Password** for the user and **Confirm password**.

Note: The password length and expiration period is set under the Security policy.

6   *Optional*. Enter the user's **Full name**, **Email**, and **Contact Information**.

The full name is used in activity log entries and the welcome message at the lower right of the Control Panel.

7   Select the password options:

•   Typically, you select **User must change password at next logon** so that the user can set their password and keep it private.

•   To prevent the user from changing the password assigned here, select **User cannot change password**.

•   To set the password to never expire, select **Password never expires**.

Note: To prevent the user from logging in to the VWorks software, select **Account is disabled**.

8   Click the **Group Membership** tab, select the VWorks group for this user, and click **OK**.

These predefined VWorks groups correspond to the predefined VWorks roles. For details, see .

Importing Windows users and assigning them to groups

If you are using Windows Domain as the authentication provider, you can import users into the Control Panel and assign them to groups using the following procedure.

Note: The computer must be connected to the server of the company network to import Windows users.

To import Windows users and assign them to groups:

1 In the Control Panel navigation pane, click **Administration > Users**. The Users page appears and displays the current list of users that have been assigned to VWorks groups.

2 In the ribbon, click **Import**.
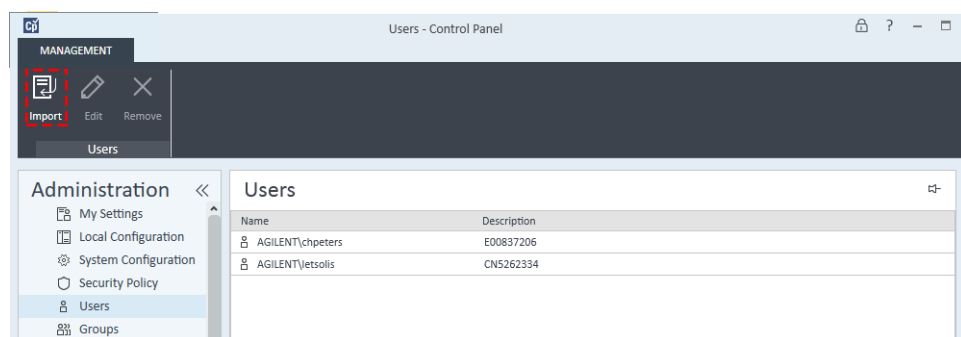
3 In the **Search Users** dialog box, type the search string for the user name.

4 In the **Search Results** list, select the user you want to import, and click **Add**. The user is added to the Selected Users list.

5 Repeat steps 2 through 4 until you have added all the user names that you want to import, and then click **OK.**

6 In the Control Panel navigation pane, click **Administration > Groups**. The Groups page appears.

7 Select one of the **Groups**, and then click **Edit Group** on the ribbon. The Edit Group dialog box opens.
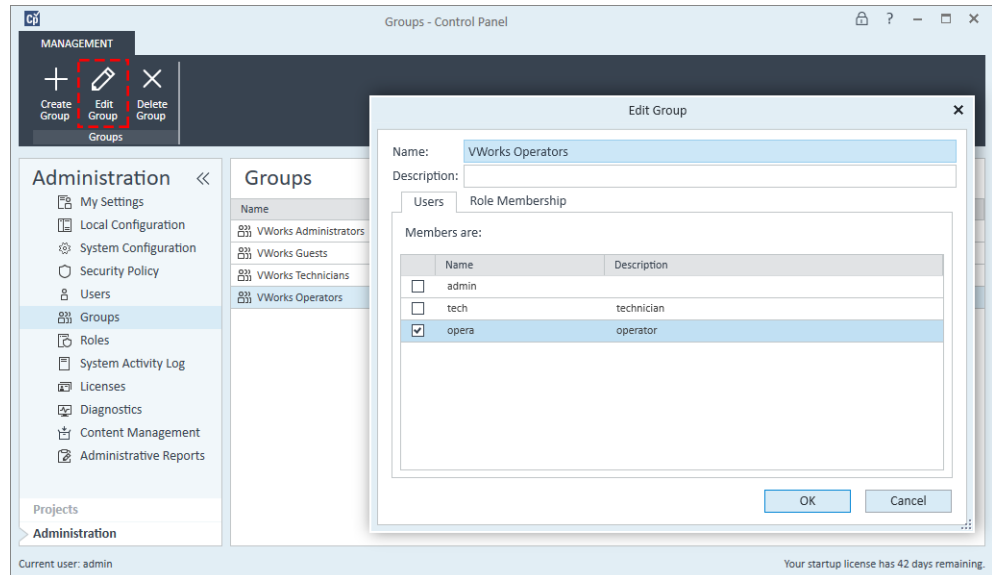
8 In the **Users** tab, select the check box of the user to be assigned to this group, and then click **OK**.

IMPORTANT Do not change the roles for the predefined VWorks groups. The VWorks software supports only the roles of Everything, VWorks Administrator, VWorks Technician, VWorks Operator, and VWorks Guest.

Importing user groups from Windows

If you use are using Windows Domain as the authentication provider, you can import user groups from the active Windows directory. After you import the groups, you assign the groups to one of the VWorks roles.

To import a Windows user group:

1 In the Control Panel navigation pane, click **Administration > Groups**.

2 In the ribbon, click **Import**.

3 In the **Search Groups** dialog box, type the search string for the group name.

4 In the **Search Results** list, select the group you want to import, and click **Add**. The group is added to the Selected Groups list.

