INSTALLATION GUIDE

Access Rights Manager

Version 9.1

solarwinds

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Access Rights Manager Installation Guide

Use the information in this guide to prepare your environment and install SolarWinds Access Rights Manager.

Review the section on The components that make up the Access Rights Manager architecture and check the System requirements for each component prior to starting the installation. Then follow the step-by-step walkthrough to download and install ARM.

After completing the installation, check out the ARM Getting Started Guide for basic configuration tips and to learn how to start using ARM.

The components that make up the Access Rights Manager architecture

The ARM component architecture allows you to run installations across a variety of remote resources in an extremely efficient manner. All individual components connect with each other via network interfaces. You can also run several components on the same computer.

The ARM suite is comprised of the following components:

Required components

Included with the ARM installation package:

- **The ARM Server** - to process new data and requests from the main application
- **ARM Collector** - to connect your resource and data systems
- **The ARM application** - The front-end GUI for using ARM
- **The ARM Configuration application** - The front-end GUI for configuring ARM

Not included with the ARM installation package:

- **A SQL database server** - for the ARM SQL database, to store ARM's collected information

Optional components

Included with the ARM installation package:

- **Additonal ARM Collectors** - install more collectors to balance collection loads in large environments
- **Web Components** - Web client and Web API for accessing and using ARM
- **Alerts** - notifies you about your configured events as soon as they are detected

System requirements

The following table lists hardware and software system requirements for your SolarWinds Access Rights Manager installation.

ARM Server requirements

Hardware requirements for the ARM Server vary depending on several factors:

- the number of users in Active Directory (AD)
- the number of file servers and directories monitored by ARM
- the ARM Server's data storage settings

Installing ARM onto a server that has an Orion Platform installation will cause a conflict with the RabbitMQ service. To avoid this, ARM and Orion Platform products must be installed on separated servers. Note that ARM is not an Orion Platform product.

<table>
<tr><th>HARDWARE/SOFTWARE</th><th>REQUIREMENTS</th></tr>
<tr><td>Operating System (32-bit and 64-bit)</td><td>• Windows Server 2008 SP1
• Windows Server 2008 R2
• Windows Server 2012
• Windows Server 2012 R2
• Windows Server 2016
• Windows Server 2019</td></tr>
<tr><td>CPU (number of processor cores)</td><td><table><tr><th>ACTIVE DIRECTORY USERS</th><th>NUMBER OF CORES</th></tr><tr><td>up to 1,000</td><td>2</td></tr><tr><td>up to 4,000</td><td>4</td></tr><tr><td>4,000+</td><td>4</td></tr></table>Intel Itanium platforms are not supported.</td></tr>
<tr><td>Hard drive space</td><td><table><tr><th>ACTIVE DIRECTORY USERS</th><th>DISK SPACE</th></tr><tr><td>up to 1,000</td><td>30 GB</td></tr><tr><td>up to 4,000</td><td>40 GB</td></tr><tr><td>4,000+</td><td>40 GB</td></tr></table></td></tr>
</table>

HARDWARE/SOFTWARE	REQUIREMENTS
Memory	<table><tr><th>ACTIVE DIRECTORY USERS</th><th>RAM</th></tr><tr><td>up to 1,000</td><td>4 GB</td></tr><tr><td>up to 4,000</td><td>8 GB</td></tr><tr><td>4,000+</td><td>16 GB</td></tr></table>
.NET Framework	.NET 3.5 SP1 **and** .NET 4.5.2 (or higher)
Access rights	The service account requires local administrator rights on the ARM server.
Other	The ARM server must be a member of an Active Directory domain. Clusters are not supported. Server Core is not supported.

