CEM MiNiFi Java Agent 2.24.02

MiNiFi Java Agent Installation

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System requirements for installing MiNiFi Java

Before you begin installing Cloudera Edge Management (CEM), review the system requirements for MiNiFi Java to understand which operating systems and Java Development Kits (JDK) are supported.

Operating system support

Operating System	Version
RHEL/CentOS	7.x, 8.x
Debian	10, 11
Ubuntu	18.04, 20.04
Windows	10, Server 2016, Server 2019

JDK support

JDK	Version
OpenJDK	JDK21
Oracle JDK	JDK21

Installing MiNiFi Java Agent on Linux

Learn how to install the MiNiFi Java Agent on a Linux system. This guide walks you through the installation and configuration process, enabling you to start the agent seamlessly.

Installing Java for MiNiFi Java Agent

Learn how to install Java for your agent.

About this task

You have to install Java on each machine where the MiNiFi Java Agent will be deployed.

Procedure

- 1. Download JDK from the appropriate website.
- 2. Run the installation command appropriate for your operating system:

For RHEL/CentOS:

yum install java-21-openjdk

For Debian and Ubuntu:

apt-get install openjdk-21-jre

Installing the MiNiFi Java Agent

Learn how to install the MiNiFi Java Agent.

Procedure

1. Download the tar.gz or ZIP files for the MiNiFi Java Agent from the appropriate source.

wget {java.tar.gz}

2. To install the MiNiFi Java Agent, extract the file to your desired directory. After extraction, your MiNiFi Java Agent will be ready for configuration and use.

Installing MiNiFi Java as a service

Learn how to install MiNiFi Java as a service.

Procedure

- 1. Navigate to the MiNiFi Java installation directory.
- 2. Enter:

bin/minifi.sh install

You can also specify a custom name for your MiNiFi Java installation, by specifying that name during your install command. For example, to install MiNiFi Java as a service and name it as dataflow, enter:

bin/minifi.sh install dataflow

MiNiFi Java Agent configurations

Learn about different configurations that you can perform for your MiNiFi Java Agent.

Configuring your MiNiFi Java Agent

After you install the MiNiFi Java Agent, you need to update the configuration files.

About this task

If you want to configure your agent, use the conf/bootstrap.conf configuration file.

The MiNiFi Java Agent creates an auto-generated minifi.properties file at every startup. You should not use it for general agent configuration. If you want to override any property set in minifi.properties, you can do it by adding it to the end of the bootstrap.conf file.

For example, to change the content repository location, add the following to bootsrap.conf:

nifi.content.repository.directory.default=[***/path/to/repos/content***]

Follow these steps to configure the MiNiFi Java Agent:

Procedure

- **1.** From the MiNiFi home directory, open the bootstrap.conf configuration file.
- 2. Configure the agent class so that you can logically group MiNiFi Java instances according to their functionality.

c2.agent.class=[***AGENT_CLASS***]



Note: Leading and trailing whitespaces are accepted for Agent Class names so consider this when configuring agents.

3. Configure the ID of the agent. If you do not specify an agent ID, MiNiFi generates a unique ID per agent instance.

```
c2.agent.identifier=[***AGENT_ID***]
```

4. Set the c2.enable property to true to inform MiNiFi that run time flow instructions will be received from EFM.

c2.enable=true

5. Configure your EFM server endpoint.

```
c2.rest.path.base=[***REST API_BASE URL***]
c2.rest.path.heartbeat=[***HEARTBEAT_RELATIVE URL***]
c2.rest.path.acknowledge=[***ACKNOWLEDGE ENDPOINT_RELATIVE URL***]
```

For example:

```
c2.rest.path.base=http://localhost:10090/efm/api
c2.rest.path.heartbeat=/c2-protocol/heartbeat
c2.rest.path.acknowledge=/c2-protocol/acknowledge
```

6. Configure your heartbeat interval.

```
c2.agent.heartbeat.period=[***HEARTBEAT_INTERVAL***]
```

7. Configure the config directory to be used by MiNiFi:

c2.config.directory=./conf

8. Configure the C2 runtime properties.

c2.runtime.manifest.identifier=minifi c2.runtime.type=minifi-java

9. Configure the C2 request header type.

c2.rest.http.headers=Accept:application/json

10. Restart the agent.

Configuring communication with secured EFM

To communicate with secured EFM, you need to configure additional properties.

