

## Solver Private Host Installation Guide

Version 5.2

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# Introduction

Solver Private Host (also known as Solver 5x) is a web-based corporate performance management solution providing organizations with reporting, budgeting, data warehouse, and dashboard capabilities, to name a few, on both financial and operational data. This guide will walk users through the installation process. This guide is broken down into two sections. The first section details upgrading from BI360 4x, while the second section will detail installing Solver Private Host.



The installation steps detailed in this guide require SQL admin permissions and local computer admin for their respect steps described.

In 2020, Solver, Inc. rebranded their BI360 product to Solver. In this user guide, you will see reference to both product names. BI360 is Solver, Inc.'s 4x product while Solver is Solver, Inc.'s Private Host version.

### Who Should Read this Manual

This manual is for network professionals responsible for installing the Solver solution within their organization.

### **Obtaining the Software**

Users belonging to an organization that has purchased the software can request a copy of the download files by submitting a request to <a href="mailto:support@solverglobal.com">support@solverglobal.com</a>.

### License Keys

Valid license keys are required in order to install the software. Users can obtain their license key by submitting a support request to <u>support@solverglobal.com</u>.

### Assistance with Installations

Solver Support offers installation services at a billable rate. Please contact <a href="mailto:support@solverglobal.com">support@solverglobal.com</a> for inquiries on assisted installations.

# System Requirements

The following diagram is an ideal Solver implementation. There are 4 machines in this diagram:

- 1. SQL server
- 2. Web server
- 3. Application server
- 4. End user machine
  - Needed only for Report Designers



All Solver relevant machines are connected to a SQL server where up to 3 Solver related databases may exist:

- 1. Solver\_Repository: This is a non-financial database that stores Solver relevant information such as user permissions, license keys, and data connections.
- 2. SolverDW: This is the backend database for Solver Private host that is used to store transactions being used for budgeting purposes and reporting purposes.
- 3. Solver\_Scheduler: This database is used for scheduled runs of rules and jobs.



It is strongly recommended that the SolverDW database is put on a separate SQL server than the ERP database. SQL 2016+ Standard Edition or higher is recommended.

The SQL server may also contain the ERP source database, however it is recommended that the source database is located on a separate SQL server.

# Solver Server Overview

The following servers (virtual or physical) are needed for Solver:

SQL server	Database server to contain the		
	1. Repository database		
	2. Data Warehouse database		
	3. Job Scheduler database		
	This can be the same server or a separate server from the ERP SQL		
	server. It is recommended that it is a separate server.		
Web server	Solver Private Host runs on Windows Web Server (Internet Information		
	Services (IIS))		
Services server	The Services server runs many core Solver services: Report Rendering,		
	Integration, Publisher as well as several other micro-services.		
	This machine cannot be a Domain Controller.		
End user computer	This machine does not need to be a server. This is a user's work		
	computer used to create and edit Solver Reports in Excel.		



Solver Private Host does not support case sensitive SQL servers for the Solver Private Host databases.

### **SQL** Server

The SQL server will contain two or more Solver databases, depending on the software purchased. The specifications below are the minimum requirements; however, it is strongly recommended to configure a SQL server that can be expanded as Solver use grows within the organization.

	S	SQL Server			
	1-50 Concurrent Users 50+ Users				
CPU <sup>1,2</sup>	4+ Core	8+ Core			
RAM	16GB+	32GB+			
Operating System <sup>1,4</sup>	Windows Server 2012/2012R2-	indows Server 2012/2012R2+			
Database Server*	SQL Server 2014+				
Storage	Based on data integrated into Data Warehouse and/or transactional				
	input within budget model (contact your Partner)				
	A highly available SSD setup				
	<ul> <li>A SAN that is optimized for throughput</li> </ul>	A SAN that is optimized for online transaction processing (OLTP) throughput			
	High-performance direct-a	ttached storage (DAS)			
Disk Configuration	Non-Raid configurations	are supported, but redundancy will not			
	be available.				
	<ul> <li>See notes for recommended RAID configurations<sup>5</sup></li> </ul>				
Port Configuration	<ul> <li>Must be able to community</li> </ul>	icate with the Web and Services servers			
	documented below				
	<ul> <li>Internet access is not required</li> </ul>				

\* all items below.

- 1. SQL Server Standard or greater version. Latest version of SQL is recommended
  - a. Case sensitive server and/or database is not supported.
  - b. SQL Compact and Express are not supported.
- 2. The supported SQL version are for Solver specific databases and are not requirements of the source database, typically the Enterprise Resource Planning (ERP) database. For example, if a customer has their Dynamics database on a SQL2005 instance, it is not required to upgrade or move this database to a new SQL server.

# **Technical Information**

1. The latest updates to the operating system and Microsoft Office are required. Please note that this may require a reboot and therefore should be done during non-business hours if the installation is being done on the terminal server.



Customers using Microsoft Click to Run (C2R), please review our notes on C2R installs found <u>here</u>.

- 2. The Reporting application will install a small repository database on the designated SQL server that can be the same server as the ERP and/or Data Warehouse.
- Solver Private Host typically supports service packs and cumulative updates of SQL. New versions of SQL Server are tested and confirmed by the Solver development team. Please contact Solver Support (<u>support@solverglobal.com</u>) should you have any questions.
- 4. The Solver Suite is not supported on systems that use FIPS or ADFS.

## Web Server

The following are the web server system requirements for Solver Private Host.

	System Requirements for Solver Private Host				
Operating System	Windows Server 2012+				
Ram	8 GB+				
CPU	1+ CPU, 2+ Core				
Other applications	• <u>.NET Framework 4.7.2</u>				
(installed by the	• <u>IIS URL REWRITE 2.0</u>				
installer if not					
installed)					
Server	Internet Information Services (IIS) 7+ with				
	<ul> <li>ASP.NET support enabled</li> </ul>				
	<ul> <li>HTTP Activation enabled</li> </ul>				
	MSDTC enabled				
Internet Access	This server must be able to communicate with the following				
	Solver IP addresses				
	• 13.69.228.4				
	Marketplace.app.solverglobal.com				

1. If installing Web Budgeting, the Solver and/or ERP database must be set to SQL Compatibility mode 2008R2+. More information can be found on the Microsoft Docs website by clicking <u>here</u>.

### Services Server

Solver utilizes Microsoft Service Fabric to manage the Report/Budget template rendering, Data Integrations, Publisher, and other Solver services. The below are guidelines for the Services server but specifications many need to be increased depending on

- 1. Number of concurrent users
- 2. Size of the reports being ran

Infrastructure should be scalable to meet the changing data size and needs of the Solver Private Host solution.