5 Click **OK.**

Assign the imported group to a VWorks role using the following procedure.

## Assigning imported user groups to VWorks roles

IMPORTANT   Do not change the roles for the predefined VWorks groups. The VWorks software supports only the roles of Everything, VWorks Administrator, VWorks Technician, VWorks Operator, and VWorks Guest.

Use the following procedure to assign previously created or imported users to membership in a selected group.

To assign a group to a predefined VWorks role:

1   In the Control Panel navigation pane, click **Administration > Roles**. The Roles page appears.

2   Select one of the predefined VWorks roles:

   •   VWorks Administrator

   •   VWorks Technician

   •   VWorks Operator

   •   VWorks Guest
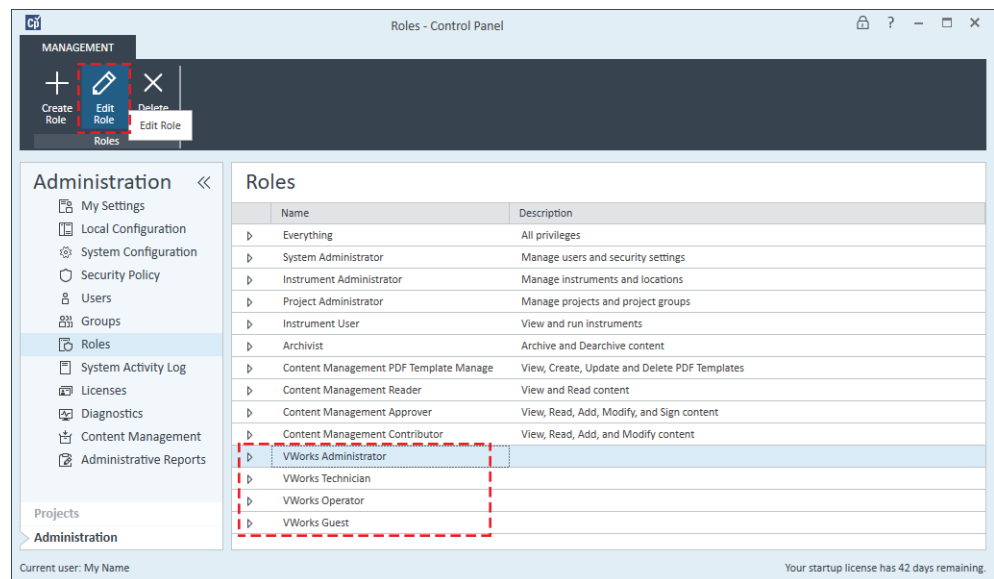
For a description of the role privileges, see "VWorks user roles and privileges" on page 17.

3   In the ribbon, click **Edit Role**. The Edit Role dialog box opens.
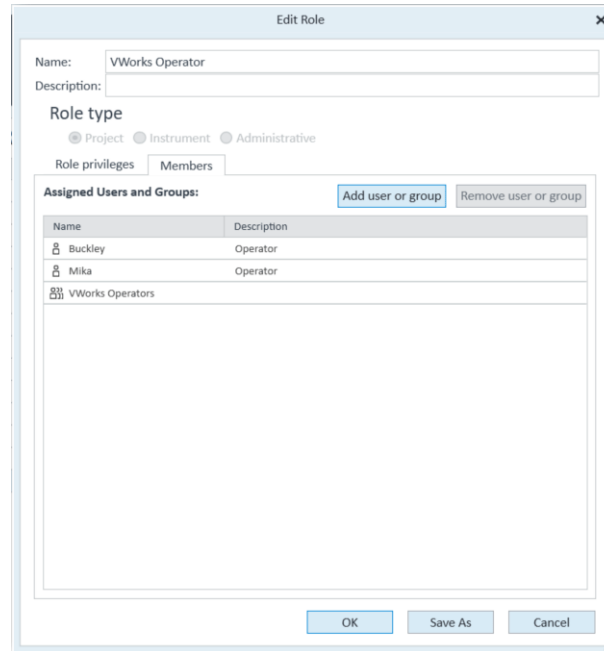
4 In the **Members** tab, click **Add user or group**. The Search Users and Groups dialog box opens.
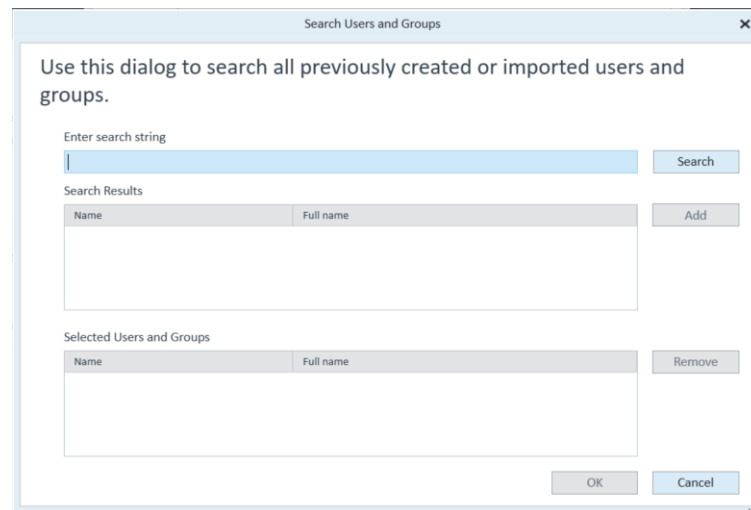
5 Type the user name in the **Enter search string** box, and click **Search**.

