Quest

Binary Tree Directory Sync Pro for Notes 20.13

Requirements and Installation Guide

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Legend

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

IMPORTANT, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

Binary Tree Directory Sync Pro for Notes – Requirements and Installation Guide
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Section 1. Introduction

1.1 Purpose

This document details the following:

- Requirements for implementing Binary Tree's Directory Sync Pro for Notes to provide for object syncs between HCL Domino and Microsoft Active Directory. These include the requirements for each of the servers needed to run Directory Sync Pro, as well as any environmental requirements.

- Information on how to install Binary Tree's Directory Sync Pro.

1.2 Audience

This document assumes the reader has Active Directory, Exchange and Domino administration skills. If Active Directory, Exchange or Domino Administration topics mentioned in this document are not understood, please reference the product(s) System Administration documentation.

For Microsoft 365 (Office 365) deployments including Microsoft GCC High systems the object synchronization from Active Directory to Microsoft cloud systems is dependent on Microsoft Azure AD Connect. This document assumes that AAD Connect has been configured separately and that the reader has administration skills for that. If this configuration requires further understanding refer to Microsoft online documentation.

1.3 Certifications

- Directory Sync Pro has been certified to work with Active Directory Domain and Forest Functional Levels 2012 R2 and 2016.

- Directory Sync Pro supports TLS 1.2 connections.

Section 2. Directory Sync Pro Prerequisites

2.1 Supported Environments

The following is a list of supported and unsupported environments.

A Domino server (Coexistence) and a Windows server (Console) will be required. For deployments over 5000 objects a dedicated SQL server will be required.

If Binary Tree Integration for Notes will be deployed these servers can be used to combine the functions. Consideration should be given to expected sync and mail processing volumes with the functions split to dedicated servers for environments that would be heavily utilized, typically where there are more than 20,000 objects.

	SUPPORTED	NOT SUPPORTED
Binary Tree Windows Server	Windows Server 2012 R2, Windows Server 2016, or Windows Server 2019; US English Operating System	All other versions of Windows Server
SQL Server Database	SQL Server can be a new or existing database server in the customer's environment. The following SQL Server versions (English versions) are supported: • SQL Server 2012 SP2 • SQL Server 2012 SP2 Express with Advanced Services • SQL Server 2016 • SQL Server 2016 Express with Advanced Services • SQL Server 2019	SQL Server 2008 or previous Reporting using SQL Server Reporting Services 2016 or SQL Server Express Reporting Services 2016
Domain	At least one Windows Server 2012 R2 or higher Domain Controller in target	

2.2 Binary Tree Windows Server Requirements

- .NET 4.8. All system patches, service packs, and security updates should be applied to you operating system to ensure compatibility with .NET 4.8.
- IPv4 Only
- The user running the BTDirsync service (full name BinaryTree.Coexistence.Dirsync.Exchange.exe) must have the following rights:

  1. Administrator rights to SQL Server with sysadmin role (during installation).

2. Local administrative rights to the Quest Binary Tree Windows server (during installation).

- Exchange cannot be installed on this server.
- The Binary Tree Windows Server must be a dedicated server for the Binary Tree solutions.

2.3 Binary Tree Domino Server Requirements

The Domino Coexistence server is responsible for Directory Synchronization, Free/Busy Look-up, and Messaging, Calendaring and Application Remediation if deploying Binary Tree Integration.

- Windows Server 2012 R2, 2016, 2019 (US English) (Language packs are supported)
- Domino 9.0.1, 10.x, 11.x 12.x English (Language packs are supported)

HCL Domino requirements should be followed and fix packs from HCL may be required.

Clients are responsible for checking with Microsoft or HCL to make sure the version of Domino they are deploying is supported on the version of Windows they are deploying it on.

Clients are responsible for validating Domino fix packs to ensure correct functioning of Domino mail and Free/Busy processing. Details for Domino Fix Packs and updates for Domino issues that these Fix Packs address should be verified with HCL support.

- .NET 4.8 and Microsoft Visual C++ 2015 Update 3 dependencies (of which the necessary C++ runtimes are in the installation package)
- The Domino Coexistence server should be dedicated to Directory Sync Pro and Integration tasks only
- The Domino Coexistence server should be a separate server from the Domino Mail servers, and no user mail files should reside on the Domino Coexistence server

2.4 Domino Server Hardware Requirements

Recommended:

- Domino Coexistence Server
  - 4 Cores
  - 8 GB of RAM
  - 100 GB of storage
  - Add 50 GB of storage if deploying ZApp

Minimum:

- Domino Coexistence Server
  - 2 Cores
  - 4 GB of RAM
  - 100 GB of storage

- Add 25 GB of storage if deploying ZApp

2.5 SQL Server Database Requirements

- The IP address and either the default SQL port (1433) or an alternate port must be open to all Binary Tree servers.
- The ability to create and modify tables in the Dirsync database on the SQL Server database server.
- It is strongly recommended that the SQL Server database server is dedicated to SQL Server. This server can host other SQL databases, but should serve no other purpose than being a SQL Server database server.
- SQL Server must be configured using Mixed Mode authentication.
- Using the default system administrator SQL Server login account is not recommended. A Directory Sync SQL Server login account should be created. This account must have sysadmin and database owner rights to create the Dirsync database. The sysadmin right can be removed from this account once the install is complete.
- If using a Remote Named Instance of SQL Server:

The incoming firewall rules on the machine that hosts the SQL Server instance must be modified.

Using the SQL default of dynamic ports for named instances:

1. Create an inbound firewall “Program” rule whose program path is the named SQL database engine (ex: %ProgramFiles%\Microsoft SQL Server\MSSQL14.<INSTANCE-NAME>\MSSQL\Binn\sqlservr.exe)
2. Create an inbound firewall “Port” rule for UDP port 1434.
3. The “SQL Server Browser” must be running.

Alternatively, you can setup a fixed port for the SQL instance following these instructions.

2.6 General Requirements

- All components of Directory Sync Pro are fully functional on physical as well as virtual machines. When setting up Proof of Concept or Pilot environments, Binary Tree fully supports, in fact, recommends the use of virtual machines as a means of lowering the expense of such projects. However, when it comes to production environments, Binary Tree has not yet gathered sufficient information to determine whether virtual environments have the same stability and performance characteristics as physical machines. Because a majority of production environments have been and are deployed on physical machines, Binary Tree advises potential customers of these facts, but defers to them to make the final decision. Binary Tree will provide product support in both physical and virtual environments. However, if either stability or performance issues are found in a virtual environment, Binary Tree may recommend switching to a physical one as a means of issue correction.
- Binary Tree Servers must be connected via a LAN (10MB or higher) connection. A high-speed WAN (5MB or higher) connection may be acceptable but is not recommended. Where possible, it is recommended to have these servers, as well as Exchange on the same physical network.

2.7 Exchange Access Requirements

To deploy Directory Sync Pro on the Binary Tree Windows Server, an AD account with Server Administration rights must be able to log on to the server interactively. The account must be able to run programs with Administration-level access on the target Exchange Server and specifically be able to open the Exchange Management Shell (PowerShell).

Binary Tree recommends the following setup for the service account:

Active Directory

- Minimum membership of Domain Users (least privilege) built-in security group
- Read & List Contents rights to "Deleted Objects" container. You may follow these steps if your account is not a Domain Administrator or equivalent (see KB892806):

Using a domain admin account, open a command prompt and confirm the successful execution of the following commands:

dsacls "CN=Deleted Objects,DC=domain,DC=com" /takeownership

dsacls "CN=Deleted Objects,DC=domain,DC=com" /g Domain\ServiceAccount:LCRP

- Full Control rights to destination OU in Active Directory

Exchange

- Administrative rights to Exchange

SQL Server

- Create a new login in the SQL Server Management Studio. In Server Roles, grant public and sysadmin rights (you may remove these rights after the **database** has been created). In User Mapping, select the DirSync database and grant public and database owner rights.

Binary Tree Windows Server

- Member of local administrators group

2.8 Post Sync PowerShell Script Requirements

The following requirements must be met if using the Post Sync PowerShell Script option:

- PowerShell 4
- The credentials specified on the AD Target tab must have rights to run PowerShell.
- The following must be enabled on the DC defined on the AD Target tab:
    - Remote PowerShell commands (Unrestricted methods must be enabled if required)
    - Windows Remote Management (WinRM)
    - Active Directory Web Services

Section 3. Directory Sync Pro Advanced Network Requirements

3.1 Directory Sync Pro to SQL Server Access

SOURCE	TARGET	PORTS	PROTOCOL
Directory Sync Pro	SQL Server holding the primary database	1433	TCP & UDP
Directory Sync Pro	SQL Server holding the logging database	1433	TCP & UDP

3.2 Directory Sync Pro Profile Specific Scenario Requirements

Directory Sync Pro Match Only or Update Only Profile (no object creation)

SOURCE	TARGET	PORTS	PROTOCOL
Directory Sync Pro	Domain controllers	88, 389, 445, 3268	TCP (all) UDP (88, 389)
Directory Sync Pro - Domino	SQL Database	1433, 1434	TCP (all) UDP (88, 389)

* Port 445 only needs to be open to the Source Domain Controller during Directory Sync Pro Profile creation

Directory Sync Pro Profile with Create Only or Create/Update Matching Option

SOURCE	TARGET	PORTS	PROTOCOL
Directory Sync Pro	Domain controllers	88, 139, 389, 445, 3268	TCP (all) UDP (88, 389)
Directory Sync Pro - Domino	SQL Database	1433, 1434	TCP (all) UDP (88, 389)

* Port 445 only needs to be open to the Source Domain Controller during Directory Sync Pro Profile creation

Section 4. Directory Sync Pro Requirements

4.1 Directory Sync Pro Basic Installation Requirements

The Directory Sync Pro suite consists of the console and the Web service, and Directory Sync Pro software packages. Both packages will require access to Microsoft SQL Server. In most environments, all components of Directory Sync Pro will be installed on the Domino coex server and the Windows coex server.

Single Server Installation Requirements

Supported Operating Systems	• Windows Server 2012 R2 • Windows Server 2016 • Windows Server 2019
SQL Server Requirements	• SQL Server Express 64-bit 2012 SP2 or 2016 (is supported up to 5000 objects) • SQL Server 64-bit 2016 or 2019 • SQL Management Studio must be installed • SQL must be configured to permit mixed authentication, and one local SQL authentication account must be created for Active Directory Pro and Directory Sync Pro to share.
Minimum Hardware Requirements	• 2 CPU/vCPU • 6 GB RAM • 10 GB disk space, inclusive of the SQL install requirements

Additional Components	• If your server is not internet connected, you will be required to install the following components prior to installing Active Directory Pro:
	  ○ .NET Framework 4.8
	  ○ Visual C++ 2013 Redistributable – BOTH the x64 and x86 versions must be installed regardless of the fact that the Windows Operating system is 64-bit

If you are planning to have a long-term co-existence (1 year+), we recommend using the following formula to determine if you should use a full edition of SQL Server with our products. This formula assumes High / Verbose logging turned on for all profiles = worst case scenario.