About this task

If you are configuring a MiNiFi Java Agent, the configuration file is conf/bootstrap.conf.

Procedure

For the Java Agent, configure the following additional properties in the bootstrap.conf file to communicate with a secured EFM:

c2.security.truststore.location= c2.security.truststore.password= c2.security.truststore.type= c2.security.keystore.location= c2.security.keystore.password= c2.security.keystore.type=

Starting MiNiFi Java Agent

Learn how to start the MiNiFi Java Agent.

Before you begin

Ensure that you have completed the installation steps. For instructions, see Installing your MiNiFi Java Agent.

Procedure

- 1. Open a terminal window and navigate to the directory where MiNiFi is installed.
- 2. Start the MiNiFi agent:
 - To start MiNiFi in the foreground, use the following command:

bin/minifi.sh run

• To start MiNiFi in the background, use the following command:

bin/minifi.sh start

Installing MiNiFi Java Agent on Windows

Learn how to install the MiNiFi Java Agent on a Windows platform and how to configure it. Additionally, explore the prerequisites required before you install and configure the MiNiFi Java Agent.

Installing MiNiFi Java on Windows

Learn how to install the MiNiFi Java Agent on Windows.

Before you begin

Ensure that you meet the prerequisites:

- Install JDK 21 64 bit.
- Install Java to C:/java instead of C:/Program Files because recent Windows versions mark everything in C:\P rogram Files as read only.
- Set the JAVA_HOME environment variable using the 8.3 style naming conventions. For example: C:\Program\j dk21.
- Ensure that the JAVA_HOME environment variable is pointing to a 64-bit JRE/JDK.
- Ensure that the Domain user has administrator privilege.
- Ensure that your system meets the minimum memory requirement for Windows which is 4 GB.

Procedure

1. Download the MiNiFi Java installer on your PC through the paywall.



2. Double-click the executable file.

The CEM MiNiFi setup wizard appears, as shown in the following image:

CEM MiNiFi setup	
Package directory	
C:\minifi	Browse
Java command	
java	
java.arg.2	_
-Xms12m	
java.arg.3	
-Xmx24m	
MiNiFi service username	
minifi	Local User
MiNiFi service password	
	Show
Enable C2	
Agent Class	
Agent Identifier (Optional)	
Server Heartbeat URL	
Server Acknowledge URL	
Heartbeat period(milliseconds)	
5000	~
Enable C2 Security	
Truststore Location	
	Browse
Truststore password	2.01100
	Show
Truststore type	
jks ~	
Keystore location	
	Browse
Keystore password	0,01130
10	Show
Keystore type	
nojstolo tipo	

- **3.** Configure the following parameters:
 - Package directory

The installation directory of MiNiFi.

• java command

The path of the Java installation you would like to use.



Note: By default, CEM assumes that Java is on your system's path.

• java.arg.2

Sets initial and minimum heap size of JVM.

• java.arg.3

Sets the maximum heap size of JVM.

• MiNiFi service username/password

The MiNiFi service is configured to be executed by either a local user in the computer, or a domain user in the Active Directory. These parameters are the username/password pairs for the given user. For detailed user configuration, see *Configuring users for running MiNiFi Java on Windows*.

• Enable C2

If you want to integrate your agent with EFM you can set up the following basic C2 parameters:

- Agent class: The agent class name.
- Agent identifier: The ID of your agent. If you skip this, an unique identifier is generated.
- Server heartbeat url: The heartbeat URL of EFM.
- Server acknowledge url: The acknowledge URL of EFM.
- Heartbeat period: The frequency of heartbeats in milliseconds.
- Enable C2 Security: If you would like to communicate with EFM in a secure way, you can set up C2 security parameters after you enable this checkbox.
 - **a.** Select the truststore location/password and truststore type from the dropdown.
 - **b.** Select the keystore location/password and truststore type from the dropdown.
- 4. Click Install.