System Requirements for Rendering & Integration Services					
Operating System	Windows Server 2012+				
Ram	20 Concurrent Users or fewer	20 or more Concurrent Users			
	• 16gb ram	• 32gb ram			
Drive Space	A minimum of 40GB <u>additional</u> , ava	ailable disk space			
CPU	20 Concurrent Users or fewer	20 or more Concurrent Users			
	• 2 CPU	• 4+ CPU			
	• 2+ Core each	• 2+ Core each			
Other	<ul> <li><u>NET Framework 4.7.2</u>, full ins</li> <li><u>Windows PowerShell 3.0</u></li> <li>The <u>RemoteRegistry service</u> s machines.</li> <li>For organizations with multip server, SQL Server Browser m feature requires a restart of t</li> </ul>	<ul> <li><u>NET Framework 4.7.2</u>, full install</li> <li><u>Windows PowerShell 3.0</u></li> <li>The <u>RemoteRegistry service</u> should be running on all the machines.</li> <li>For organizations with multiple SQL instances on their SQL server, SQL Server Browser must be enabled. Enabling this feature requires a restart of the SQL Service on the SQL Server.</li> </ul>			
Ports	<ul> <li>The following ports should be open for communication with the web server</li> <li>19081 (inbound)</li> <li>31313 (inbound)</li> </ul>				
Internet Access	<ul><li>This server must be able to commune</li><li>Microsoft.com</li></ul>	nicate with the following URLs			

The following are the Services server requirements for Solver Private Host.

## End User Computer

The end user computer is the work computer or laptop where Report Designers will be creating and editing reports. These can be the users, standard work provided laptops with the following requirements

- 1. Windows 10+ or Windows Server 2012+
- 2. Microsoft Excel 2016+
- 3. .net Framework 4.7+
- 4. Min 8gb ram

The installation of Report Designer requires computer admin permissions. Users with restricted access on their computer may need to work with their IT to get the Report Designer application installed on their computer.

This section has been left blank intentionally.

# **Getting Started**

This user guide will detail installing and running Solver 5.2 Private Host. The installation of Solver Private Host consists of 9 main steps on specific machines as listed below:

- 1. Uninstalling a Previous Version
  - a. Upgrading from BI360 4x
- 2. Data Warehouse database (SQL Server)
- 3. Web Application Installer (Web Server)
- 4. Service Fabric Install (Application Services Server)
- 5. Add solverappuser and Service Fabric entries (SQL server)
- 6. Enable Data Warehouse (Web Portal\*)
- 7. Enter Data Warehouse License (Web Portal\*)
- 8. Create a New Connection (Web Portal\*)
- 9. Use Active Directory to Add Users (Web Portal\*)



For existing customers, it is STRONGLY recommended to create a new environment to test the upgrade to Solver Private Host. See next page.

This section has been left blank intentionally.

The development environment will consist of the following:

- 1. <u>New</u> Web server
- 2. <u>New Application server</u>
- 3. <u>New</u> Services machine
- 4. Backup of the Solver Data Warehouse database

Below is a diagram of what this deployment may look like.



Organizations will maintain their 4.x installation (shown in the upper-right corner). This will enable an organization to continue using Solver daily while others perform full User Acceptance Testing (UAT) in a development environment (lower-right corner) to confirm the upgrade to 5x. Some important aspects to point out:

- Development environment consists of new machines, end users performing UAT testing are not using a production machine to test 5x.
- Development environment consists of a new machine, micro services machine, which is not part of the 4x installation.
- One SQL server is maintained. A new repository database (Solver\_Repository is created) and a copy of the 4x Repository database is restored and upgraded. This is needed to fully test the 5x version while end users are still using 4x daily. Once the upgrade has been fully tested, only then should the upgrade to production begin.
  - Organizations can choose to "switch" development over to production or upgrade the current production environment to 5x; either option works.

### **Uninstalling a Previous Version**

This section details steps for existing BI360 4x customers. For new installation, please navigate to <u>this section</u>.

For existing customers with a 4.x installation there are two steps required before running the Solver Private host installer:

- 1. Uninstall the previously installed version
- 2. Upgrade the Solver database to Private Host schema



Backups of the database should be taken prior to any upgrade.

For organizations that plan to keep their existing web server, it is required to uninstall the 4x Portal installation first. For organizations that plan to create a new web server, please see *Upgrading the Solver Data Warehouse*, later in this document.

### Steps to Uninstall

Prior to installing Solver Private Host, it is required to uninstall Solver on any machine that has BI360 4x installed on it. This will include:

- The web server
- The end user computer

The following section will detail uninstalling the application from these environments.

### Uninstalling the Web Application

Prior to uninstalling the web application, ensure no one is using the BI360 4x Portal. This should be done during a maintenance period. To uninstall the web application:

- 1. From the web server, open **Control Panel >Programs and Features**.
- 2. Select OneStop Reporting Portal.

	Programs and Features						x	
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		Microsoft Visual C++ 2008 Redistributable - x86 9	.0.30 Microsoft Corporation	6/24/2017	10.1 MB	9.0.30729.6161		
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		Microsoft Visual C++ 2010 x86 Redistributable - 1	0.0 Microsoft Corporation	9/18/2018	11.1 MB	10.0.40219		
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3. Click the **Uninstall** button.

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	Microsoft SQL Server 2014 Transact-SQL Compiler Ser	Microsoft Corporation	9/21/2017	142 MB	12.2.5207.0	
	Microsoft SQL Server 2014 Transact-SQL ScriptDom	Microsoft Corporation	9/8/2017	5.82 MB	12.2.5000.0	
	Microsoft SQL Server System CLR Types	Microsoft Corporation	5/15/2017	2.53 MB	10.51.2500.0	
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	Microsoft Visual C++ 2010 x86 Redistributable - 10.0	Microsoft Corporation	9/18/2018	11.1 MB	10.0.40219	
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- 4. The uninstaller will launch. A prompt will appear asking the user to confirm the uninstall of the application. Click **Yes** to continue.
- 5. After the uninstall completes, open **Internet Information Services (IIS) Manager** to ensure that the website was successfully removed.

This completes the uninstall of the Portal application.

This section has been left blank intentionally.

# Uninstalling the Application from the End User Computer

The application must also be removed from the end user computer as the user will now use the Solver Private Host web interface. There are three components to be uninstalled:

- 1. BI360 Reporting
- 2. OneStop Reporting
- 3. Solver BI360

To uninstall the application off the end user's computer:

- 1. Ensure that all BI360 relevant applications are closed on the user's desktop.
- 2. Navigate to Control Panel -> Programs and Features.
- 3. Select Solver Reporting and click Uninstall.

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		®≃ BI360 Reporting	Solver Inc.	9/18/2018	27.0 KB	4.6.60828.1401	
		Microsoft .NET Framework 4 Multi-Targeting Pack	Microsoft Corporation	5/15/2017	83.4 MB	4.0.30319	
		Microsoft ASP.Net Web Frameworks 5.1 Security Upd	Microsoft Corporation	6/24/2017	530 KB	5.1.20821	
	-	BMicrosoft Help Viewer 1.1	Microsoft Corporation	5/15/2017	3.97 MB	1.1.40219	≡

- 4. A popup will appear asking the user to confirm the uninstall of the application. Click **Yes**.
- 5. For users who are not a local administrator, a User Access Control popup may appear as well asking users to confirm the uninstall of the application. Click **Yes**. Type in the credentials of a computer admin user to proceed.
- 6. The uninstall will begin and remove the feature from the machine and the Programs and Features list.