Formula: (Expected months of co-existence x Users) x Profiles = N

If calculated N >= 12000 then we recommend full edition of SQL Server.

- Low example: 3 months x 300 users x 1 profile = 900
- Medium example: 6 months x 1000 users x 2 profiles = 12000
- High example: 12 months x 3000 users x 5 profiles = 180,000
- Extreme example: 14 months x 6000 users x 7 profiles = 588,000

4.2 Networking Requirements

Domain Controller Access

For most scenarios, Directory Sync Pro requires access to at least one read/write domain controller running Windows 2003 SP2 or newer in each source and target Active Directory domain. For fault

tolerance, Binary Tree recommends at least two domain controllers in each source and target domain.

Network/Firewall Requirements

Directory Sync Pro requires the following network ports to enable full functionality:

SOURCE	TARGET	PORT/PROTOCOL
Directory Sync Pro Server	Source and Target Domain Controllers running Windows Server 2003	135, 137, 389, 445, 1024-5000 (TCP) 389 (UDP)
Directory Sync Pro Server	Source and Target Domain Controllers running Windows Server 2008 or newer	135, 137, 389, 445, 49152-65535 (TCP) 389 (UDP)
Target domain controllers listed in the Target DCs tab	Domain controller in the source environment holding the PDC Emulator Active Directory FSMO role	135, 137, 139, 389, 445, 3268 and 49152-65535 (TCP) 389 (UDP)

4.3 Service Account Requirements

Directory Sync Pro requires the following user account permissions and privileges:One service account with read/write access to all organizational units (OUs) containing user, group, and computer objects in the source Active Directory to be migrated to the target environment.

- One service account with administrative rights on the target domain(s)
    - If administrative rights cannot be granted, the service account requires the following rights:
        - The ability to create and modify user objects in the desired OUs in the target Active Directory environment.
        - Read Permissions to the configuration container in Active Directory

4.4 Browser Requirements

Directory Sync Pro uses a browser-based user interface. We recommend using Chrome v48.0 (or newer) or Firefox v44.0 (or newer) for the best browser experience.

The browser Download settings should be configured to ask where you want to save the files before downloading.

4.5 Password Requirements

Directory Sync Pro do not validate the password policies present within your domains. Verify that the password entered as the Default Password complies with the password policy of your target environment. Objects will fail to be created if the password violates that policy.

Section 6. Installing Directory Sync Pro

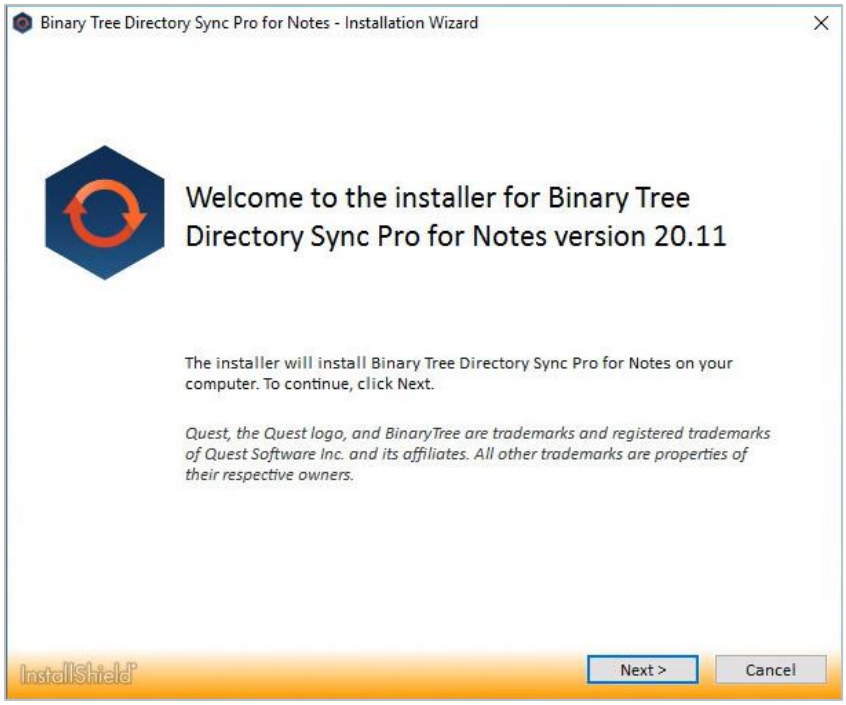
This guide includes the steps for installing Directory Sync Pro. The installer creates a local group on the Directory Sync Pro server named BTDirSyncPro and will add the currently logged in user to the group. Other users or a Domain group can be added to provide access to other users.

It is recommended to select “SQL Server Authentication” during the Directory Sync Pro server console installation if multiple people will be accessing the Directory Sync Pro web user interfaces. Otherwise, if “Windows Authentication” is chosen during installation, create a security group in AD and assign DB Owner rights to the Directory Sync Pro SQL databases and add all the users that need access to the console as members.

6.1 Installing Directory Sync Pro on a Windows Server

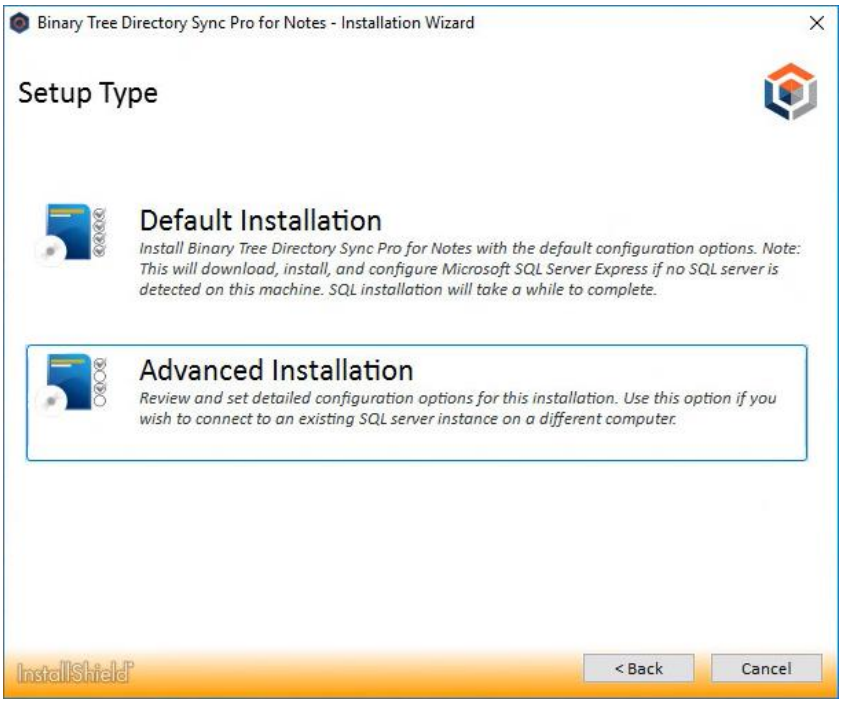
1. Download the installer executable file from the FTP site and save it on the Binary Tree Windows Server.

2. Double-click the executable to begin installing Directory Sync Pro. The Welcome screen appears. Click **Next** to continue.

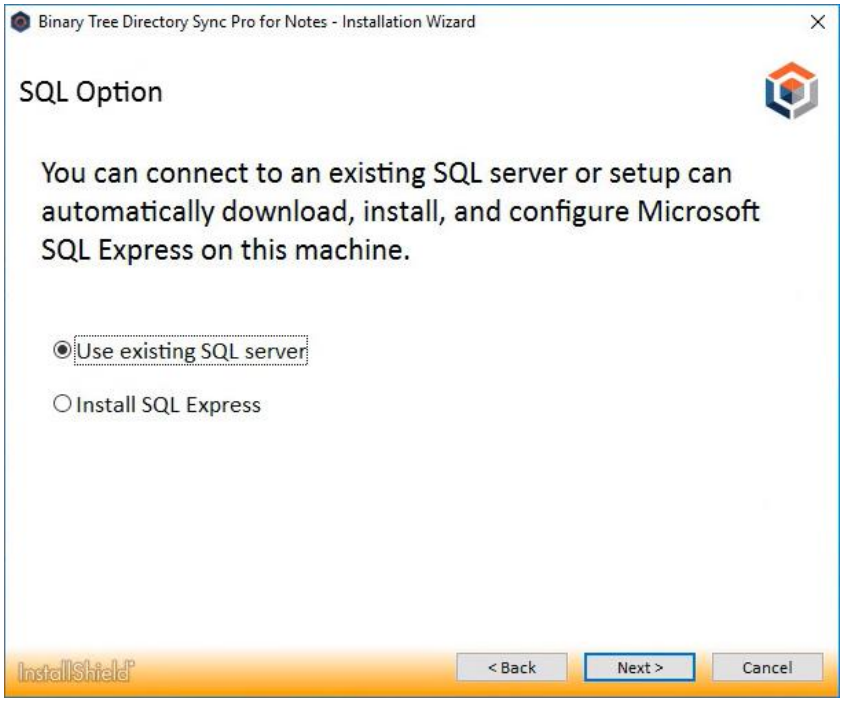


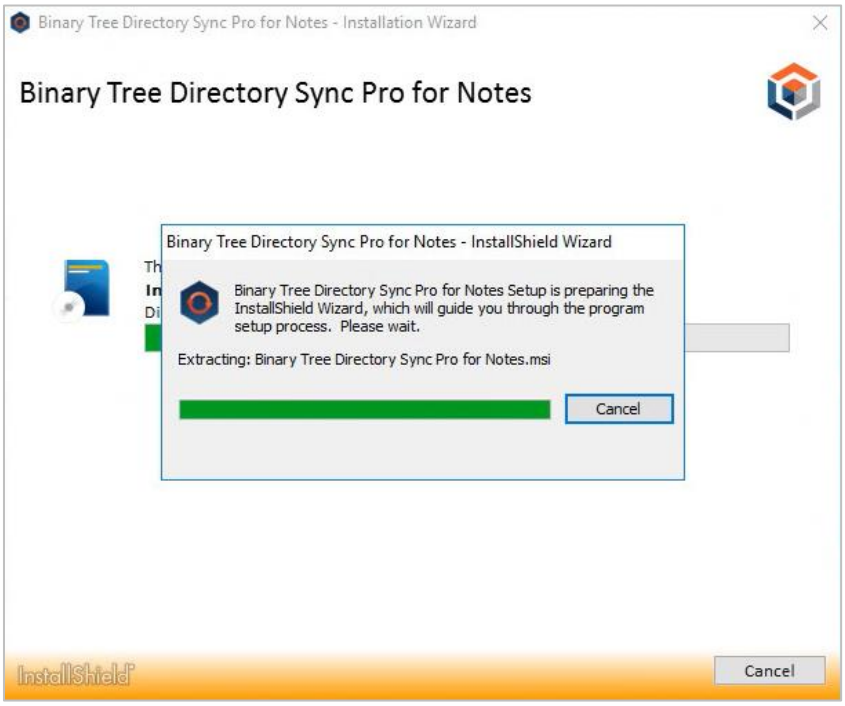
3. The License Agreement screen appears. To accept the terms of the license agreement and continue with the install, select “I accept the terms in the license agreement” and click **Next**.