6 In the **Search results** box, select the name and click **Add**.

7 Click **OK**.

Changing a password and managing user data

You may use the following procedures to change a password using Control Panel if the following conditions are met:

- Your system is using Internal authentication
- You have administrator privileges

  Note: When a VWorks Technician, VWorks Operator, or VWorks Guest logs in to the Control Panel, the My Settings page opens and allows the user to change their password. These users may view the Local Configuration, System Activity Log, and Licenses pages. The other Control Panel pages are not available to these users.

Changing your password

To change your password:

1   In the Control Panel navigation pane, click **Administration > My Settings**.
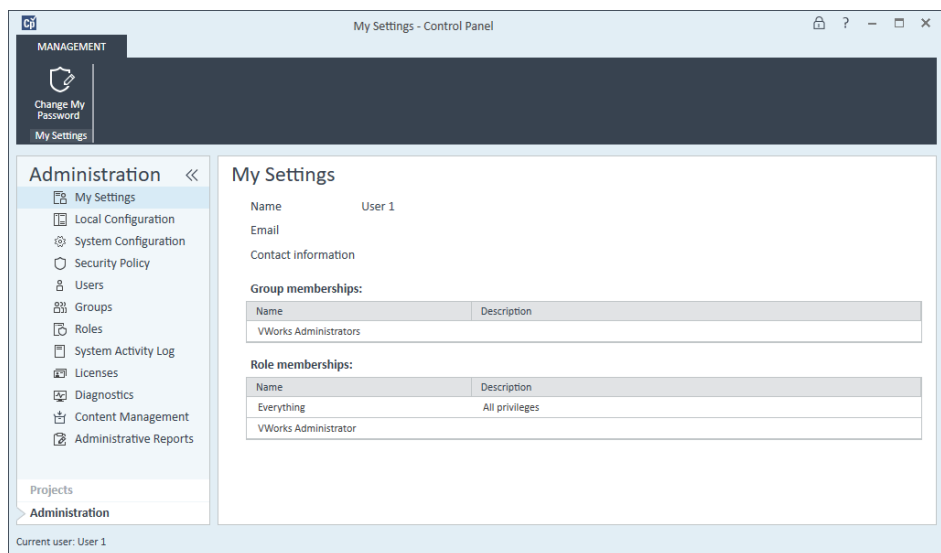
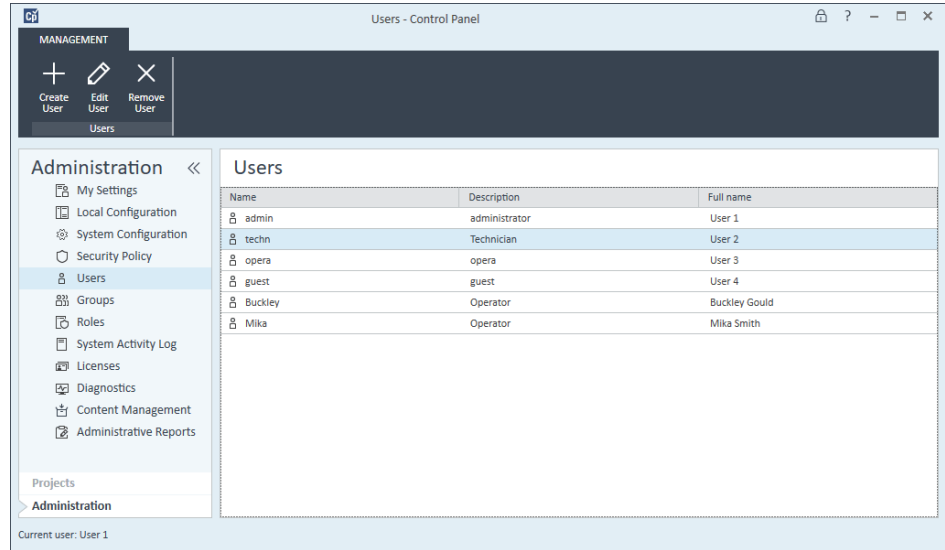2   In the ribbon, click **Change My Password**. The Change My Password dialog box opens.

3   Type the **Old password**, **New password**, and **Confirm new password**.

4   Click **OK**.

Editing user data and resetting user passwords

To edit a user's data and reset their password:

1   In the Control Panel navigation pane, click **Administration > Users**.

2   In the **Users** page, select the user.

3 In the ribbon, click **Edit User**. The Edit User dialog box opens.

- In the **General** tab, you may change the user password. For example, to reset the user password:
  - Select **Change password.**
  - Clear the remaining password check boxes, and then select **User must change password at next logon**.
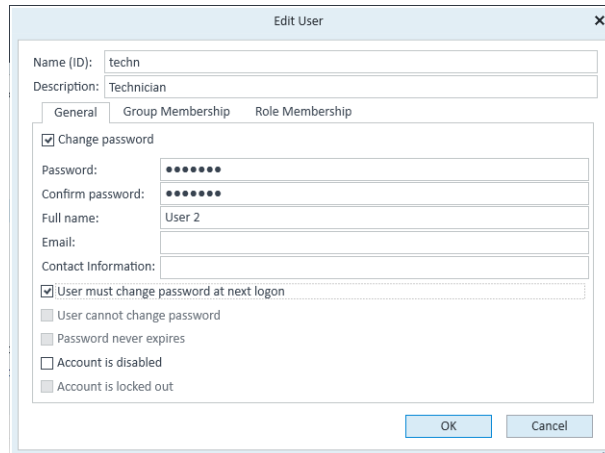
- In the **Group Membership** tab, you may change the user's group assignment.
- In the **Role Membership** tab, you may change the user's role assignment.