Next, uninstall OneStop Reporting. To do so:

1. In the Programs and Features list, find **OneStop Reporting** and click **Uninstall**.

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		∞ Solver BI360		Solver	1/15/2018		4.7.1	

- 2. A prompt will appear asking the user to confirm the uninstall of Solver, click **Yes**.
- 3. The uninstall will begin and remove the feature from the machine and the Programs and Features list.

Next, uninstall Solver BI360. To do so:

1. In the Programs and Features list, find **Solver BI360** and click **Uninstall**.

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		e∞ Solver BI360	Solver	1/15/2018		4.7.1	
		SQL Server Browser for SQL Server 2014	Microsoft Corporation	9/8/2017	9.82 MB	12.2.5000.0	
		💽 Visual Studio 2010 Prerequisites - English	Microsoft Corporation	5/15/2017	23.5 MB	10.0.40219	×

- 2. A prompt will appear asking the user to confirm the uninstall of Solver, click **Yes**.
- 3. The uninstall will begin and remove the feature from the machine and the Programs and Features list.

This completes the uninstall of all Solver desktop components off the end user's computer. At this point, the organization is ready to install Solver Private Host.

## Upgrading the Solver Data Warehouse

Whether coming from BI360 4x or Solver Private Host, the following steps are required to migrate to Solver Private Host 5.2. The following steps are modifying and/or creating a database and must be performed in SQL Server Management Studio (SSMS). Please contact your IT if you are not familiar with this application.



Always take a backup of your databases before performing an upgrade.

The following steps modify databases and should be performed by users familiar with using SQL Server Management Studio (SSMS).

- 1. After downloading the setup file (.zip) from the Solver Support site and extracting its contents, Navigate to the **1. New Database** folder.
- Run CreateSolver\_Scheduler.sql which will create a new database called Solver\_Scheduler. This database must be on the same SQL server as the Solver Data Warehouse database.



This section has been left blank intentionally.

- 3. Next, navigate to **2. Upgrades**.
  - a. If you are upgrading from 4x to 5x, please run the first script DatabaseChecks\_4xTo5xCustomers.sql.



Running this script should return no results as shown below. If it returns results, please contact Solver Support.

COLOurand and Lo. VOA) adarahara (501)*
Declare (Sto) (war/tar/mas/egit/max/)
set @SOL = ''
<pre>select @SOL = @SOL + 'select count(*),Dimension,Label from DimAttribute group by Dimension, Label HAVING count(*) &gt; 1 union all'</pre>
+Char(13)
<pre>select @SQL = @SQL + 'select count(*),Module,Label from ModuleAttribute group by Module, Label HAVING count(*) &gt; 1 union all'</pre>
+Char(13)
<pre>Select #SOL = #SOL + 'select count(*) ModuleName null from ModuleLabel group by ModuleName having count(*) &gt; 1' +char(13)</pre>
(No column name) Dimension Label
Dimension Held Label (No column name)
(vo coumn name) Umension Label (vo coumn name)
(No column name) Module Label (No column name)
(No column name) Module Urder

4. Run the dbUpgrade.sql script on your BI360DW database. Depending on the size of the database, this script can take anywhere from a couple seconds to run to 10+ minutes.

File     Edit     View     Query     Project     Debug     Tools     Wi       Image: Ima	indow Help 2 品 品 米 日 白 2・ペ - 図
Object Explorer     • # ×       Connect • # ?# • • • • • • • • • • • • • • • •	SQLQuey3Lig1-S_conttDemo (a (73))* + × SQLQuey33.sql-SU_Corporate (a (54))* SQLQuey32.sql-S_contteDemo (a (55))* ElF NOT EXISTS (SELECT name from syn.syslogins whtten name = 'bi900sser') Elegin CREATE USER [bi360user] NTH PASSNORD = N*Persword12018* CREATE USER [bi360user] FOR LOCIN [bi360user] NTH DEFAULT_SCHEWA-[dbo] End /* 4x Check*/ Elf not exists(select TABLE_NAME from TWOWNIDD(SCHEWA.TABLES where TABLE_NAME = 'Version') Elegin CREATE USER [dbo].[Version] ( [dVersion] [nvarchar](35) NOT NULL,  [dbodtc] [dattine] NOT NULL,  [dbodtc] [dattine] NOT NULL ] (0 [PPINARY] end /* 4x to 5.0 upgrade*/ Elf FNOT EXISTS(select name from syn.schemas where name = 'log') DEE('CREATE SCHEMA [log] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas where name = 'iter') EXE('CREATE SCHEMA [meta] AUTHORIZATION [dbo]'); ElF NOT EXISTS(select name from syn.schemas from syn.



5. The following is an optional step.

For customers upgrading from version 5.2.30309 and older, after successful completion of the dbUpgrade.sql, you can run the optional\_enableDWPermissions. script.



In version 5.2.30708, Solver introduced Data Warehouse permission. By default, upon upgrade, users will be locked from performing any action in the Data Warehouse. By running this query, users can opt to give "full permissions" to all user, roles or a combination of both for the Data Warehouse menu



The script is set to run for both Roles and Users by default but you can change this by "commenting out" by adding a -- before the word 'Both' and "uncommenting" (removing the -- ) on the options above.

Whether you choose to run just the dbUpgrade script or the dbUpgrade and the optional\_enableDWPermissions scripts, upon successful execution of these two scripts, you have successfully upgraded your BI360DW database.

If any script errors out, please contact Solver Support for assistance.

### Databases Creation of New Customer

The database upgrade is now complete. The next section will detail the creation of the necessary databases for new installs of Solver Private Host and can be skipped by customers who are upgrading.

Please navigate to this section to continue the installation.

### Data Warehouse

For customers who are not migrating from BI360 4x, the first step in the installation process is to create the necessary Solver Private Host databases.

Creating a Solver Database:

To create the Solver Data Warehouse database:

- 1. After downloading the setup file (.zip) from the Solver Support site and extracting its contents, Navigate to the **1. New Database** folder.
- Run CreateSolver\_Scheduler.sql which will create a new database called Solver\_Scheduler. This database must be on the same SQL server as the Solver Data Warehouse database.



Should this script error out, please contact Solver Support (support.solverglobal.com).

3. Next, open the **DW\_PrivateHost5.#.####\_database.sql** script and execute this via SSMS.



Should this script error out, please contact Solver Support.

This completes the database creation process for new installs of Solver Private Host. The next section will detail the steps to install Solver Private Host.

This section has been left blank intentionally.

## Private Host Installer – Web Component

Prior to running the Private Host installer, ensure that network and computer firewalls allow for communication with the SQL Server. Check that SQL Port (default port 1433) is open and the user performing the installation has permissions on the server for the installation. Please contact your IT should you need confirmation of this ports status within your organization's network.

The installer is included with the download that has been request from Solver Support.

1. The following steps require administrative permissions on the web server.



- 2. The steps listed are performed on the web server.
- 3. The following should be performed during a scheduled maintenance period.
- 1. Move the 03. Installer folder to the web server.
- 2. Once copied, open the folder and choose to run the **Solver\_PrivateHost\_#.#.####.exe**.
  - If prompted for User Access Controls (UAC), please click Yes and type in appropriate, administrative user permissions.
- 3. One of the two below setup screens will appear. Click **Next** to begin the installation



4. If pre-requirements are not met, they will appear on this screen. As shown in the screenshot below .NET Framework 4.7.2 is not installed and will be installed by the installer.