4. For first time installation, click the Advanced Installation option

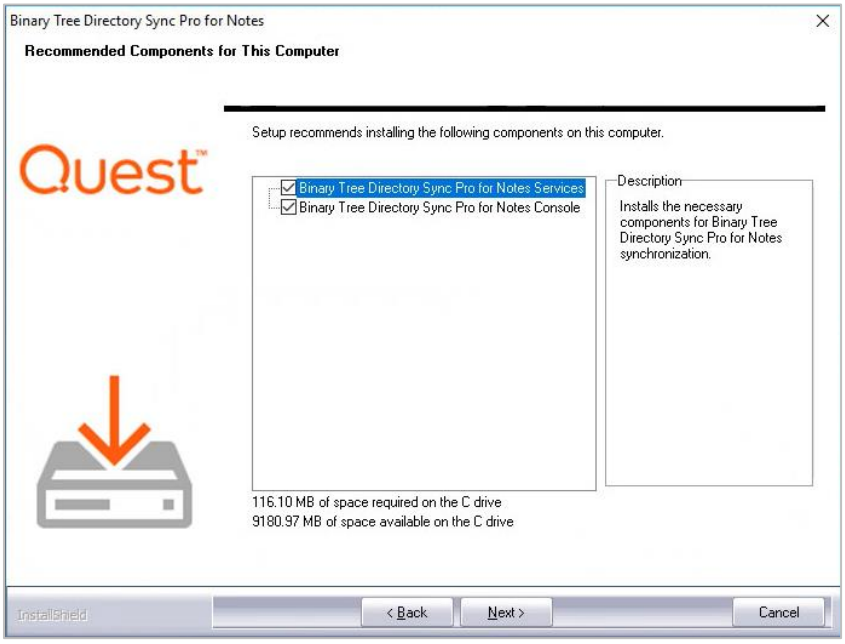


5. Select **Use existing SQL server**:

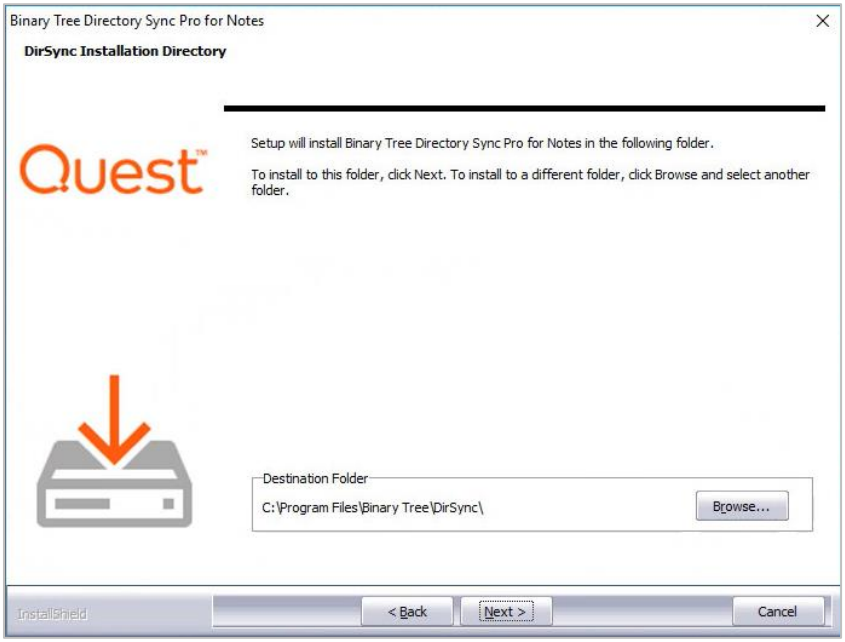




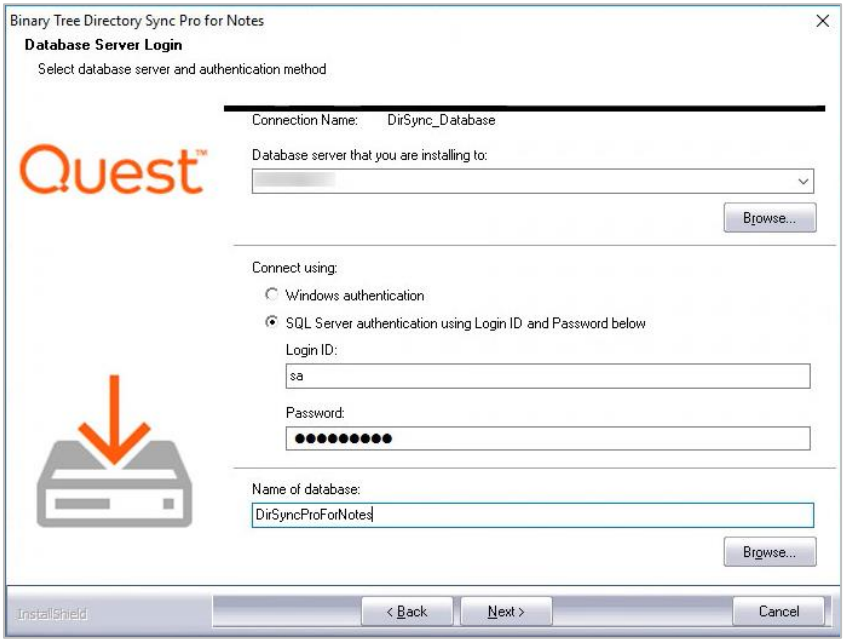
6. The **Recommended Components for This Computer** screen appears. By default, only the Directory Sync Pro components are selected. Click **Next** to continue.



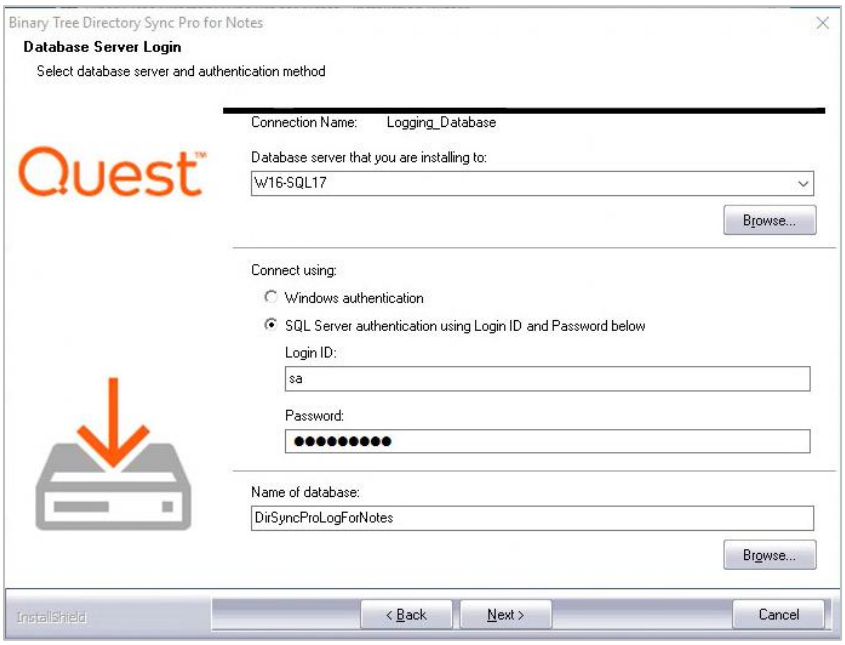
7. Choose the directory where you want Directory Sync Pro to be installed.

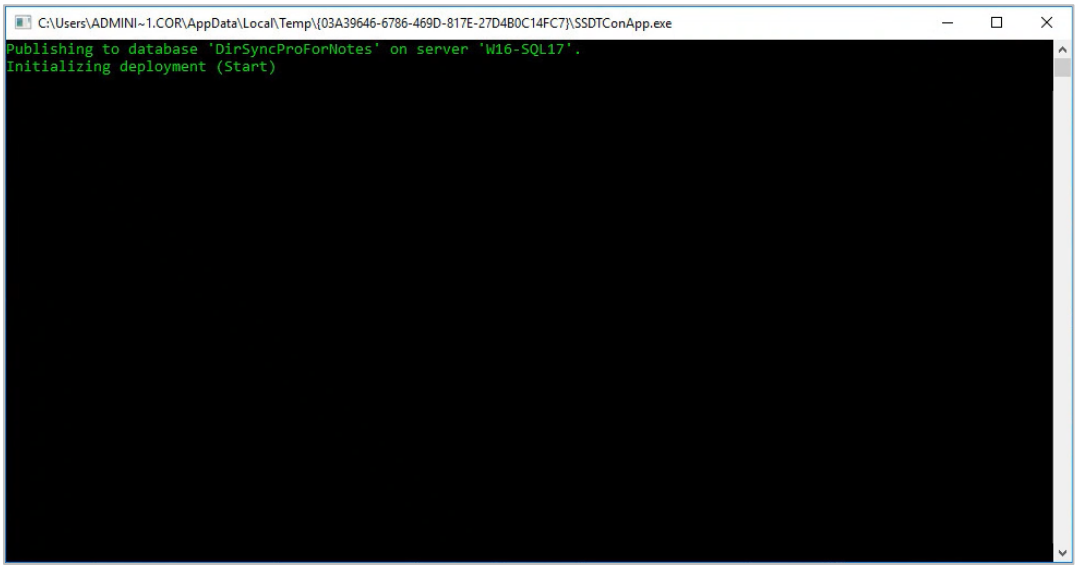


8. The Database Server Login screen appears. Enter the SQL Database Server location, credential information, and database name. Click **Next** to continue. If you chose to install SQL Server Express, the installer sets the “sa” account with the default password “Password1”.