4 Click **OK**.

Removing users

To remove a user:

1   In the Control Panel navigation pane, click **Administration > Users**.

2   In the **Users** page, select the user.
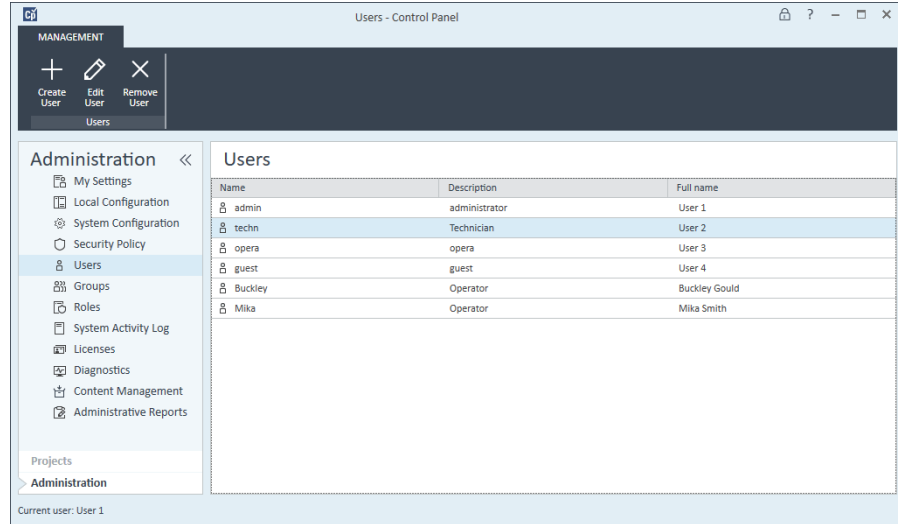
3   In the ribbon, click **Remove User**.

About the VWorks Project settings

Project name and folder path

The VWorks project name and the project folder path are preconfigured during installation. This is the only project configured in the Control Panel for the VWorks software and the only project that VWorks Standard supports.

CAUTION   **Do not change the preconfigured /VWorks Projects/VWorks folder name. Changing the project folder name will cause unexpected results.**

Figure   Example of Projects page in Control Panel for VWorks Standard

Fourth-level folder restriction

During installation, a VWorks Projects folder structure is created that includes 4 levels. The following figure shows an example:
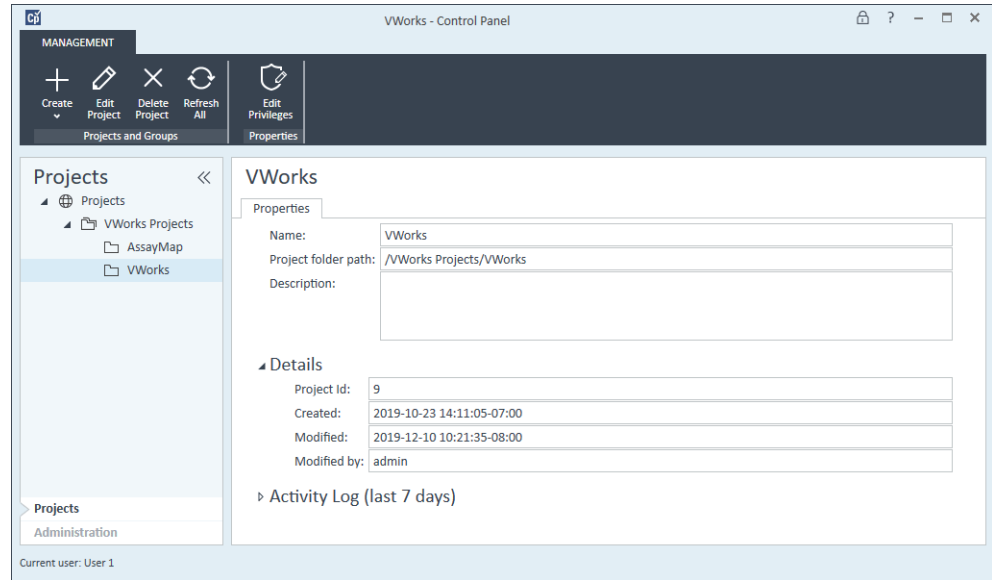
/VWorks Projects/VWorks/General/Protocols
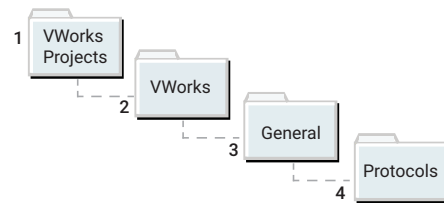
By default, VWorks Standard does not restrict file saving to fourth-level folders. An administrator can add additional fourth-level folders and other subfolder levels.

If you require future compatibility with legacy OpenLab ECM 3.x servers, which do not allow files to be saved in folders above or below the fourth level, you can change the VWorks folder option, as the following figure shows.