ARM Collector requirements

HARDWARE/SOFTWARE	REQUIREMENTS
Operating System (**64-bit only**)	• Windows Server 2008 SP1 • Windows Server 2008 R2 • Windows Server 2012 • Windows Server 2012 R2 • Windows Server 2016 • Windows Server 2019
CPU (number of processor cores)	2 Intel Itanium platforms are **not** supported.
Hard drive space	5 GB
Memory	4 GB
.NET Framework	.NET 3.5 SP1 **and** .NET 4.5.2 (or higher)
Other	ARM collectors can be installed on a member server (node) of a cluster. ARM collectors cannot be used as a cluster for Windows Server Failover Clustering manager.

ARM GUI application requirements

These requirements are for both the main ARM application and the ARM Configuration application.

HARDWARE/SOFTWARE	REQUIREMENTS
Operating System (32-bit and 64-bit)	• Windows Server 2008 SP1 • Windows Server 2008 R2 • Windows Server 2012 • Windows Server 2012 R2 • Windows Server 2016 • Windows Server 2019 • Windows Vista • Windows 7 • Windows 8 • Windows 10
CPU (number of processor cores)	2
Hard drive space	500 MB
Memory	2 GB
.NET Framework	.NET 3.5 SP1 **and** .NET 4.5.2 (or higher)
Graphics	Graphic card supporting DirectX 10
Screen resolution	Minimum: 1280x1024 Recommended: 1920x1080 (1080p)

SQL Server requirements

HARDWARE/SOFTWARE	REQUIREMENTS
Microsoft SQL Server (32-bit and 64-bit)	• SQL Server 2008 SP1 • SQL Server 2012 • SQL Server 2014 • SQL Server 2016 • SQL Server 2017

HARDWARE/SOFTWARE	REQUIREMENTS
CPU (number of processor cores)	2 Intel Itanium platforms are **not** supported.
Hard drive space (Database storage)	ACTIVE DIRECTORY USERS / STORAGE SPACE up to 1,000 / 10 GB up to 4,000 / 30 GB 4,000+ / 50 GB
Memory	4 GB
.NET Framework	.NET 3.5 SP1 **and** .NET 4.5.2 (or higher)
Access rights	• If you don't already have a database for use with ARM, ARM setup requires the role "dbcreator" on the SQL server. • If you've already created a database for use with ARM, ARM requires the role "dbowner" for the database.
Other	SQL Server Express Edition can be used but has the following limitations: • 10 GB maximum database size: Only a limited number of scans can be stored • 1 GB maximum RAM use: Loss of performance in large environments • 4 maximum CPU cores: Loss of performance in large environments

File server requirements

HARDWARE/SOFTWARE	REQUIREMENTS
Operating System (32-bit and 64-bit)	• Windows Server 2008 • Windows Server 2008 R2 • Windows Server 2012 • Windows Server 2012 R2 • Windows Server 2016 • Windows Server 2019

HARDWARE/SOFTWARE	REQUIREMENTS
Supported types of file servers	• Domain-integrated or stand-alone DFS file servers. • CIFS-based shares on NetApp file servers. • CIFS-based shares on EMC file servers. Windows Server Failover Clustering (WSFC) is supported.

Web components and web interface requirements

HARDWARE/SOFTWARE	REQUIREMENTS
Operating System (32-bit and 64-bit)	• Windows Server 2008 R2 • Windows Server 2012 • Windows Server 2012 R2 • Windows Server 2016 • Windows Server 2019
.NET Framework	.NET 3.5 SP1 **and** .NET 4.5.2 (or higher)
Internet Information Services (IIS)	Version 7.5 or higher
Supported browsers	• Google Chrome 54 or higher • Mozilla Firefox 49 or higher • Microsoft Edge 38.14383 or higher • Microsoft Internet Explorer 11.0.22 or higher Cookies and Javascript must be enabled.
Other	

Network requirements and firewall settings

PORT	SERVICE/PROCESS	PURPOSE AND DESCRIPTION
389	LDAP	Active Directory scanning
139	NetBIOS	File server scanning
445	Microsoft DS (CIFS)	
135+dynamic*	Local users/groups (WMI/DCOM/RPC)	

PORT	SERVICE/PROCESS	PURPOSE AND DESCRIPTION
1433	MS SQL Server	ARM uses this port for all communication between the ARM server and the SQL server. Collectors communicate only with the ARM server and do not communicate with the SQL server
88	Kerberos	Authentication
55555+dynamic*	ARM components standard port	ARM components standard port ARM uses this port for all communication between the ARM server and client (GUI applications).