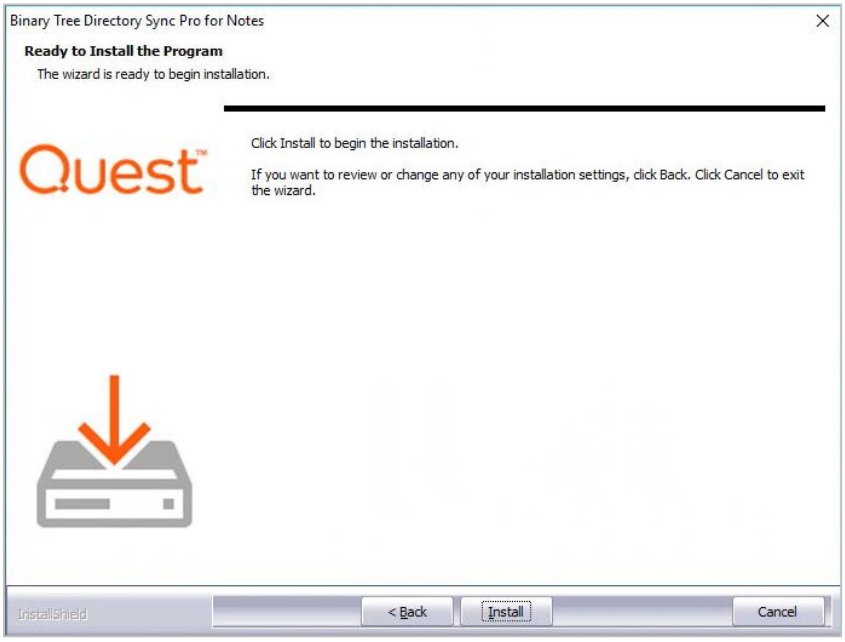


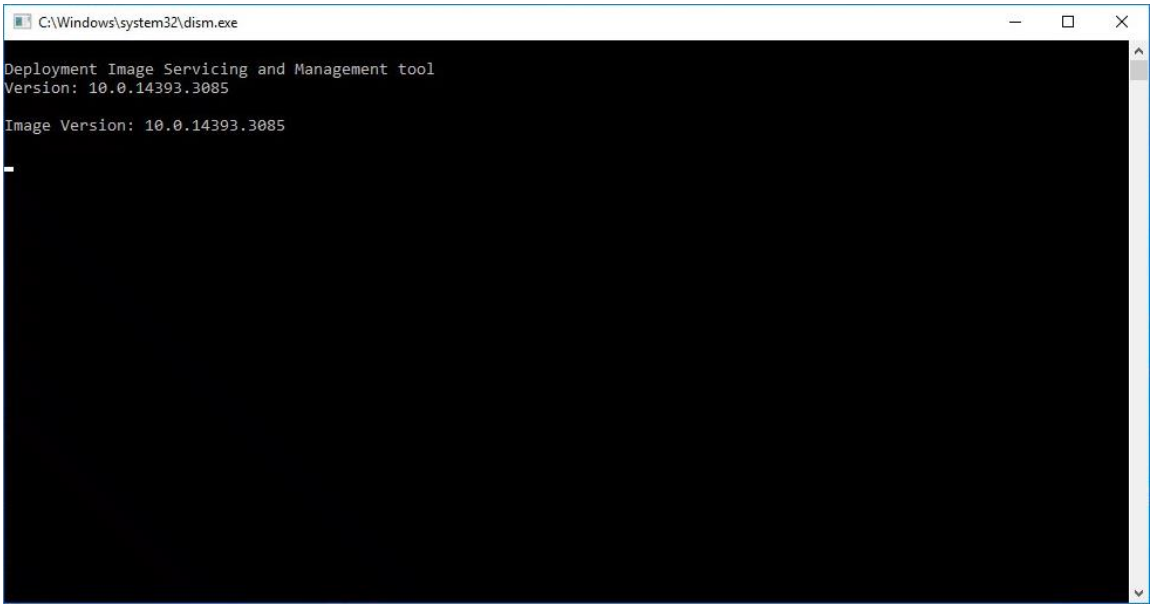
9. The Database Server Login screen appears again, this time for the logging database. Enter the SQL Database Server location for the logging database, credential information, and database name. Click **Next** to continue.

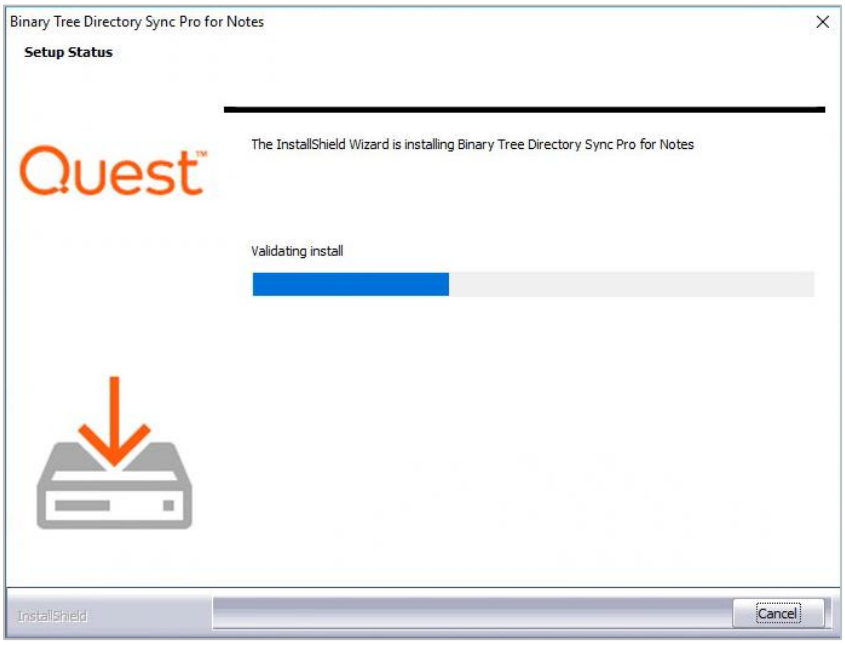




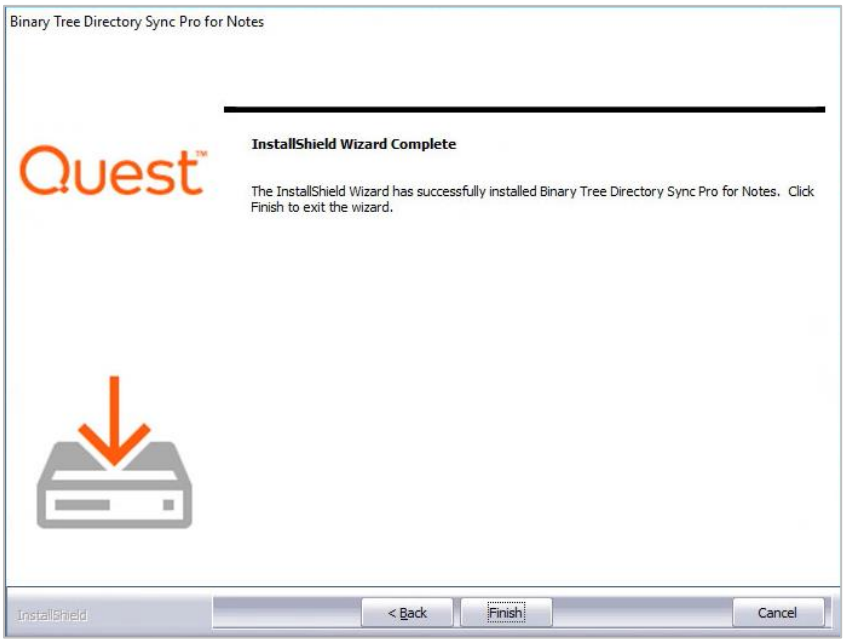
10. The **Ready to Install the Program** screen appear. Click **Install** to begin the installation. A series of loading and progress screens will appear.



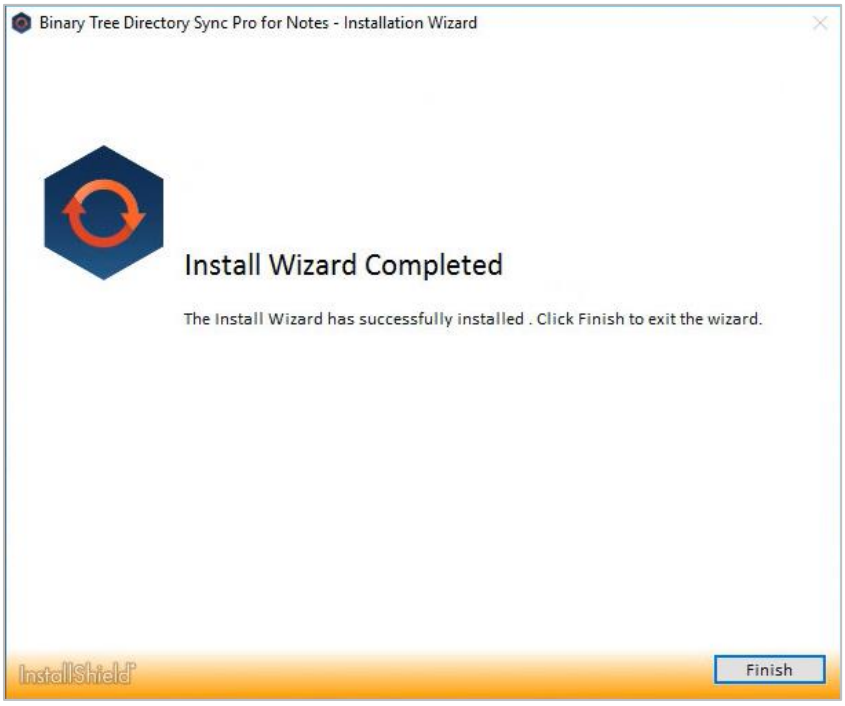



Binary Tree Directory Sync Pro for Notes
Setup Status
Quest
The InstallShield Wizard is installing Binary Tree Directory Sync Pro for Notes
Validating install
InstallShield
Cancel

11. When the installation has completed, click **Finish**.

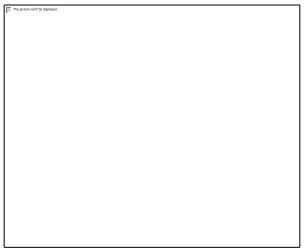


12. The package installer screen will finish loading in the background. Click **Finish** to complete the installation.

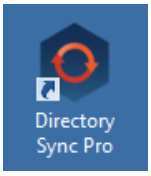


The Apps screen or Start Menu is updated and the Active Directory Pro and Directory Sync Pro icons are added to the desktop.