5. Upon clicking Next, the installation process will begin.

Solver BI360 for Private-H	lost Setup	×
solver Solver F	31360 for Private-Host Microsoft.NET Framework – 🗆 🗙	
J Please wait while the Set BI360 for Private-Host.	IET Framework 4.7.2 Setup Please accept the license terms to continue.	
	MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS	
	INET FRAMEWORK AND ASSOCIATED LANGUAGE PACKS FOR MICROSOFT WINDOWS OPERATING SYSTEM	
	Microsoft Corporation (or based on where you live, one of its affiliates) licenses this supplement to you. If you are licensed to use Microsoft Windows operating system software (the "software"), you may use this supplement. You may not use it if you do not have a license for the software. You may use this supplement with each validly licensed copy of the software.	3
	The following license terms describe additional use terms for this	
	I have read and accept the icense terms.	
Status: Installing	For data collection information, read the Microsoft Privacy Statement.	
	Instal Cancel	
	< Back Next >	Cancel

Accept the licensing terms of the .NET Framework installer to begin the installation process.



The installation process may take several minutes and will require a reboot on the web server.

6. Once .NET Framework 4.7.2 is installed, the next screen will show the Solver Private Host License Terms. Select the "I accept..." option to begin the installation of Solver Private Host.

🛹 Solver Private Host Setup	×
	Be sure to carefully read and understand all the rights and restrictions described in the license terms. You must accept the license terms before you can install the software. SOLVER EULA 2020 License Terms and Conditions IMPORTANT NOTICE: PLEASE READ THE ENTIRE DOCUMENT CAREFULLY BEFORE INSTALLATION OF THE SOFTWARE. These license terms and conditions (these "Terms") Print I accept the terms in the License Agreement I do not accept the terms in the License Agreement
	< Back Next > Cancel

This section has been left blank intentionally.

- 7. Select which feature(s) to install:
  - **Portal**: select this option to install Solver Private Host web component. This should be selected when running the installer on the Web Server.
  - **Services**: select this option to install the Solver Private Host services, responsible for running reports and publisher jobs. This should selected when running the installer from the Services machine.
  - Voucher Services: choose this option if you are using Visma, otherwise you can leave this unchecked

<ul> <li>Solver Private Host Setup</li> </ul>					×
Select a feature to add or remove:	Feature descriptio The Solver web po	n: ortal.			
	Product install pat	h:			
	C:\Program Files	\Solver\			Browse
	Disk space require	ments:			
	Volume 🔺	Disk Size	Available	Required	Difference
	C:	59 GB	8.55 GB	219 MB	8.34 GB
Restore Defaults			< Back	Next >	Cancel

Portal and Services are selected by default. Services are used to run Reporting and Publisher.

- Under **Product install path**, the default will be kept in most instances but can be changed if needed.
- The **Disk space requirements** for the application are shown in the table of the same name.

For this step, since we are on the web server, we want to select only the Portal Options.

8. Click Next.

9. The next page will prompt users to setup the Repository database. The repository database is a non-financial database that is used by the application to store user and application settings. Define the following options:

🛹 Solver Private Host Setup	×
→ Solver Private Host	
Setup Repository Database Configure the Solver repository database connection.	
Server: localhost  Solver_repository	
<b>Database administrator credentials</b> Enter credentials to use for creating the repository database. These credentials are not stored.	Application credentials Enter credentials the application will use when connecting to the repository database.
Use Windows authentication	O Use Application Pool/Machine account (Windows authentication)
Login:	Login:
Password:	Password:
	< Back Next > Cancel



Remember these settings, they will be used later on in this installation process.

- Server: type in the name of the SQL server where the Repository database will be created. Click Browse to view a list of Servers this machine can see or type the name in manually.
  - o Host name or IP address are allowed
- Database administrator credentials, select how to create the repository:
  - Windows authentication the user will need permissions to create a database and tables.
  - **SQL login** the user will automatically be given db\_owner permissions.
    - If using SQL credentials, if password enforcement policies are turned on for the SQL user, the installation will need to be redone each time the password expires. It is recommended to turn off Password Policies.
- **Application credentials**, enter the credentials the application will use when connecting to the repository database:

- Use Application Pool/Machine account (Windows authentication) -
  - The Internet Information Services (IIS) is using the machine account in order to communicate with the database. The account that will be created on the SQL server will be "domain\machineName\$". This user will be assigned db\_owner to the Solver\_Repository.
- Create/Use SQL login.
- With this option, the SQL user will get db\_owner access rights to the Solver\_Repository database. Ensure that this user has enforce password policy turned off.

Complete these options and click **Next**.

10. On the next screen *Internet Information Services (IIS) URL Rewrite Module 2* Setup *Wizard* will launch if it is not already installed on the machine. This is needed for the notification emails in the application to get sent from the URL your organization has associated to Solver Private Host.

🖟 IIS URL Rewrite Module 2 Setup		Arain.		×
Con Setu	npleted the IIS URL up Wizard	. Rewrite	Modul	e 2
Click t	the Finish button to exit the	Setup Wizard	d.	
and the second				
	Back	inish	Cano	el

Simply click through the prompts of the installer to install the IIS URL Rewrite Module.

11. Once the IIS URL Rewrite Module 2 Setup has been completed, Solver Private Host is ready to install.

Click the Install button to proceed.



12. A progress bar shows you the steps of the installer. The installation typically takes under 1 minute to complete.



13. When the installation is complete, click **Finish** to close the installation wizard.



14. The site **http://solver.local** will then open automatically. This is a default site binding for Solver Private Host in Internet Information Services (IIS) and can be changed.

It is important to note that at this time, Solver Private Host has the following installation properties:



- The site is available only on the web server. Please contact your IT team for steps on making the site available outside of the web server.
- The site is non-secured (HTTP). Please contact your IT team for steps on adding an SSL certificate to the Web Server to make the site secure. **This is strongly recommended**

Minimize the browser for now. We will come back to the Welcome screen after some more configuration changes.