Windows starts configuring NiFi MiNiFi, as shown in the following image:



5. Click OK when installation completes.



6. Search for services in the Start menu of your PC and open it, as shown in the following image:



You can also run services by pressing [Windows key + R] and then typing services.msc in the Open field, as shown in the following image:

🖅 Run		×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.	
<u>O</u> pen:	services.msc \checkmark This task will be created with administrative privileges.	
	OK Cancel <u>B</u> rowse]

After you click OK, the Services window appears.

Services						- o ×	<
File Action View	Help						
⇔ ⇒ 🔟 🖾 Ø	i 📴 🖬 🕨 🖬 🕪 👘						
Services (Local)	Services (Local)						
	Anache minifi	Name	Description S	tatus	Startup Type	pe Log On As	^
		ActiveX Installer (AvinstSV)	Provides Us		Disabled	Lora Sotte	
	Stop the service	Allown Router Service	Routes Allio		Manual (Trin	boom agreem	
	Restart the service	Apache minifi	R	lunning	Automatic		
		App Readiness	Gets apps re		Manual	Local Syste	
		Application Identity	Determines		Manual (Trig	iig Local Service	
		Application Information	Facilitates t R	lunning	Manual (Trig	Hg Local Syste	
		Application Layer Gateway	Provides su		Manual	Local Service	
		Application Management	Processes in R	lunning	Manual	Local Syste	
		AppX Deployment Service (Provides inf		Manual	Local Syste	
		Auto Time Zone Updater	Automatica		Disabled	Local Service	
		AVCTP service	This is Audi		Manual (Trig	rig Local Service	
		Background Intelligent Tran	Transfers fil R	tunning	Automatic (D	; (D., Local Syste	
		Background Tasks Infrastru	Windows in R	tunning	Automatic	2 Local Syste	
		BalloonService	Balloon Ser R	lunning	Automatic	, Local Syste	
		Sale Filtering Engine	The Base Fil R	tunning	Automatic	Local Service	
		Bluetooth Audio Gateway S	Service sup		Manual (Trig	ng Local service	
		Single Control of the Ampoint Service	The bluetoo		Manual (Ing	ng Local service	
		Capability Access Manager	Provides fac N	unning	Manual	Local Syste	
		CaptureService_succurs	Conjective Ca	lunning	Manual (Trin	LUKA Jystem Jona Lovat Studa	
		Client Licence Service (Clins	Requider inf		Manual (Trig	ngin booka yawan Jin Local Souta	
		Clinhoard User Service 3dc-	This user se	lunning	Manual	ngui exemistrationi Local State	
		Cloudbase-init	Cloud Initial		Automatic	Local Syste	
		CNG Key Isolation	The CNG ke R	lunning	Manual (Trig	in. Local Syste	
		COM+ Event System	Supports Sy R	tunning	Automatic	c Local Service	
		COM+ System Application	Manages th		Manual	Local Syste	
		Connected Devices Platfor	This service R	lunning	Automatic (D	c (D.,. Local Service	
		Connected Devices Platfor	This user se R	lunning	Automatic	z Local Syste	
		Connected User Experience	The Connec R	lunning	Automatic	z Local Syste	
		ConsentUX_3dc6df9	Allows Con		Manual	Local Syste	
		Contact Data_3dc6df9	Indexes con		Manual	Local Syste	
		CoreMessaging	Manages co R	lunning	Automatic	: Local Service	
		Credential Manager	Provides se		Manual	Local Syste	
		Cryptographic Services	Provides thr R	tunning	Automatic	: Network S	
		Chata Sharing Service	Provides da R	tunning	Manual (Trig	rig Local Syste	
		DCOM Server Process Laun	The DCOM R	tunning	Automatic	2 Local Syste	
		Delivery Optimization	Performs co		Manual (Trig	ig Network S	
		Device Association Service	Enables pair		Manual (Trig	ng Local syste	
		Can Device Install Service	Enables a C		Manual (Ing	ng Local system	
		Device Management Enroll	Performs D		Disabled	Local Syste	
		Device Management Wirele	Enabler the		Manual (Trin	LUKA Jystem Tin Lovat Studa	
		DaviceDicker 3dc6df9	This uses se		Dirabled	Ingai boom ground	
		DevicesFlow 3dc6df9	Allows Con		Manual	Local System	
		DevOuery Background Disc	Enables app		Manual (Trig	io	
		OHCP Client	Registers an R	lunning	Automatic	c Local Service	~
	Extended Standard						
. o 5	· 🤌 📄 🔍					へ 図 町 d _a ⁴²³ AM	

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7. In the Services window, double-click Apache MiNiFi.