Apps screen:



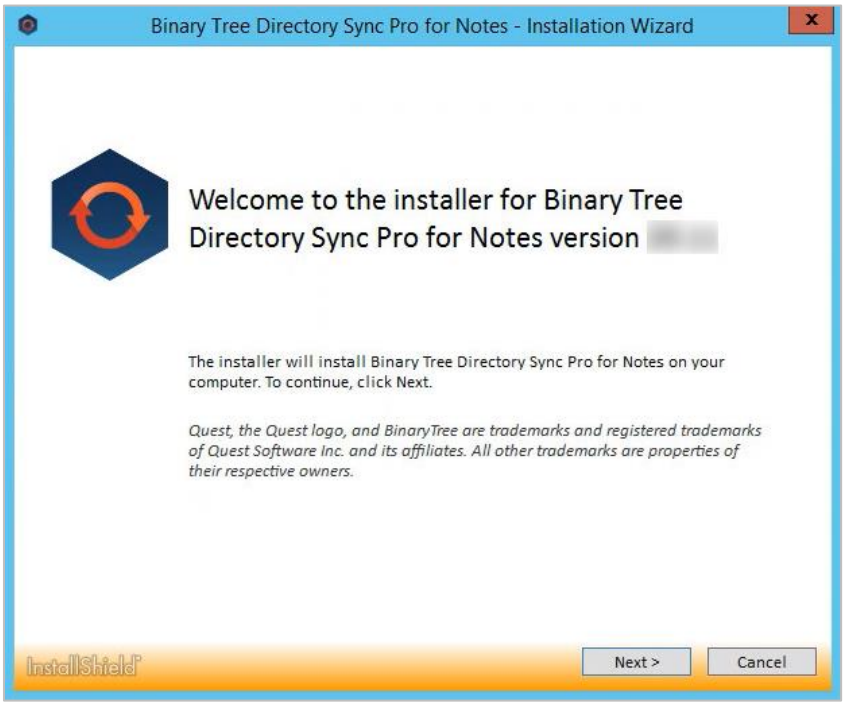
Desktop icons:



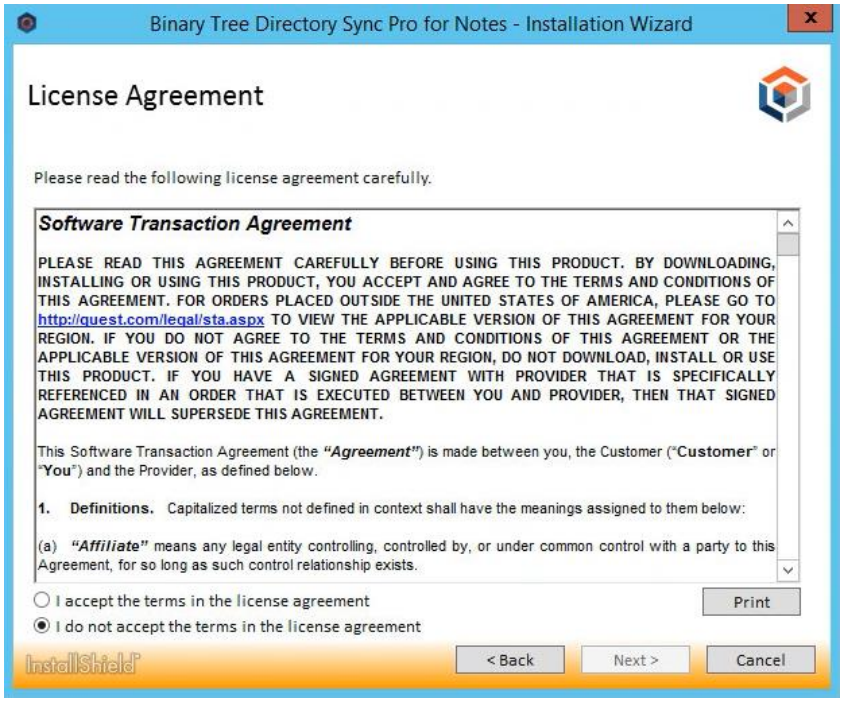
6.2 Installing Directory Sync Pro and Active Directory Pro on a Domino Server

Download the installer executable file from the FTP site and save it on the Binary Tree Windows Server.

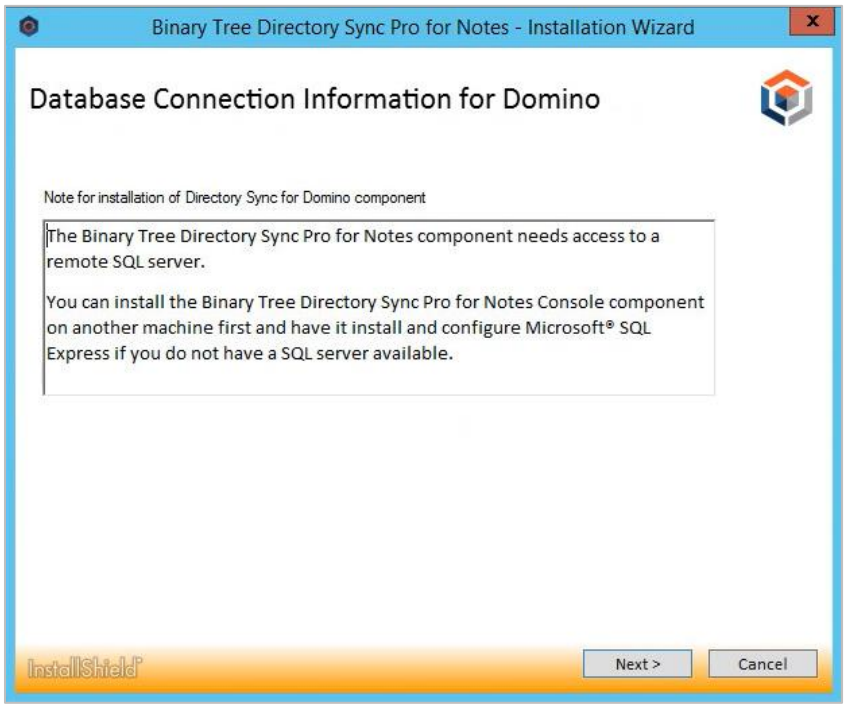
1. Double-click the executable to begin installing Directory Sync Pro for Notes. The Welcome screen appears. Click **Next** to continue.

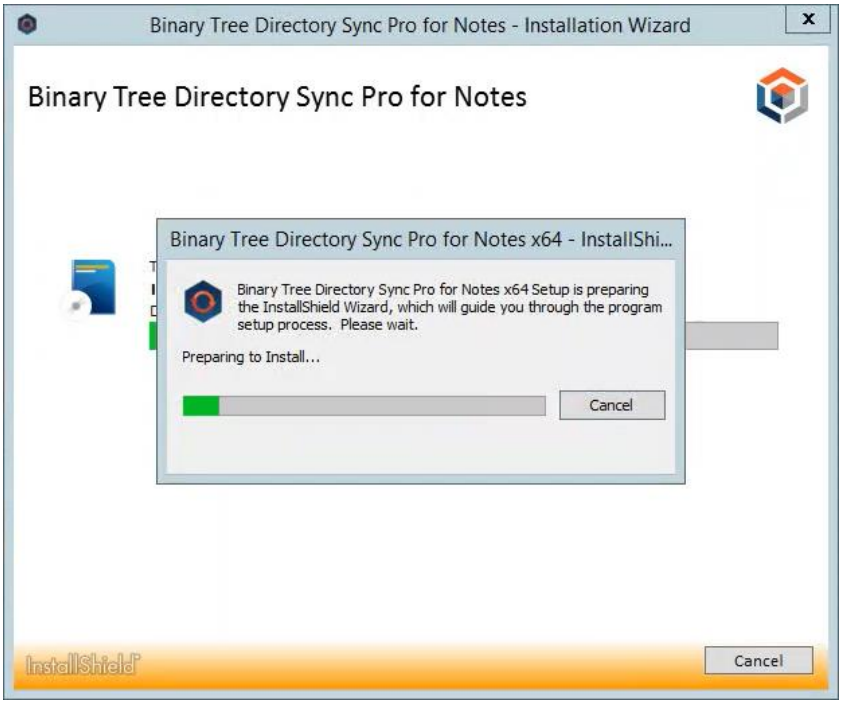


2. The License Agreement screen appears. To accept the terms of the license agreement and continue with the install, select “I accept the terms in the license agreement” and click Next.