For detailed instructions on the **Restrict file saving to 4th level folders** option, see the *VWorks Automation Control Setup Guide*.
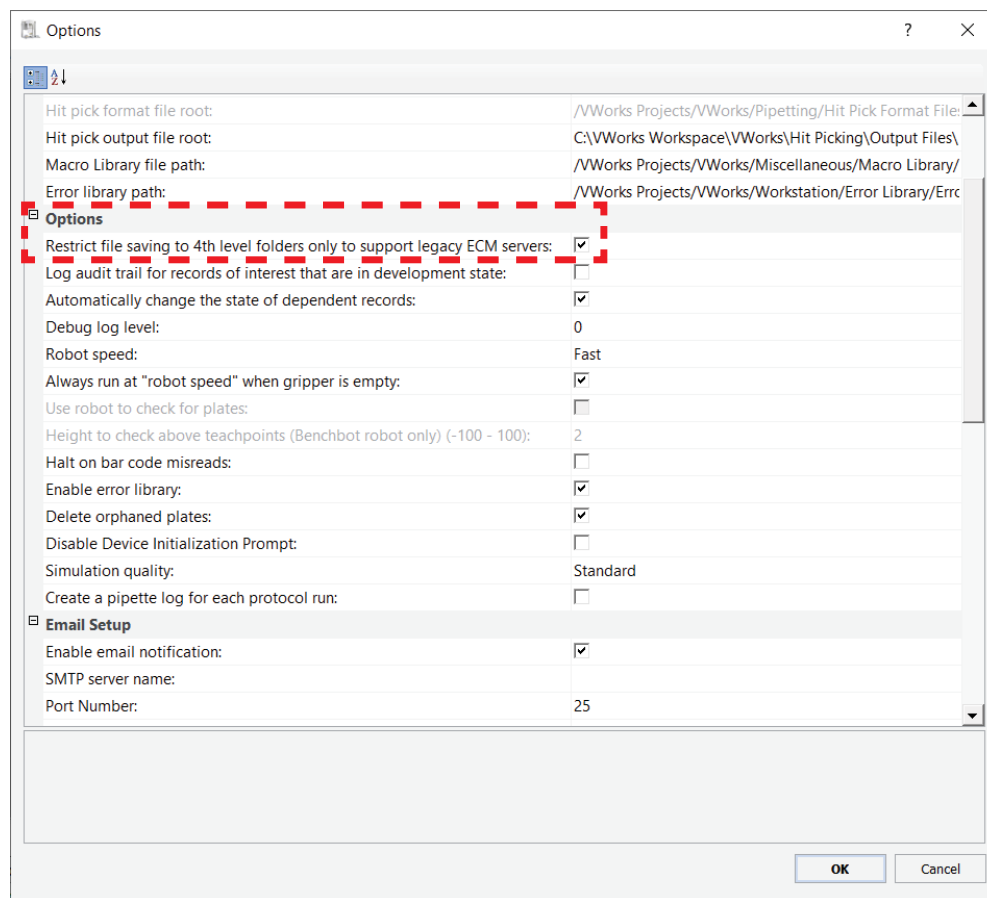
About configuring instruments

To communicate with and control the robot and any integrated devices, the VWorks software uses a device file, which contains the relevant devices. A device can be a robot, an instrument, or a location on the lab automation workstation that can hold a piece of labware. The following are examples of devices:

- BenchCel Microplate Handler
- Bravo Platform
- PlateLoc Sealer
- Microplate Labeler
- Labware MiniHub
- Platepad
- Waste Bin

Each device is configured in its corresponding device diagnostics window in the VWorks software. For details, see the *VWorks Automation Control User Guide* in the VWorks Knowledge Base.

VWorks Automation Control Standard Administrator Guide

4 System maintenance

This chapter includes the following topics:

Agilent

Control Panel activity log and administrative reports

This section describes the System Activity Log and Administrative Reports pages in the Control Panel.

For a description of license management, see "Licensing the software" on page 5. For a description of the authentication provider, security policy, and user management, see "Configuring the software" on page 13.

System Activity Log

Note: For information on activity logs in the VWorks software, see the *VWorks Automation Control User Guide* in the VWorks Knowledge Base.

The System Activity Log contains information on the various events associated with Shared Services. You can filter the list in order to view only events of a specific type, in a specific time range, created by a specific user, or containing a specific description.

The following types of events are recorded:

- System
- Project Management
- User
- Group
- Security
- License

The messages can come from other components, such as the user management, system messages, or event messages. The System Activity Log records these events irrespective of whether you have been alerted to them or not.

To display the System Activity Log:

In the Control Panel navigation pane, click **Administration > System Activity Log**.

Administrative Reports view

In the Administrative Reports view, you can additionally create and export various XML or PDF reports related to the system configuration, including:

- **Projects Report**. Provides detailed information about configuration and access privileges for all projects on the system.

- **Roles and Privileges Report**. Describes all roles defined on the system, including details of all privileges included in each role.

- **System Report**. Provides a consolidated view of the system, which includes projects, roles, users, and groups.

  Note: Reports about instrument controllers and instruments are not applicable for the VWorks software.

- **User's and Group's Role Assignment Report**. Provides an overview of all users and groups with their assigned roles.