The Apache MiNiFi Properties (Local Computer) window appears.

Services (Local)		I			
Apache minifi	Name	Description	Status	Startup Type	Log On As
Stop the service	ActiveX Installer (AxInstSV)	Provides Us		Disabled	Local Syste
Restart the service	AllJoyn Router Service	Routes AllJo		Manual (Trig	Local Service
	🔐 Apache minifi		Running	Automatic	\minifi
	Sa App Readiness	Gets apps re		Manual	Local Syste
	Application Identity	Determines		Manual (Trig	Local Service
	Application Information	Facilitates t	Running	Manual (Irig	Local Syste
	Application Layer Gateway	Provides su		Manual	Local Service
	Application Management	Processes in	Kunning	Manual	Local Syste
	AppA Deployment Service (Provides inf		Manual	Apache minifi Properties (Local Computer) X
	Auto Time Zone opdater	This is Audi		Manual (Tria	
	Recknowed Intelligent Tran	Transferr fil	Pupping	Automatic (D	General Log On Recovery Dependencies
	Rackaround Tasks lefterto	Windows in	Running	Automatic (D	Senira news
	RalloonService	Ralloon Ser	Running	Automatic	dervice halle.
	Rase Filtering Engine	The Race Fil	Running	Automatic	Display name: Apache miniti
	Bluetooth Audio Gateway S	Senice con	Running	Manual (Trin	Description:
	Bluetooth Support Service	The Blueton		Manual (Trig	
	Canability Access Manager	Provider fac	Rupping	Manual	Print to an an a fail to
	CaptureService 3dc6df9	OneCore Ca	i coming	Manual	Petri to execusione:
	Certificate Propagation	Conies user	Running	Manual (Trin	
	Client License Service (ClinS	Provides inf		Manual (Trig	Statup type: Automatic V
	Clipboard User Service 3dc	This user se	Running	Manual	
	Cloudbase-init	Cloud Initial		Automatic	
	CNG Key Isolation	The CNG ke	Running	Manual (Trig	Service status: Running
	COM+ Event System	Supports Sy	Running	Automatic	
	COM+ System Application	Manages th		Manual	Start Stop Pause Resume
	Connected Devices Platfor	This service	Running	Automatic (D	You can specify the start parameters that apply when you start the service
	Connected Devices Platfor	This user se	Running	Automatic	from here,
	Connected User Experience	The Connec	Running	Automatic	Stat papaping:
	ConsentUX_3dc6df9	Allows Con		Manual	
	Contact Data_3dc6df9	Indexes con		Manual	
	CoreMessaging	Manages co	Running	Automatic	OK Cancel Acoly
	Credential Manager	Provides se		Manual	
	Cryptographic Services	Provides thr	Running	Automatic	Network S
	Cata Sharing Service	Provides da	Running	Manual (Trig	Local Syste
	COM Server Process Laun	The DCOM	Running	Automatic	Local Syste
	Delivery Optimization	Performs co		Manual (Trig	Network S
	Device Association Service	Enables pair		Manual (Trig	Local Syste
	Service Install Service	Enables a c		Manual (Trig	Local Syste
	Service Management Enroll	Performs D		Manual	Local Syste
	Service Management Wirele	Routes Wire		Disabled	Local Syste
	Uevice Setup Manager	Enables the		Manual (Trig	Local Syste
	UevicePicker_3dc6df9	This user se		Disabled	Local Syste
	UevicesHow_3dc6df9	Allows Con		Manual	Local Syste
	WevQuery Background Disc	Enables app		Manual (Trig	Local Syste
	SA DHCP Client	Registers an	Running	Automatic	Local Service