### **Folder Permissions**

After the installer is complete, we need to get the application pool user permissions to the C:\Program Files\Solver Folder. To do so

 From the web server, navigate to C:\Program Files\Solver > right-click > Properties > Security

☐   📝 📑 〒   Program F File Home Share	iles View		
File     Home     Share       ←     →     ↑     ↑       #     Quick access     >       Image: This PC     Image: Desktop       Image: Desktop     Documents       ↓     Downloads       ↓     Music	View s PC > Local Disk (C:) > Program Files Name Common Files dotnet glogg Internet Explorer Microsoft SQL Server PowerShell	Date modified Type Size Solver Properties General Sharing Security Previous Versions Customize Solver Tops: Elefelder	× 0 ×
Pictures Videos Local Disk (C:)	Reference Assemblies Solver Uninstall Information VMware Windows Defender Windows Mail Windows Media Player Windows Multimedia Playform	Type:         File Totoler           Location:         C:\Program Files           Size:         410 MB (430,831,408 bytes)           Size on disk:         413 MB (433,250,304 bytes)           Contains:         1,176 Files, 352 Folders           Created:         Tuesday, August 25, 2020, 8:00:17 PM	
	Windows NT Windows Photo Viewer Windows Portable Devices WindowsApps WindowsPowerShell	Attributes: Read-only (Only applies to files in folder) Hidden Advanced OK Cancel	

2. Click Edit



3. Click Add

Permissions for Solver			×
Security			
Object name: C:\Program Files\So	lver		
Group or user names:			
E ALL APPLICATION PACKAGES			^
CREATOR OWNER	ON PACKAGES		
Administrators (SUPVM0010\Ad	ministrators)		
~	,	>	Ť
	Add	Remove	
Permissions for ALL APPLICATION PACKAG	Add Allow	Remove Deny	
Pemissions for ALL APPLICATION PACKAG	Add Allow	Remove Deny	^
Permissions for ALL APPLICATION PACKAG Full control Modify	Add Allow	Remove Deny	^
Permissions for ALL APPLICATION PACKAG Full control Modify Read & execute	Add Allow	Remove Deny	^
Permissions for ALL APPLICATION PACKAG Full control Modify Read & execute List folder contents	Add Allow	Remove Deny	^
Permissions for ALL APPLICATION PACKAC Full control Modify Read & execute List folder contents Read	Add	Remove Deny	×
Permissions for ALL APPLICATION PACKAG Full control Modify Read & execute List folder contents Read	Add Allow	Remove	*

4. In the window that appears, make sure the location is set to the machine name and type in IIS APPPOOL\Solver

Permissions for Solver X	
Select Users or Groups	×
Select this object type:	
Users, Groups, or Built-in security principal	Object Types
From this location:	
SUPVM0010	Locations
Enter the object names to select ( <u>examples</u> ):	
iis apppool\solver	Check Names
Advanced OK	Cancel

#### Click Check names.

Permissions for Solver X	
Select Users or Groups	×
Select this object type:	
Users, Groups, or Built-in security principals	Object Types
From this location:	
SUPVM0010	Locations
Enter the object names to select ( <u>examples</u> ):	
iis apppool\solver	Check Names
Advanced OK	Cancel

The name should change to Solver.

Permissions for Solver ×	
Select Users or Groups	×
Select this object type:	
Users, Groups, or Built-in security principals	Object Types
From this location:	
SUPVM0010	Locations
Enter the object names to select (examples):	
solver	Check Names
Advanced OK	Cancel

If it does not, the Private Host installation is incomplete or the location has not been set to the web server. Please contact Solver Support for assistance.

This completes setting up folder permissions for Solver Private host.

This section has been left blank intentionally.

# Service Server Installation

This section will detail the two installers that need to be ran on the Services server. These two installers are

- 1. Service Fabric
- 2. Portal Services

It is recommended to run the Service Fabric installer first before running the Portal Services installer.

### **Fabric Install**

The following detail steps to install Service Fabric. Service Fabric is an underlying Microsoft Technology used by Solver Private host to run integrations and other features related to integrations.



- 1. The following steps require administrative permissions on the Application server.
- 2. SQL Server Browser services must be enabled

The installation of Service Fabric can take some time depending on the configuration of the Services machine. Higher end Services machines will complete this installation process in a shorter amount of time (1-5 minutes).

### New Install

New installs of Solver must install Solver Service Fabric.

1. In the setup .zip file that was download is a .zip called *04.Service Fabric Installer,* move this folder to the services server.

ime	Date modified	Туре	Size
01. New Database	6/9/2019 12:20 PM	File folder	
02. Upgrades	6/9/2019 12;20 PM	File folder	
03. Portal Installer	6/9/2019 12:20 PM	File folder	
04. Service Fabric Installer	6/9/2019 12:21 PM	File folder	

2. First step will be to run prepare\_SolverSF. Right click and choose "Run as Administrator".

← → ✓ ↑ → This PC > Desktop > 04. Service Fabric Installer > Ame Ame Ame Date			
Name Date			
🖈 Quick access 📃 📃	modified	Туре	Size
Deckton ServiceFabric 10/14	4/2020 8:47 PM	File folder	
SolverSF 10/14	4/2020 8:51 PM	File folder	
United as the provided as the	4/2020 8:53 PM	Application	10,388 KB
🔮 Documents 💉 🎴 02. Install_SolverSF 10/14	4/2020 8:55 PM	Application	19,882 KB
📰 Pictures 🖈 🧾 03. PostInstall_SolverSF 10/14	4/2020 8:38 PM	SQL File	1 KB
🖵 installers 🖈 📄 ReadMe 10/14	4/2020 8:38 PM	Text Document	2 KB

#### 3. The user will be prompted to type in

- a. IP Address of the SQL server
- b. Name of the Repository database
- c. Name of the Scheduler database
- d. SQL user and password used to connect to the Solver Database.
  - i. Windows credentials are not valid



4. Once the password is entered, press Enter. The application will verify that the information typed in is correct.



This step requires the existence of the Solver\_Sheduler database that was created earlier.

- 5. Assuming that a successful connection is made, a prompt will tell you to click any key. Press **Enter** to exit the window.
  - a. If you do not get a Success confirmation, try typing in the password again.
- 6. Run the Install\_SolverSF executable. Right click and choose "Run as Administrator".

📙   🛃 🚽   04. S	ervice	Fabric Installer			
File Home	Share	View			
← → → ↑ 🕞 → This PC → Desktop → 04. Service Fabric Installer →					
		Name	Date modified	Туре	Size
Quick access		ServiceFabric	10/14/2020 8:47 PM	File folder	
Desktop	×.	SolverSF	10/14/2020 8:51 PM	File folder	
🕂 Downloads	*	🚰 01. Prepare_SolverSF 🔺	10/14/2020 8:53 PM	Application	10,388 KB
Documents	*	🚰 02. Install_SolverSF 🦰	10/14/2020 8:55 PM	Application	19,882 KB
Pictures	*	03. PostInstall_SolverSF	10/14/2020 8:38 PM	SQL File	1 KB
🚽 installers	*	ReadMe	10/14/2020 8:38 PM	Text Document	2 KB
-					

7. Users will be prompted to type in the name of the Services machine. Assuming this is being ran on the services server, you can simply type in "localhost", without quotes, to indicate the local machine.

C:Users\ \Desktop\04. Service Fabric Installer\02. Install_SolverSF.exe	_	$\times$
Please type in the ip address of the environment that you want to install service fabric on: localhost		^
		~

This will begin the installation of Service Fabric. Users should expect this process to take five to ten minutes depending on the Service Fabric machine's configuration.

This completes the installation of Service Fabric. The next section will detail steps to link Service Fabric to the Private Host install.

This section has been left blank intentionally.