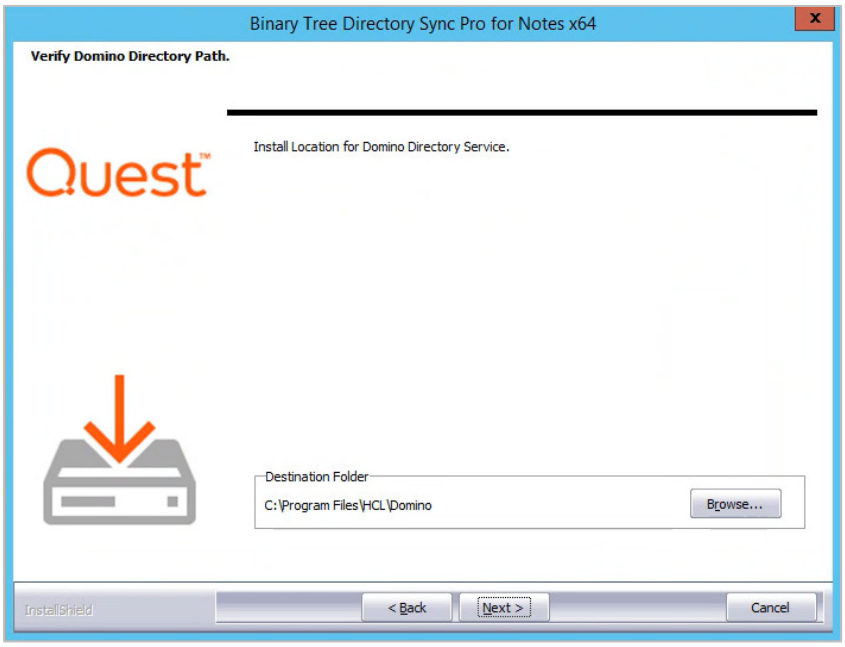


3. If this is a first-time installation, click **Next** on following screen:

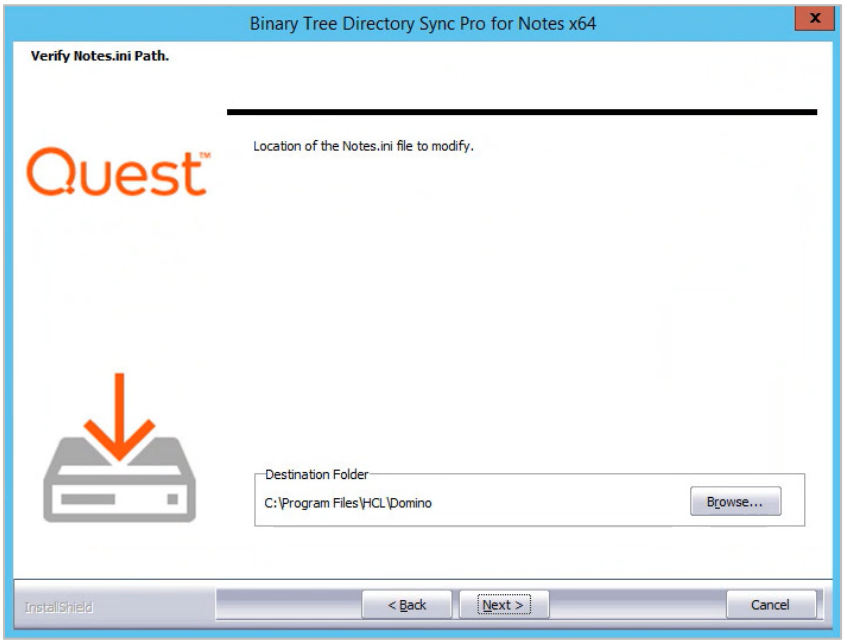




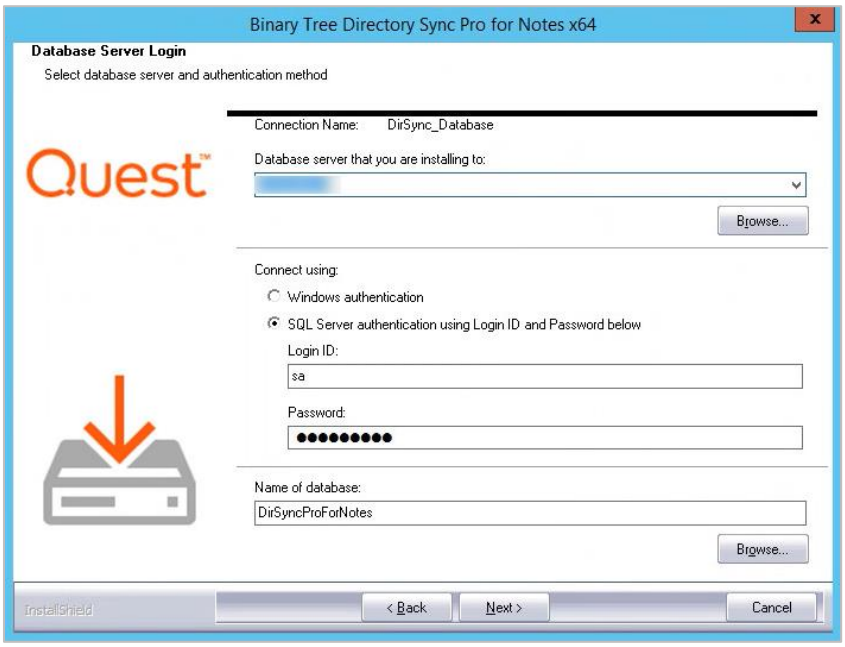
4. Click **Browse** to select where Directory Sync Pro will be installed on the Domino server.



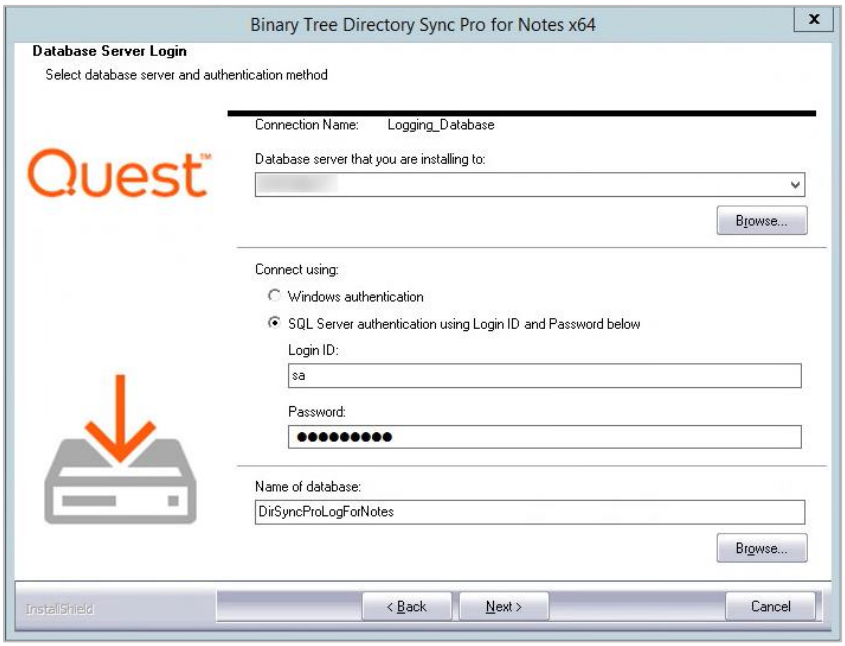
5. Select the location of your Notes.ini file.



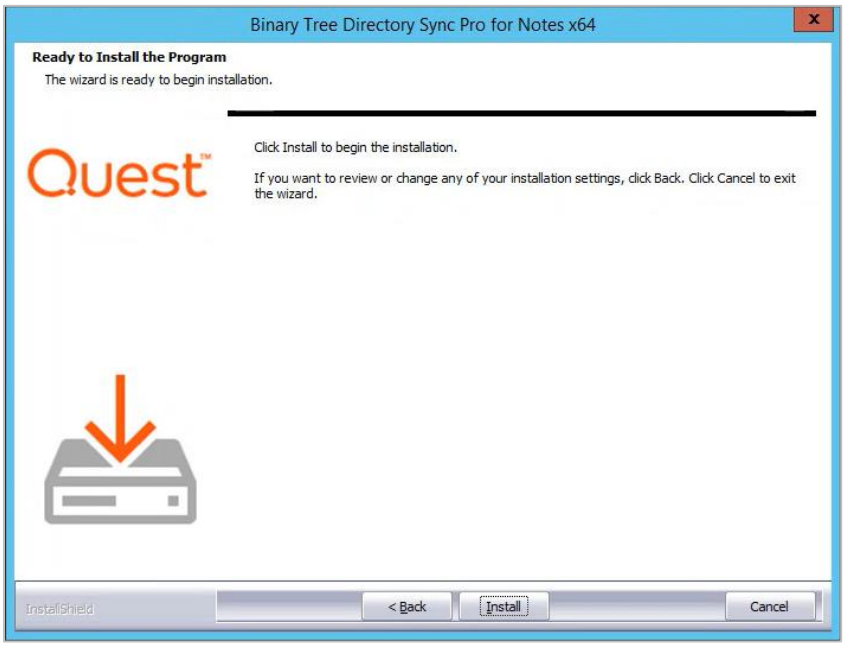
6. The Database Server Login screen appears. Enter the SQL Database Server location, credential information, and database name. Click **Next** to continue. If you chose to install SQL Server Express, the installer sets the “sa” account with the default password “Password1”.

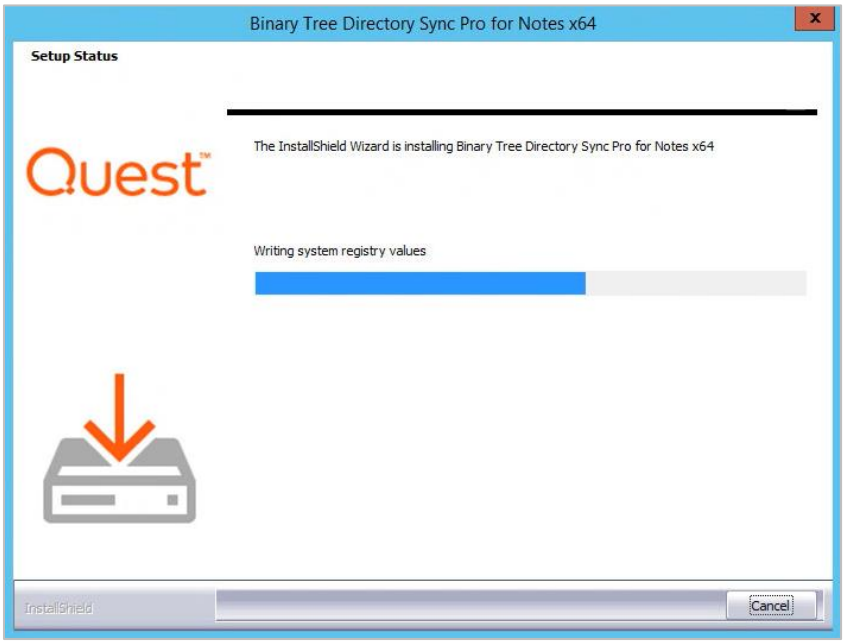


7. The Database Server Login screen appears again, this time for the logging database. Enter the SQL Database Server location for the logging database, credential information, and database name. Click Next to continue.