*SolarWinds recommends defining application-based rules for services that use dynamic ports because of the possibility of random high-numbered ports being used.

ARM service account permissions

SolarWinds recommends using service accounts (dedicated user accounts) for ARM. This ensures that:

- The access rights of the service accounts are used only by ARM.
- It is easy to identify whether an action was performed by an ARM service account or by a domain admin.
- If the domain admin's password changes, the ARM configuration is unaffected.
- Restrictions are avoided through activity limits (for example, Exchange Online allows only three parallel requests).

FEATURE	REQUIRED ACCESS RIGHTS
ARM server	A service account requires local administrator rights on the 8MAN server. If a service account is a member of the domain Admin group, then this requirement is automatically fulfilled. If a server computer becomes a member of the domain (domain join) then the group Domain Admins will become a member of the local administrator group.
SQL Server	• If you don't already have a database for use with ARM, ARM setup requires the role "dbcreator" on the SQL server. • If you've already created a database for use with ARM, ARM requires the role "dbowner" for the database.
Active Directory (AD)-Scan	Every user account requires at least read-only rights in order to be able to generate an Active Directory scan. If you utilize delegation in your organization, then you must add the service account to the group that can read the required OUs.

FEATURE	REQUIRED ACCESS RIGHTS
AD Modify (ARM Enterprise)	If you work with delegation in your company, you must assign service accounts to a group that is allowed to change the relevant OUs. Without delegation: Service accounts become a member of the Domain admin group.
File server (FS)-Scan	User accounts require access rights in order to be able to read NTFS permissions as well as traverse folders. Service accounts can become a member of the domain admin group. If the domain admin account does not have access to all folders (for example, user folders) then add service accounts to the backup operators on the file server.

Download and install Access Rights Manager

These instructions provide installation steps for installing SolarWinds Access Rights Manager.

The ARM installer is an all-in-one installation package that you can use to install ARM's components: The ARM Server, Collector, GUI applications, and optional Web interface components.

Microsoft SQL Server must be installed separately.

☐	1. Verify that all system requirements have been met for each component of your ARM installation.	Check the system requirements for all ARM components.
☐	2. Download installation files from Customer Portal	1. Go to customerportal.solarwinds.com. 2. In the Log In tab, enter your organization's SWID and your email address. 3. In the Latest Downloads table, click Choose Download for the installation files for your product. If you have not yet created a SolarWinds account, see Access the Customer Portal to create an account.
☐	3. Run the installation file	1. Copy the ARM `setup.exe` to a local folder. 2. Run `setup.exe` with administrator rights. The setup language is automatically selected to match the language of operating system for the following languages: German, English, and French. Otherwise, English is selected.
☐	4. Select the components to install	For a new ARM installation, you **must select** the ARM Server and Collector as well as both User Interface applications. Select the Web client and Web API Web component to install ARM Web functionality. Unselect this option if you want to install the Web components to a different server.
☐	5. Agree to the License Terms	If you agree with the License Terms, check the box for "I agree to the License Terms", then click Install.

☐	6. Install missing components (optional)	During installation, ARM setup will automatically check for missing required components. If any required components are missing, ARM setup will show you a list of the missing components. You can install any missing components manually, then restart the installation process, or you can select Install missing components and select Try Again. Installation will not continue until all required components have been installed.
☐	7. Complete the installation	When all chosen components have been installed successfully, the installation dialog will let you know that setup has been successful. Close the dialog when you're ready.

After installation

After you have successfully installed Access Rights Manager, check out the ARM Getting Started Guide, which will walk you through basic configuration steps, activating your license, logging in, and setting up your first Active Directory and file system scanners.