To display the Administrative Reports view:

In the Control Panel navigation pane, click **Administration > Administrative Reports**.
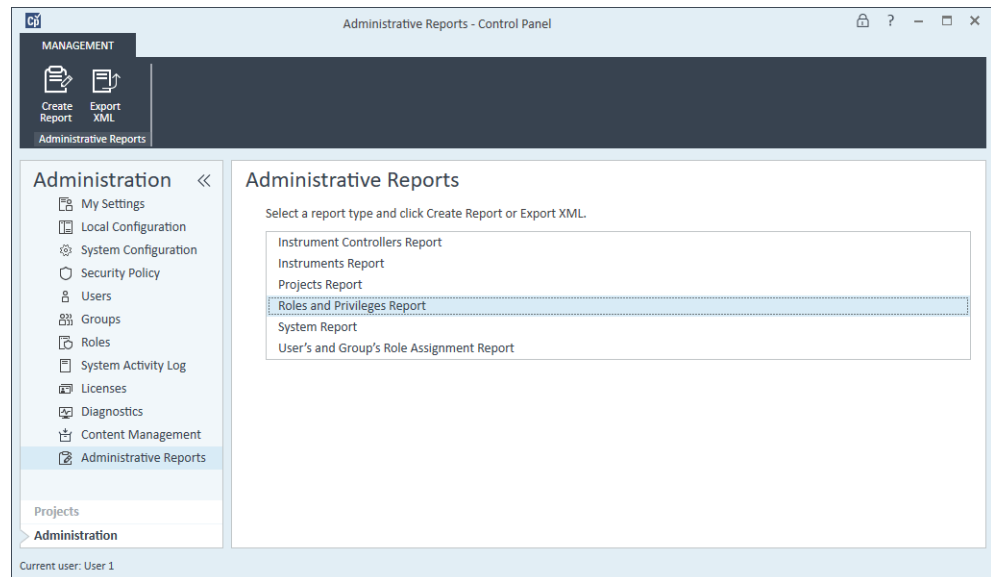
Shared Services Maintenance utility

The Shared Services Maintenance utility is automatically installed with VWorks Standard to help administrators manage the system.

To open the Shared Services Maintenance utility:

Select **Start (▦)** > **All Apps** > **Agilent Technologies** > **Shared Services Maintenance**.

A user must have Windows administrator rights to access this utility.

Backup and Restore tab

The Shared Services database contains information that is accessed by the Control Panel, such as users, roles, permissions, and projects. The Backup and Restore tab provides a simple interface for backing up and restoring the Shared Services database.

For details, see "Data backup" on page 35 and "Data recovery" on page 37.

Windows Domain tab

In the Shared Services Maintenance utility, the Windows Domain tab is relevant if you use Windows domain authentication to identify your VWorks Standard users.

VWorks Standard must be given access to the server where these credentials are stored. In the Windows Domain tab, you specify or change the credentials that VWorks Standard will use to access your Windows domain server.

Server Settings tab

The Server Settings tab can be used to manage different server connections. VWorks Standard typically connects only to the local host computer.

Disaster recovery planning

Prepare a recovery plan for the unlikely case of VWorks Standard becoming inoperable due to a hardware or software failure. This plan must include information and procedures for completely restoring the operating system, software, and data. Make sure that the disaster recovery plan has been tested and confirmed to be working.

The Disaster Recovery Plan must include the following:

Category	Details
Computer specifications	CPU, memory, and hard disk configuration information
Computer identity	• Computer name, IP, domain, URI, and so forth • Computer administrator information: user name and passwords for logging in to the server • If applicable, user names and passwords for the database
Software	OS version and build
Installation parameters	• Installation folder • Project folder • Installation log files • Shared Services language • Shared Services database name
Installed licenses	–
Registered applications	–
3rd party software information	Applications and their revisions and installation paths
Backup and restore	• Backup procedures • Backup media location and organization details • Restore procedures

Ensure the following:

- *Regular backups*. Administrators should perform periodic full backups and differential backups between the full backups. These backups are the only way to restore a system in the event of a hardware or software failure.

- *Tested procedures*. Make sure your disaster recovery plan and restore procedures are tested to confirm that the backups are sufficient to restore your system.

Software backup and recovery

Software backup workflow

Step	For this task...	Description
1	Exit any running applications.	Close the VWorks software, Control Panel, and any other open applications.
2	Stop Windows Services.	In Microsoft Windows, open Services and stop the following service: Agilent OpenLab Shared Services
3	Create an image of the current system.	See Microsoft Windows documentation.
4	Start Windows Services.	In Microsoft Windows, open Services and start the following service. Agilent OpenLab Shared Services

See Microsoft Management Console help for more information on stopping and starting services.
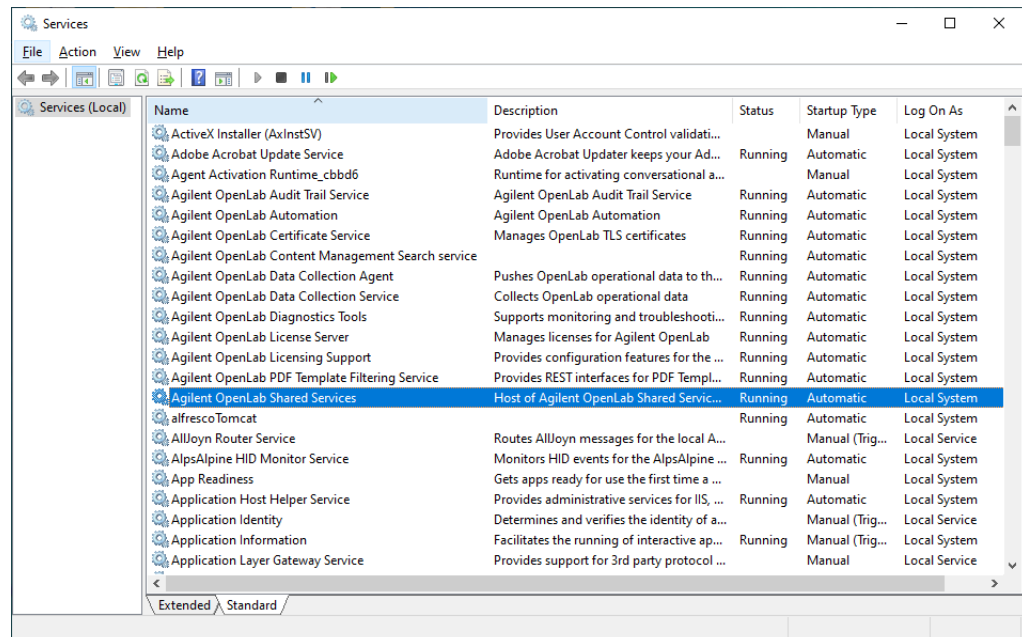
About software recovery