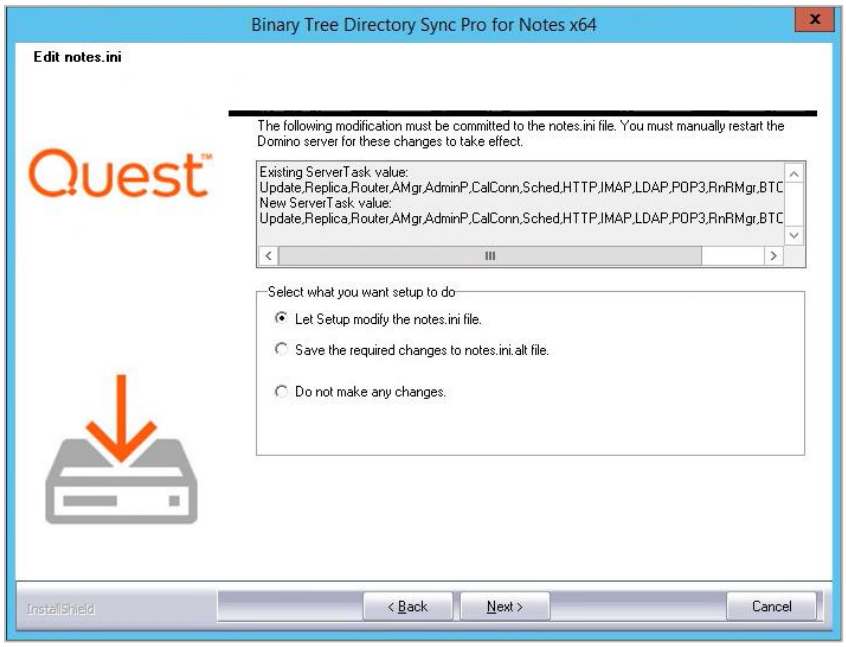


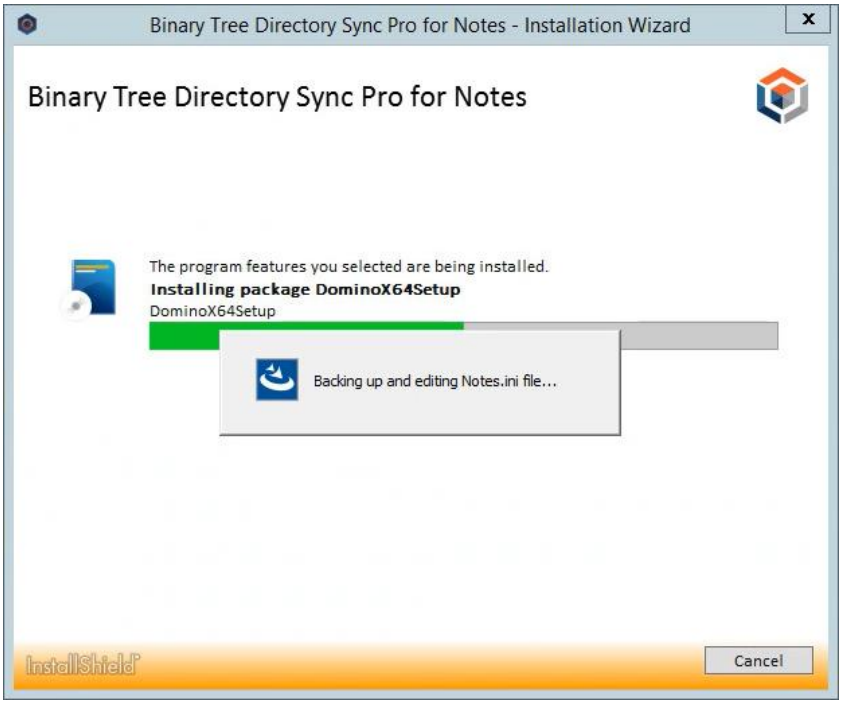
8. Click **Install** to begin the installation of Directory Sync Pro on the Domino server.



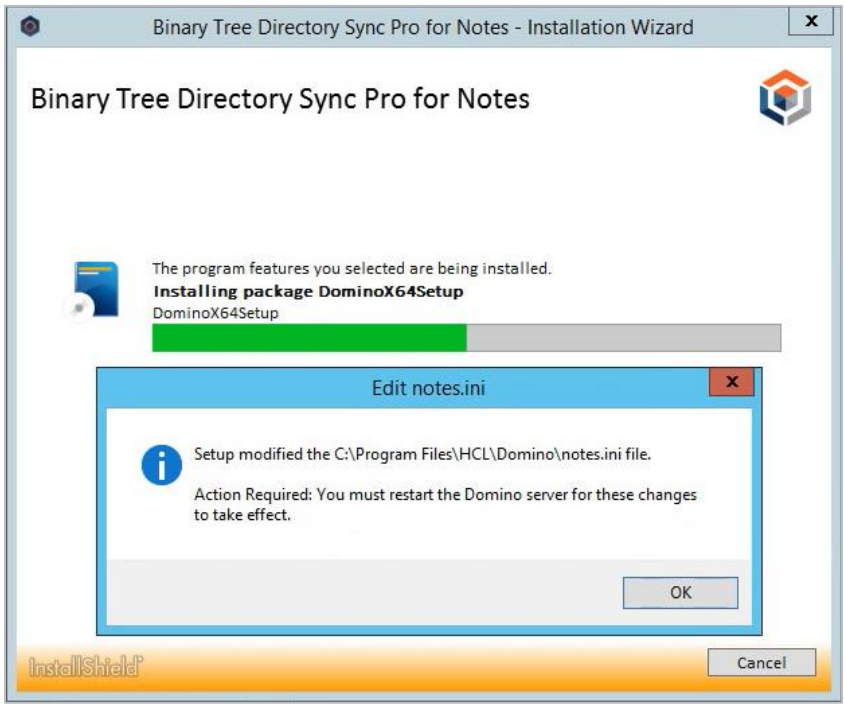


9. Select Let Setup modify the notes.ini file and click Next.

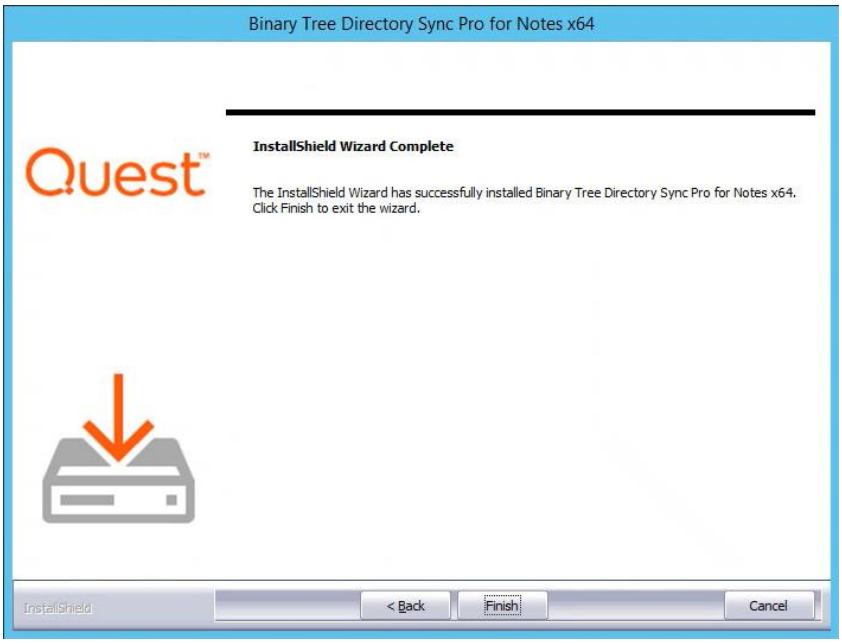




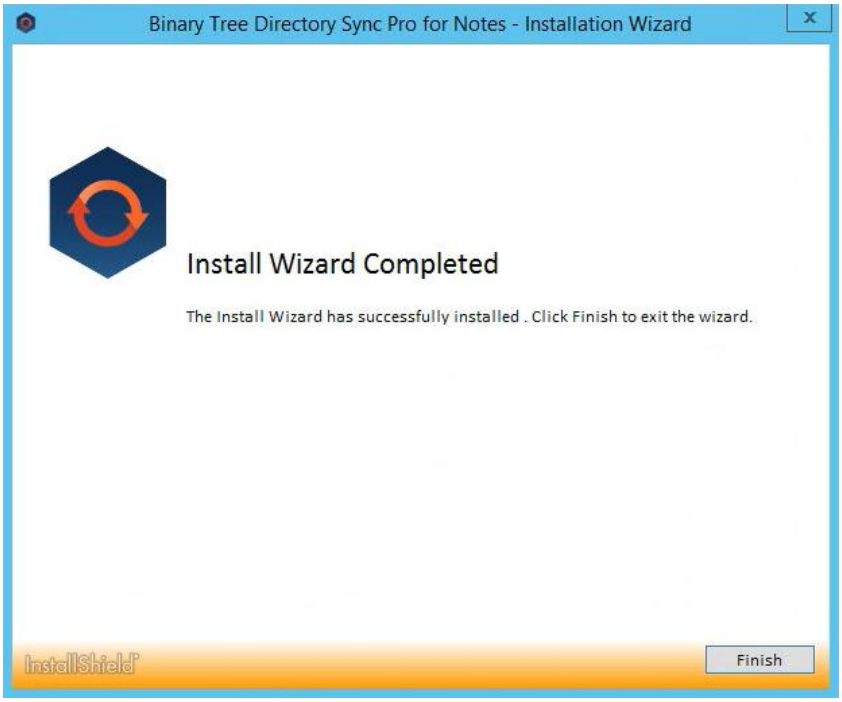
10. Click **OK** to restart the Domino server.



11. Click **Finish**



12. The installation is complete. Click Finish to close the wizard.



Section 7. Upgrading Directory Sync Pro

Directory Sync Pro can be upgraded to a new version without uninstalling the existing version. The install wizard will detect the necessary changes and manage the upgrade.

7.1 Supported Upgrade Path

Upgrades are supported to the latest GA (Generally Available Release) from two GA versions prior. GA releases are listed on our website. If you are upgrading to a CSR (Customer Specific Release), please contact Quest Support for clarification on whether the upgrade is supported.

If upgrading from a release older than two releases prior to the current GA, it is highly recommended that Quest Support is contacted to discuss upgrade options for your specific environment. Some implementations which are more complex or have custom configurations may require a dedicated resource to assist in the upgrade process. If the upgrade goes beyond the scope of product support, this issue will be escalated to our Professional Services to assist at a billable rate.

Please contact Quest Support if you have questions or need clarification on the Directory Synchronization upgrade process.

7.2 Upgrade Process

Directory Sync Pro can be upgraded to a new version without uninstalling the existing version. The installation wizard will detect the necessary changes and manage the upgrade.

The PowerShell commands that are installed and stored in the SQL database should not be modified as they may be lost during an upgrade.

Careful consideration should be taken when:

- Upgrading in a production environment
- Upgrading an older release of Directory Sync Pro to the latest release

Recommendations:

- Truncating the log or reducing the log size as much as possible before upgrading is recommended. This will reduce the amount of time needed to rebuild the log table index during the upgrade process.
- The examination of the Log SQL database during an upgrade may take longer than expected. Please allow the process to complete and the upgrade installation to proceed.
- A SQL backup of the DirSyncPro and DirSyncProLog databases should be completed prior to an upgrade.
- A file level backup of the Directory Sync Pro configuration files on the Domino and Windows servers (nBTDirSync.EXE.Config and BinaryTree.DirSync.Exchange.exe.Config).
- A backup of all Directory Sync Pro sync profiles and overrides. This can be completed through the Directory Sync Pro console by selecting the sync profiles and exporting these to disk along with doing the same for the overrides.
- Verify any customizations for SQL configuration. These will be overwritten by an upgrade and would have to be replaced after an upgrade.