# Add SQL User and Service Fabric entries

The next step is to add the *solveruser* and add entries to the repository necessary for service fabric. To do this, on the SQL server:

1. In the Service Fabric folder, find the PostInstall\_SolverSF.sql file.



Run this file on the Solver\_Repository database. This will create the *solveruser* mentioned in the *Creating a Solver Database* section, if it has not already been created. This script will also insert additional entries into the MasterSettings table of the Solver\_Repository database needed for the web application to connect to the Solver marketplace, Service Fabric, and SignalR.



Make sure to change the server to the name of the service fabric machine. See screenshot below.



• The query should result in the following results:



## Portal Services Install

In this section, we will install the Portal Services. The Portal Services are used to run reports, publisher jobs and other tasks within Solver Private Host.

- 1. To begin, move the executable found in .03. Installer to the services server. This is the same installer you ran on the web server to install the web component.
- 2. Run the executable as Admin.
- 3. Navigate thru the screens as you did previously. On the components to install, choose only the services component.

🗻 Solver Private Host Setup		×
Select a feature to add or remove:	Feature description: The Solver web portal.	
	Product install path:	
	Disk space requirements:	
	Volume 🔺 Disk Size Available Required Differen	:e
	Installation drives	B
Restore Defaults	< Back Next > Cancel	

This section has been left blank intentionally

4. The next screen will prompt you for the repository information. Type in the server name,

🗻 Solver Priv	ate Host Setup	×
<b>~</b> 9	Solver Private Host	
Setup Rep	ository Database	
Configure the S	olver repository database connection.	
Server: Database a Enter oredenti These oredenti () Use Wi () Use SQ	Iocalhost     Browse       solver_repository       dministrator credentials       ials to use for creating the repository database.       tials are not stored.       indows authentication       2L login	Application credentials Enter credentials the application will use when connecting to the repository database. O Use Application Pool/Machine account (Windows authentication)  O Create/Use SQL login
Login:		Login:
Passwo	ord:	Password:
		< Back Next > Cancel

This should be the same information as provided during the web installation step.

- 5. Click Next. The services installation should begin.
- 6. Once complete, users will get a notification that the installation has completed. Click Finish to exit the menu

<ul> <li>Solver Private Host Setup</li> </ul>	×
Completing the Solver Private Host Setup Wizard	solver
	< Back Einish Cancel

## **Installation Checklist**

At this point the installation is complete. Below, you can find a checklist of items the verify are running as a quick indicator that the installation is complete.

- On the webserver, navigating to <u>http://solver.local</u> should load a Welcome screen
- On the services server, navigating to <u>http://localhost:19081</u> should load a service fabric dashboard
- On the services server, navigating to Start > Services and scrolling down to Solver, you should find 3 services
  - Solver Report Rendering Service
  - o Solver Publisher Service
  - Solver Maintenance Service

This section has been left blank intentionally.

# **Private Host Initial Configuration**

At this point you have a running Solver Private Host. This section details completing the initial configuration of Private Host. Users need to make sure that the following is available

- Private Host license key and Data Warehouse license keys
  - This is a different key from your 4x license key and must be requested via <u>support@solverglobal.com</u>
- Web Server is able to communicate with the SMTP server and credentials are available, if applicable.

If either of the following are unavailable, users cannot complete these initial configuration steps.

Begin by navigating to http://solver.local on your web server.

1. Administrator Setup – This user does not need to be a Solver user, as long as the email being used is a valid email address. A service account is recommended.

Administrator s	etup	
Enter the information of administrator.	of the user you want	as the initial Portal
FULL NAME		
[		
EMAIL		
NEW PASSWORD		



If using Active Directory authentication, do not type in the email of an end user. Use a service account email or an email of a user who will not be using the application. Click **Continue**.

- 2. Email Setup This is needed for email notifications from the Solver Cloud.
  - Under **Email setup**, users must enter their organization's SMPT host and port information. Please contact your IT department for this information.
  - In the **From email** field, enter the email address that emails will be coming from. This is typically setup as a no-reply email.
  - Under Authentication, select whether to use Default or Specified authentication:
     Default: uses the default identification (SSL).
    - **Specified**: enter the username and password for the SMPT host.

SMTP HOST	PORT
	587
SPECIFIED DEFAULT USERNAME	

- 3. Click Continue.
- 4. Enter the Solver Private Host license key which is available on the Solver Support site.



Upon clicking **Continue**, the user will be taken to the landing page of Solver Private Host. This completes the installation of the reporting component of Solver. The next section will detail, installing the Data Warehouse and Service Fabric components.

### Enable Data Warehouse

Your installation is now up and running, you now need to connect Solver Private Host to the SolverDW database that was created. To do so:



Only one Data Warehouse connection can be made per tenant.



1. Navigate to Settings-> Data Connection.

NOTE: You are currently logged in as an administrator. This button will be available to users with Can manage connection permissions

This section has been left blank intentionally.

2. In the grid that appears, a listing of all available connections appears. Since this is a new install, the list is blank. Click New in the upper right-hand corner to create a connection to the SolverDW

solver	Settings > Data Connections		우 🖓 🎯 💿 Demo 🗸
≡			+
டு Home			
REPORTING	CONNECTION NAME INTEGRATION	OWNER	LAST MODIFIED BY
Report Templates			
() Publisher			
∭ Report Archive			
PLANNING			
🗑 Input Templates			
န့္ Input Flow			
BB Workflows			
Assignments			
Data Warehouse			
Settings			
- a second			

3. A listing of all available integrations that have been purchased will appear. Click on Data Warehouse

Create new connection	×
INTEGRATION	
BI360 Data Warehouse	
Microsoft Dynamics GP	
	NEXT CANCEL

4. Users are then asked to provide the Data Warehouse connection information

Create new connection	×
Specify connection details to the ERP system's database	
DATABASE	
AUTHENTICATION SOL Server Authentication	
PASSWORD	
Allow other users to edit this connection	
BACK NEXT CANCE	

- a. Server Name: SQL server where the SolverDW is located
- b. Database: The name of the SQL database, typically SolverDW
- c. Authentication: Choose between SQL or Window auth to connect to the SolverDW
  - For SQL authentication, type in the SQL user name and password that has DBO permissions to the database. In the database creation script, a user "solverappuser" was created that has all the permissions needed and can be used here.
  - ii. Windows authentication will pick up the logged in user, make sure this user has permissions to the SolverDW database.
- d. Allow other users to edit this connection: Select this option to allow other users with "can manage connection" permissions, to edit this connection information.

5. On the next screen, choose "BI360 Data Warehouse" as the company and click Next.

Edit connection	
Select companies Licenses available: 493 of 500	
Search	0
	~
✓ BI360 Data Warehouse	
	BACK NEXT CANCEL

6. The next screen asks you to type in the connection name, this will be displayed throughout the app and can be set to your preference.

Edit connection			
Give this connection a name			
BI360 Data Warehouse connection			
	BACK	FINISH	CANCEL
	DAGK	- Indian	UNITOLL

Clicking finish to save the connection and you have now connected Solver Private Host to the SolverDW.