See the Windows Installation documentation for detailed information on how to perform software recovery using a Windows Recovery DVD.

Data backup

This section describes how to create backup copies of the Shared Services data and the VWorks data.

Data backup workflow

| Step	For this task...	See...
1	In the VWorks software, use the **Backup Manager > Backup** command to create a backup file (.vbk) of the following: • Existing state of the labware inventory database • Labware definitions and liquid classes • Pipette techniques	*VWorks Automation Control User Guide* (Backing up and restoring files)
2	If applicable, create a backup of the Experiments database by exporting all the experiment IDs to a backup file (.expTags file). Also make a backup copy of any archived experiment ID files.	*VWorks Automation Control Setup Guide* (Archiving, exporting and importing experiment data)
3	Close the Control Panel (OpenLab component) and the VWorks software.	–
4	In Microsoft Windows, open Services and stop the following service: Agilent OpenLab Shared Services	Microsoft Management Console (MMC) help
5	Perform a Shared Services database backup to back up the user management information.	"Performing Shared Services database backup" on page 36
6	Create a backup copy of the VWorks Projects folder. Store the backup copy in a secure location.	"Creating a backup copy of VWorks Projects folder" on page 37
7	In Microsoft Windows, open Services and start the following service: Agilent OpenLab Shared Services	Microsoft Management Console (MMC) help

Performing Shared Services database backup

The Shared Services database contains information that is accessed by the Control Panel, such as users, roles, permissions, and projects. The Backup and Restore tab in the Shared Services Maintenance utility provides a simple interface for backing up and restoring the Shared Services database.

IMPORTANT	The Shared Services Maintenance utility automatically generates file names for the backup files. Do not change these file names, as the utility relies on a specific naming convention.

To create a backup copy of the Shared Services database:

1   Select **Start ( )** > **All Apps** > **Agilent Technologies** > **Shared Services Maintenance**.

2   In the **Backup and Restore** tab, specify the following:

- **Backup Directory**. Make sure you use a safe location as the backup directory, for example, a USB drive, a network location, or an external storage device.

- **Retention Time (days)**. When a new backup is performed, the currently set retention time is used to delete any files older than specified.

3   Click **Backup**.
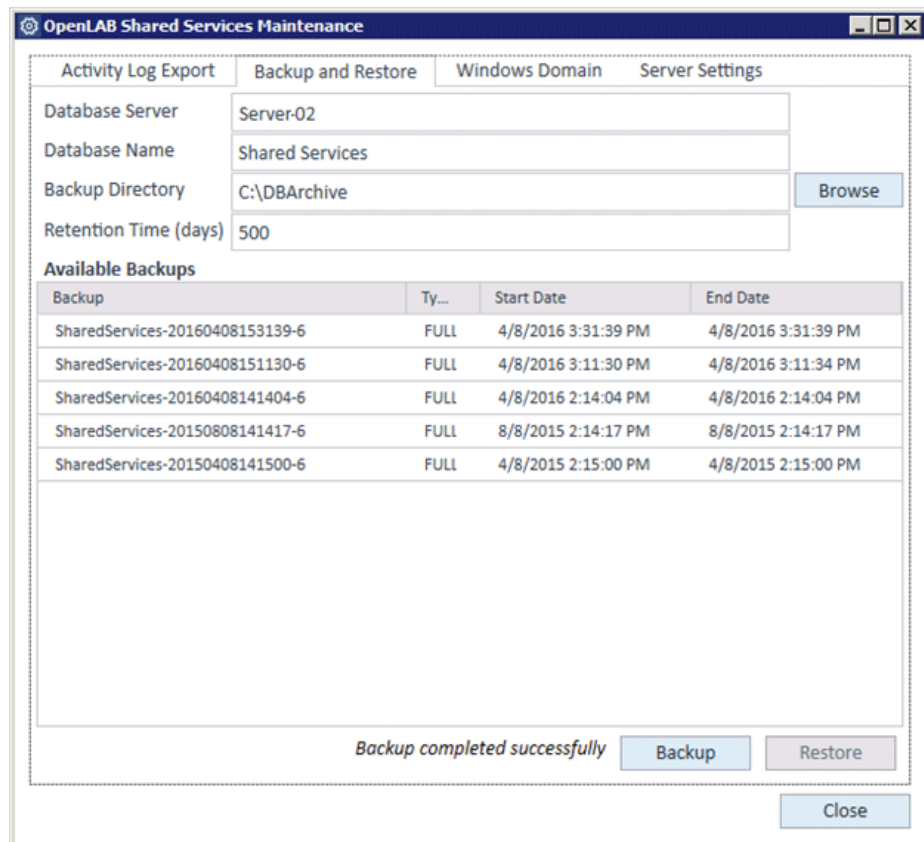
Creating a backup copy of VWorks Projects folder

Note: The VWorks software has features that provide backups of only a subset of the VWorks files. For information on these features, see the *VWorks Automation Control User Guide*.