1. Download the install executable file of the new version from the Quest support site and save it on the server.

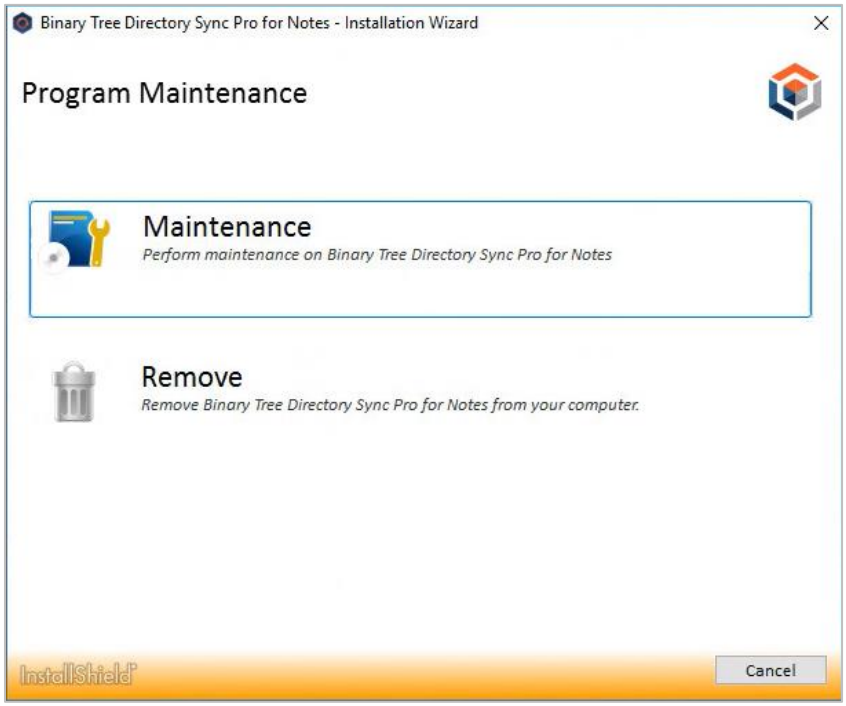
2. Check the Directory Sync Pro console to verify there are no sync's running. Allow any running sync's to complete before continuing.
3. Edit (Manage) the profiles and note the schedule for them if they are not manual (Settings | General | Schedule).
4. Edit (Manage) the profiles and set their schedule to Manual (or set to Suspended) and save the change.
5. Optional: Export the profiles and overrides.
6. Optional: Export the logs for the profiles.
7. Shut down the Directory Sync Pro Domino server (not the Windows host). Note: this may impact Integration for Notes if the same server is used.
8. Stop the Directory Sync Pro service on the Windows console server.
9. Optional: Open SQL Management Studio and connect to the SQL server and complete a SQL backup of the DirSyncPro and DirSyncProLog databases. A backup to local disk is sufficient.
10. Optional: Clear the logs in the DirSyncProLogs database through SQL Management Studio. Use a New Query to execute Truncate table BT_log2.
11. Optional: Create a machine snapshot for the Directory Sync Pro servers if possible to allow for a simple backout. If this isn't possible then the backout would be a SQL restore with an un-install of Directory Sync Pro and re-install of the current version.
12. Make a backup copy of the nBTDirSync.EXE.Config (e.g. C:\Program Files\HCL\Domino) and BinaryTree.DirSync.Exchange.exe.config (e.g. C:\Program Files\Binary Tree\DirSync). A file system copy of the two files to a separate folder (e.g. My Documents) is sufficient.
13. Run the downloaded installer executable file on the Windows console server. The install wizard will appear and proceed through the standard installation steps. The defaults can be accepted as these will use the current installation configuration.
14. Run the downloaded installer executable file on the Domino server. The install wizard will appear and proceed through the standard installation steps. The defaults can be accepted as these will use the current installation configuration.
15. Restart the Domino server host and check that Domino does start up.
16. Verify the Directory Sync Pro version, this can be checked in Programs and Features or by using Tell BTDirsync Version in the Domino console.
17. Restart the Windows Console server. Verify that the Directory Sync Pro service starts up and check the version in Programs and Features.
18. Check the nBTDirSync.EXE.Config and BinaryTree.DirSync.Exchange.exe.config files. Ensure that these are the same as the backup copies, if not then replace the files from the backup.
19. Open the Directory Sync Pro Console. Verify the Nodes (upper right 'hamburger' menu). The upgrade may have added a new node, check that the Online node is the Active node. If it is not select the Online node and Activate it.
20. Edit (Manage) the profiles and set them back to being scheduled if required with the run times noted above and save the change.
21. Verify that the profiles do process and complete the expected sync's, this will show in the Directory Sync Pro console and can also be validated in the profile logs.

Section 8. Modifying, Repairing and Uninstalling Directory Sync Pro

Directory Sync Pro can be modified, repaired, or uninstalled from the Programs and Features upgraded to a new version without uninstalling the existing version. The install wizard will detect the necessary changes and manage the upgrade.

1. Double-click the installer icon to open the Program Maintenance screen:

2. The **Program Maintenance** screen will load; select **Maintenance**:



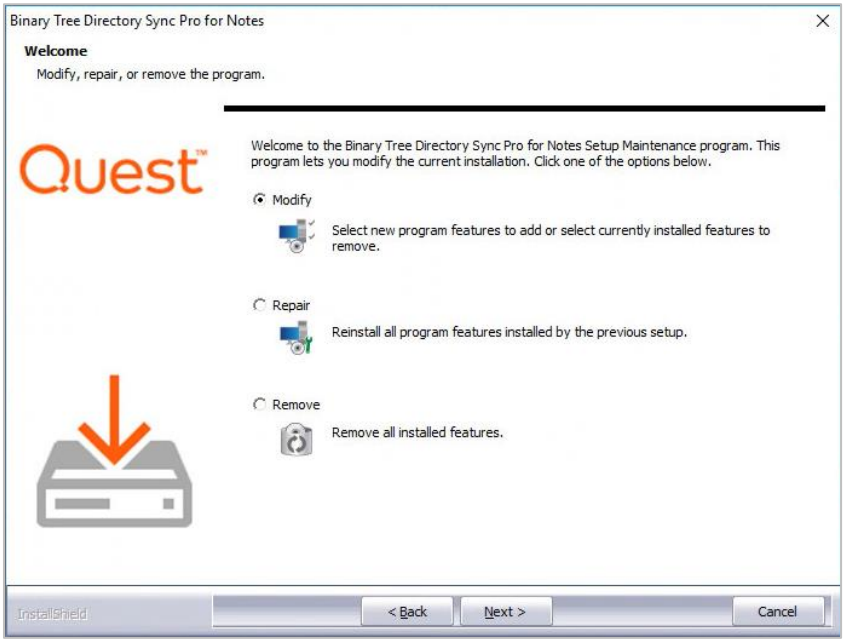
3. A progress bar will display before showing the Modify, repair, or remove wizard screen

4. The wizard screen appears displaying the following options. Select one of the following options and click Next:

   - Modify – use the Modify option to add and subtract components of Directory Sync Pro and/or Active Directory Pro. This is useful if you wish to add or remove the Directory Sync Pro Console.

   - Repair – use the Repair option if Directory Sync Pro needs to be repaired due to corruption.

   - Remove – use the Remove option to uninstall Directory Sync Pro. You can also uninstall by clicking Uninstall on the Programs and Features page.



5. Proceed through the wizard until finished.

Appendix A: Supported Environments

This section outlines the supported environments.

A = Supported

B = No known issues, not tested

C = Not Supported

Directory Sync Pro Console Operating System Versions	20.13	20.12	Notes
Windows Server 2012	C	C	
Windows Server 2012 R2	B	B	
Windows Server 2016	A	A	
Windows Server 2019	A	A	

Domino Server Operating System Versions	20.13	20.12	Notes
Windows Server 2008 R2	C	C	
Windows Server 2012	C	C	
Windows Server 2012 R2	B	B	
Windows Server 2016	A	A	
Windows Server 2019	A	A	

Domino Server Installation Versions	20.13	20.12	Notes
Domino/Notes 7.x	C	C	
Domino/Notes 8.x	B	B	
Domino/Notes 9.x	A	A	Release 9.0.1 Fix Pack 9 not supported, Fix Pack 10 recommended
Domino/Notes 10.x	A	A	
Domino/Notes 11.x	A	A	
Domino/Notes 12x	A	C	

Global Catalog Operating System Versions	20.13	20.12	Notes
Windows Server 2003	C	C	
Windows Server 2008	B	B	
Windows Server 2008 R2	B	B	
Windows Server 2012	A	A	
Windows Server 2012 R2	A	A	
Windows Server 2016	A	A	
Windows Server 2019	A	A	

Active Directory: Domain Functional Level	20.13	20.12	Notes
2003	C	C	
2008	C	C	
2008 R2	B	B	
2012	B	B	
2012 R2	A	A	
2016	A	A	

SQL Server Versions	20.13	20.12	Notes
SQL Server 2008 R2	C	C	
SQL Server 2008 R2 Express	C	C	
SQL Server 2012 SP2	B	B	
SQL Server 2012 Express SP2 64-bit	B	B	
SQL Server 2014	C	C	
SQL Server 2014 Express	C	C	
SQL Server 2016	A	A	
SQL Server 2016 Express	A	A	
SQL Server 2017	C	C	
SQL Server 2017 Express	C	C	
SQL Server 2019	A	A	
SQL Server 2019 Express	A	A	

Messaging Environment (Target)	20.13	20.12	Notes
Exchange 2010	C	C	
Exchange 2013	B	B	
Exchange 2016	A	A	

Exchange 2019	A	A	
Microsoft 365 (Office 365)	N/A	N/A	Supported through Microsoft AAD Sync

Messaging Environment (Source)	**20.13**	**20.12**	**Notes**
Domino/Notes 6.0.x	C	C	
Domino/Notes 6.5.x	B	B	
Domino/Notes 7.x	B	B	
Domino/Notes 8.x	B	B	
Domino/Notes 9.x	A	A	Release 9.0.1 Fix Pack 9 not supported, Fix Pack 10 recommended
Domino/Notes 10.x	A	A	
Domino/Notes 11.x	A	A	
Domino/Notes 12.x	A	C	

Character Support	**20.13**	**20.12**	**Notes**
Double Byte Character Set Support	B	B	

Note: Versions not listed are considered as unsupported

Note: Vendor supportability for Microsoft and HCL products should be followed.