## Add Data Warehouse License

Next, the license key must be added. Users must add a license key in order to use the Data Warehouse. To do so:

- 1. Click on the **Data Warehouse** menu in the left pane.
- 2. Click **Configuration -> License** and paste in the license provided

solver	Data Warehouse			Û	R O Demo
=		«	LICENSE		
(∩) Home	Overview				
REPORTING	S Data Evolorer		LICENSE KEY		
Report Templates			License Key	Enter your License Key	
() Publisher	S Data	~			
M Report Archive	A Configuration	^			
PLANNING	Modules				
E Input Templates					
So Input Flow	Dimensions				
98 Workflows	Module Schema				
Assignments	Period Configuration				
	License				
	API				
🗢 Data Warehouse					
Settings					

3. Then click the **Update License** button.

This completes the installation and the next section will detail initial configuration setup to begin using Solver.

This section has been left blank intentionally.

## Site Bindings

Not covered in this User Guide but should be discussed with your IT team is site bindings, host names, redirect rules and SSL certifications. A host name allows for the site to be made available outside of the web server.



Solver Support does not assist in the setup or configuration of host names, SSL certificates and redirect rules

Please consult with your IT team on installing and configuring the site binding.

For organizations looking to make their site publicly available, Solver strong encourages the use of SSL and HTTPS.

### **Portal URL References**

The previous section referenced site bindings. If you have chosen to create a hostname, the hostname must be typed in the Portal URL menu in order for emails and Report Designer to reference your host name.

After apply the site binding in the IIS server, users must also update the Solver Private Host Portal URL. To do so:

- 1. As an administrator, log into Solver and navigate to Settings > System Settings.
- 2. On the General Tab, type in your site host name beginning with http or https.



3. Click Save

All emails will now include links to your defined host name.

# Active Directory Setup in Solver Private Host

An organization can use their Active Directory, referred to as AD in this section, to automatically add users to Solver Private Host as a way to manage users via Active Directory. Once enabled, users will see two menus on the login screen: Portal and Active Directory. Users will need to choose the appropriate option, the default being Portal.

S	olver	
Portal Active Directory		-
PASSWORD		)
Forgot password?	SIGN IN	

At this time:



- 1. Multi-Tenant (Solver Feature) does not natively support AD authentication. Please reference <u>this KB article</u> for more information.
- 2. Azure AD is not supported

## Enabling Active Directory

To enable Active Directory:

- 1. Log into the **Solver Private Host** using an administrator account.
- 2. Click Settings -> System Settings.

	USER
	은 User Settings
	PLANNING
	Distribution Rules
	SYSTEM
	System settings
📼 Data Warehouse	ಕ್ಕೆ Administration
ලි Settings	م مع Data Connections

3. Click **Active Directory** and **Enable** in the upper left-hand corner of the main grid to enable Active Directory Support.

solver	■ Settings > System settings	A Notifications v ③ Feedback ⑦ Help   L labUser Scure_Bunk v
合 Home	«	Enabled
Archive	General	ACTIVE DIRECTORY DOMAIN
Assignments	Email	AUTHENTICATION
Live Reporting	Active Directory	DEFAULT SPECIFIED
Budgeting	Azure Active Directory	Role mappings
Publisher		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME ADD ROLE MAPPING
دل Workflow		
Data Warehouse		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME
Sattings		SAVE

solver	Settings > System settings		Ċ	ጽ	0	Demo OncyDw
=	×	Enabled				
പ്ര Home	General	ACTIVE DIRECTORY DOMAIN				
REPORTING	Email					
🔓 Report Templates	Active Directory	AUTHENTICATION				
🕒 Publisher	,	DEFAULT				
🕅 Report Archive		USERNAME				
PLANNING		PASSWORD				
Input Templates		Enter to change password				
န့္ input Flow		Role mappings				
멾 Workflows		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME				
Assignments			~	AD	D ROLE N	IAPPING
		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME				
						CAVE
Data Warehouse						
log Settings						

4. Type in the name of the active directory domain.

5. Choose an **Authentication** method.

solver	Settings > System settings		Ů	R	0	Demo v
≡		Enabled				
A Home	General	ACTIVE DIRECTORY DOMAIN				
REPORTING	Email					
👌 Report Templates	Active Directory	AUTHENTICATION				
() Publisher		DEFAULT SPECIFIED				
🕼 Report Archive		USERNAME				
PLANNING		PASSWORD				
🗐 Input Templates		Enter to change password				
🗞 Input Flow		Role mappings				
器 Workflows		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME				
Assignments			~	AD	D ROLE	MAPPING
		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME				
						SAVE
Data Warehouse						
Settings						

- **Default** will pick up the domain the web server is on and authenticate users based on this domain.
- **Specified** user must provide credentials to authenticate against the abovementioned domain in step 5. This could be required in cases where the web server is placed in a DMZ or for organizations that have multiple domains.

#### 6. Click Save.

solver	Settings > System settings		Û	<u>م</u>	Demo OnuOw	v
	«	Enabled				
ြ Home	General	ACTIVE DIRECTORY DOMAIN				
REPORTING	Email					
🔓 Report Templates	Active Directory	AUTHENTICATION				
Publisher	Active Directory	DEFAULT SPECIFIED				
🕅 Report Archive		USERNAME				
PLANNING		PASSWORD				
🖺 Input Templates		Enter to change password				
နှာ Input Flow		Pole mannings				
B Workflows		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME				
Assignments		× •	~	ADD	ROLE MAPPING	
		_				
		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME				
					SAVE	
			-			
💬 Data Warehouse						
ର୍ତ୍ତି Settings						



At this point all users on the domain have access to log into Solver Private Host. However, they do not have any application access. Please read the following section for details on restricting Active Directory Access.

At this point, anyone on the domain has access to log into Solver Private Host. The next section details restricting access to certain groups within a domain.

### **Restricting Access through Active Directory Groups**

As mentioned at the end of the previous section, upon enabling Active Directory, all users will have access to log into the Portal. It is important to note that they only have access to log in but have not been assigned to any application.

To restrict access to a select group of individuals, organizations can add specific Active Directory groups. Once an Active Directory group is added, the application is locked down to members of that specific group.

### Defining a specific Active Directory Group

In order to specify a specific Active Directory group, it is required that you know the exact name of the Active Directory group to be added, please contact the organization IT department for more information on this.

To add a specific Active Directory Group, locking down Solver Private Host to a specific set of users:

solver	Settings > System settings				Ů	8	O Dem OnuC
=	«	Enabled					
டு Home	General						
REPORTING	Email						
🔓 Report Templates	Asthus Directory	AUTHENTICATION					
Publisher	Active Directory	DEFAULT SPECIFIED					
🕅 Report Archive		USERNAME					
PLANNING		PASSWORD					
Input Templates		Enter to change password					
န့္ Input Flow		Role mappings					
음 Workflows		ACTIVE DIRECTORY GROUP NAME		PORTAL ROLE NAME			
Assignments			~ <b>•</b>		~	ADD	O ROLE MAPPING
		ACTIVE DIRECTORY GROUP NAME	PORTAL ROLE N	IAME			
							SAVE
							SAVE
Data Warehouse							
lo Settings							

1. Type in the Active Directory Group Name exactly how it appears in the Active Directory.

Use the search icon to validate the active directory group. If no names appear, it may be that the authentication method provided above cannot read the active directory.