To make a backup of the VWorks Projects folder:

Copy the **VWorks Projects** folder specified during installation, for example:

```
c:/olssprojects/vworks projects/
```

Back up the copy to a safe location, for example, a network location or an external storage device.

Data recovery

Data recovery workflow

Before running the recovery procedures, ensure that the Control Panel (OpenLab component) and the VWorks software are closed.

Step	For this task...	See...
1	In Microsoft Windows, open Services and stop the following service: Agilent OpenLab Shared Services	Microsoft Management Console (MMC) help
2	Restore the VWorks projects folder.	"Restoring the VWorks project content" on page 38
3	Restore the Shared Services database from a backup.	"Restoring Shared Services database" on page 38
4	In Microsoft Windows, open Services and start the following service: Agilent OpenLab Shared Services	Microsoft Management Console (MMC) help
5	In the VWorks software, use the **Backup Manager > Restore** command to restore a backup (.vbk file) of the following: • Existing state of the labware inventory database • Labware definitions and liquid classes • Pipette techniques	*VWorks Automation Control User Guide* (Backing up and restoring files)
6	In the VWorks software, if applicable, restore the Experiments database from an exported backup file (.expTags file) and any archived experiment ID file.	*VWorks Automation Control Setup Guide* (Archiving, exporting and importing experiment data)

Restoring the VWorks project content

Note: The VWorks software has backup and restore features for only a subset of the VWorks files. For information on these features, see the *VWorks Automation Control User Guide*.

To restore the content in the VWorks Projects folder:

Copy the contents from the previously saved backup copy of the **VWorks Projects** folder to the location used at the moment of backup, for example:

```
c:/olssprojects/vworks projects
```

Restoring Shared Services database

IMPORTANT   The Shared Services Maintenance utility automatically generates file names for the backup files. Do not change these file names, as the utility relies on a specific naming convention.

To restore the Shared Services database:

1   Select **Start ( ) > All Apps** > **Agilent Technologies** > **Shared Services Maintenance**.

2   In the **Backup and Restore** tab, click **Browse**, and then select the folder that contains the previously created backups.

3   Select the backup that you want to restore, and click **Restore**.
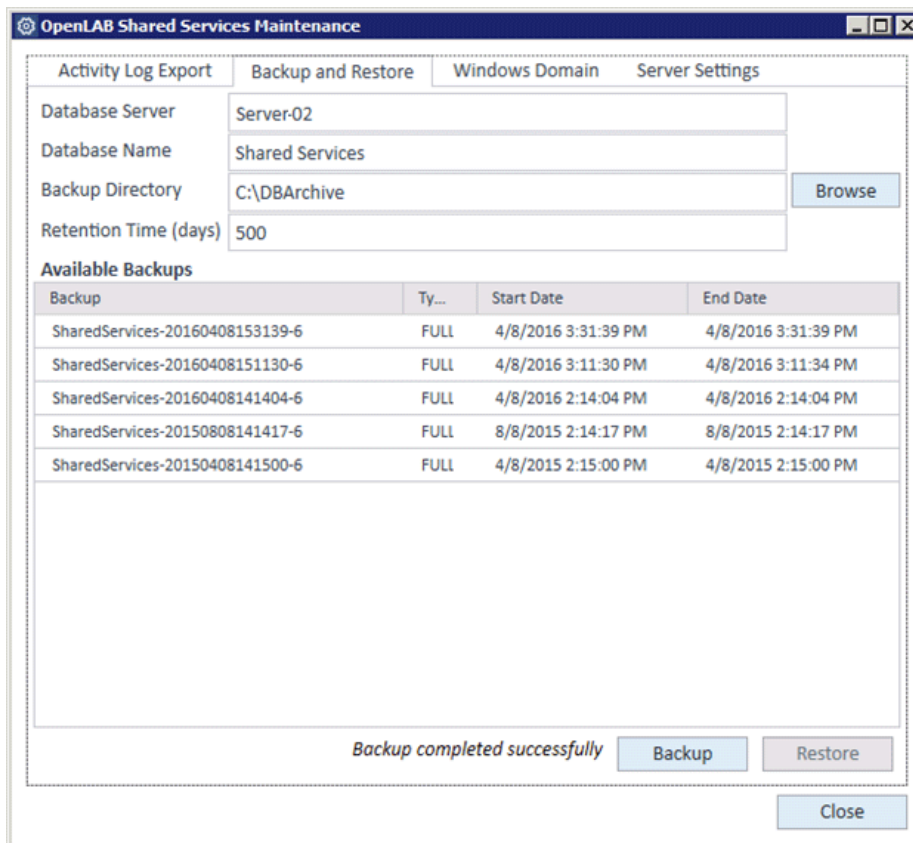
In This Guide

This guide provides administrator instructions for VWorks Standard edition, including:

- License generation with SubscribeNet
- Configuring and managing user access
- Software and data backup and restore procedures

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