2. Click the dropdown for **Portal Role Name** and select a portal role that has been configured.

solver	Settings > System settings		Ļ	ନ ଡ	Demo v
	«	Enabled			
ဂြ Home	General	ACTIVE DIRECTORY DOMAIN			
REPORTING	Email	[]			
🔓 Report Templates	Active Directory	AUTHENTICATION			
Publisher		DEFAULT SPECIFIED			
∭\ Report Archive		USERNAME			
PLANNING		PASSWORD			
🗐 Input Templates		Enter to change password			
နှ <sub>စ</sub> Input Flow		Role mappings			
98 Workflows		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME			
Assignments			<u>×</u> ] [	ADD ROL	E MAPPING
		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME			
					SAVE
🐡 Data Warehouse					
50 Settings					

This is the role that members of this Active Directory group will be added to. These Active Directory members will inherit the security settings of this role.

#### 3. Click Add Role Mapping.

solver	Settings > System settings		μá	) ()	Demo v
	«	Enabled			
ဂြဲ Home	General	ACTIVE DIRECTORY DOMAIN			
REPORTING	Email				
Report Templates	Active Directory				
(5) Publisher					
[[]] Report Archive					
PLANNING		PASSWORD			
🖩 Input Templates		Enter to change password			
နှစ် Input Flow		Role mappings			
88 Workflows		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME			
Assignments				ADD ROL	E MAPPING
		ACTIVE DIRECTORY GROUP NAME PORTAL ROLE NAME			
					SAVE
🖙 Data Warehouse					
log Settings					

4. Click Save.

Repeat the steps to add specific Active Directory Groups.

### Active Directory User Logging in for the First Time

As an end user, the user will navigate to the Solver Private Host site. The user will be prompted to provide login information:

- Portal authentication requires an email and password configured by the end user.
- Active Directory authentication requires the users Active Directory email and password.

Upon logging in the user will only have access to the Home Page and Settings pages. At this point the Solver Administrator must assign applications, such as Live Reporting, to the end users.

Installation is now complete. You have successfully installed and configured Solver Private Host. Should you have any further questions, please reach out to Solver Support.

# Appendix

# Additional Resources

The Solver Support Center (support.solverglobal.com) is the centralized location for users to learn more about the Solver Suite. From opening and managing your support tickets to reading knowledgebase articles about the product, the Solver Support Center has everything a user will need.

Users may contact Solver Support if they have questions about the Solver Suite. One of our technical support consultants will gladly assist you.

Users can access the Solver Knowledgebase for more information about the entire Solver Suite. From user guides, white papers, training manuals and much more, the Solver Support Center has everything a user will need to get started with the application.

Solver Academy is also available by subscription for 24-7 training on the application. Go to academy.solvertraining.com for more information.

# **Technical Information**

# Designer Add-In and Excel Click to Run (C2R)

For organizations deploying Excel 2016+ or Excel 365 "Click to Run" version there are some important considerations to be aware of. Click to run automatically installs updates to Excel on a regular interval. These updates have had a history of breaking Excel Add-In's, including Solver Report Designer. We recommend that organizations using Excel Click to Run, turn off automatic updates to end user computers who are using Solver Report Designer. A development environment should be used to test the upgrade of Excel and Solver functionality. Only after confirmation of the Designer add-in working in development, should the update be pushed out to end users.

# Configuring the Site Bindings

In order to be able to invite users to Solver Private Host via email, the correct site header as defined in IIS -> Site Bindings must be entered in System Settings. This section will detail adding a URL in the Internet Information Service ((IIS) Manager and adding this URL under System Settings in the Solver Private Host 5x.



The following steps require assistance from your IT.

First add the Site Binding in the Internet Information Services (IIS) Manager:

1. In the Internet Information Services (IIS) Manager, open the Sites -> Solver.



2. Under the **Actions** menu, click **Bindings**.

File View Help				
Connections  Connections  Connections  Start Page  Supplication Pools  Construction  C	solver Home	Consection     Settings     Suff P E-mail	a v v .NET Roles Pages and Controls Handler	Actions Explore Edit Permissions Edit Stee Bindings Basic Settings View Applications View Virtual Directories Manage Website Restart Start Start Browse solver.local on :80 Rrowse solver.local on :80 Advanced Settings Configure Limits
	HTTP ISAPI Filters	Logging MIME Types Modules	Mappings Output	🕑 Help

3. In the **Site Bindings** dialog box, click **Add...**.

📬 Internet Information Sen	vices (IIS)	Manager						- 🗆 X	
← → SUPVN	10010 🔸	Sites > solver )	•					🕶 🗟 🟠 🕢 -	
File View Help									
Connections		Concerned and the second	rllom	•			Actio	ons	
🔍 - 🔒 🖄 👘 🛃	The Disali		er Hom		2 2	pre			
Start Page	site bindi	ngs			Permissions				
Application Poc	Туре	Host Name	Port	IP Address	Binding Informa		Add	Site	
<ul> <li>Sites</li> <li>Oefault Web</li> </ul>	http	solver.local	80					: Settings	
> 😜 solver							Remove	Applications	
							Browse	Website	
								art	
								vse Website vse solver.local on :80	
								)	
								inced Settings	
								ligure	
							Close		
		. HER	3			-		-	
			<b>U</b>		J™ ←1				
			API Filters	Logging	MIME Types Modules	Output	Y		
<	>	Features View	Conte 🚰	nt View					
Ready								¶.:	

4. In the **Host name** field, enter the host name for the Solver Private Host 5x site. This URL is setup by the organization's IT department.

vpe	Add Site Binding	1				?	×	
http	Туре:		IP address:		Port:	_		
	http	~	All Unassigned	~	80			
	Host name:							Vē
								se
	Example: www.	.contos	o.com or marketing.contoso	.com				

- 5. Click **OK**. Next, add this URL to the System Settings in the portal:
- 6. In Solver, click Settings and then click System Settings.



7. In the **Portal URL** field, enter the URL set up in the **Internet Information Services (IIS)** Manager.

	S	olver	=	Settings > System settings			🌲 Notifications 🗸	Feedback	Help	labUser Solver_BLANK	~
	<b>ہ</b> ا	Home			«	PORTAL URL					
	#R ^	Archive		General		VOUCHER SERVICE					
	م 🕄	Assignments		Email		Enable voucher service				_	
	<b>I</b>	ive Reporting		Active Directory						SAVE	
		Budgeting		Azure Active Directory							
	<b>D3</b> F	Publisher									
	°₿, v	Vorkflow									
	* 🕫	Data Warehouse									
	<b>\$</b> \$	Settings									
~											
8. 9.	Click	Save.									

**NOTE:** Under the **Email** tab, the email settings provided earlier can be changed.

# Troubleshooting

### **Check Service Fabric Connection**

- 1. On the service fabric server, open **PowerShell**.
- 2. **Run**:

curl <u>http://localhost:19081/SolverFabricConnection/DatabaseConnectionService/connectionStrings/[TenantId]</u>

• Replace the Tenantld with the Tenantld created