8. Check the services setup and click OK.

9. In the Task Manager window confirm whether the process is running.

I∑ Task M File Optio	lanager ons View							_		×	
Processes	Performance	Users	Details	Services							
	^					1%	45%				
Name				Status		CPU	Memory				
- <u>-</u> 36	arch (5)				Ψ	078	0.910				^
👻 🔳 Sei	rvice Wrapper fo	or Java				0%	3.2 MB				
۵ 🎡	Apache minifi										
> 🖶 Sp	ooler SubSyster	n App				0%	6.4 MB				
Us	ermode Font Di	river Ho	st			0%	1.0 MB				
> 🔳 Wi	indows Security	Health	Service			0%	2.5 MB				
> 🔳 Wi	ndows Service	Wrappe	r			0%	4.3 MB				
🗃 Wi	MI Provider Hos	st				0%	5.3 MB				
Window	vs processes	s (81)									
📑 Cli	ent Server Runt	ime Pro	cess			0%	2.7 MB				
> 🔳 Lo	cal Security Aut	hority F	rocess			0%	18.3 MB				
> 🔅 Lo	calServiceNoNe	tworkF	irewall			0%	11.7 MB				
> 🔯 Ser	rvice Host: App	lication	Mana			0%	0.5 MB				
> 🔅 Sei	rvice Host: Back	ground	l Intelli			0%	2.9 MB				
> 🔯 Ser	rvice Host: Capa	ability A	ccess			0%	0.7 MB				¥
⊘ Fewer	<u>d</u> etails								<u>E</u> nd t	ask	

10. Exit or close the window when done.

Related Information

Configuring users for running MiNiFi Java on Windows

Configuring users for running MiNiFi Java on Windows

Learn how to configure the MiNiFi Java MSI. The MSI file adds the Windows service for MiNiFi Java. The service is configured to be run by either a local user in the computer, or a domain user in the Active Directory.

Using a Local User for MiNiFi Java Windows Service

There is no prerequisite to use a local user for the Windows service. The installer automatically sets up the user.

The installer also grants the following privileges to the specified user:

- SeCreateSymbolicLinkPrivilege
- SeServiceLogonRight

If the computer is a part of a domain, then the Local User checkbox appears in the MiNiFi setup window. Check the Local User checkbox to specify that a local user is used to execute the installed service.

CEM MiNiFi setup	
Package directory	
C:\minifi	Browse
Java command	
java	
java.arg.2	
-Xms12m	
java.arg.3	
-Xmx24m	
MiNiFi service usemame	
minifi	Local User
MiNiFi service password	
	Show
Enable C2	
Agent Class	
Agent Identifier (Optional)	
Server Heartbeat URL	
Server Acknowledge URL	
Heartbeat period(milliseconds)	
5000	~
Enable C2 Security	
Truststore Location	
	Browse
Truststore password	
	Show
Truststore type	_
iks	/
Keystore location	
	Browse
Keystore password	
	Show
Keystore type	

If a user specified in MiNiFi service username does not exist, the installer creates one with the specified MiNiFi service password. If the user already exists, the installer updates its password with the specified password.

Using a Domain User for MiNiFi Java Windows Service

Before you begin, ensure the following:

- The computer must be part of the domain.
- The specified user must exist in the domain, and a correct password must be provided.
- ActiveDirectory PowerShell module must be available.
- 1. In the Group Policy Management Editor, set permission to Log on as a service.
- 2. Navigate to a machine where MiNiFi Java is installed and enter the following command:

gpupdate

The gpupdate command is a machine-wide command and can be executed from any directory on the MiNiFi machine.

3. Install the ActiveDirectory PowerShell module by entering the following in the PowerShell console:

Add-WindowsFeature RSAT-AD-PowerShell

4. In the MiNiFi setup window, uncheck the Local User checkbox, and then click Install.

Uninstalling MiNiFi Java Agent on Linux

Learn how to uninstall the MiNiFi Java Agent on your Linux system.

Uninstalling MiNiFi Java

About this task

Follow this procedure if the MiNiFi agent was started without being installed as a service, using either the minifi.sh start or minifi.sh run command.

Procedure

1. Stop the MiNiFi agent using the following command.

[<<pre>path_to_minifi_directory>>]/bin/minifi.sh stop

2. Remove the installation directory using the following command.

rm -rf [<<path_to_minifi_directory>>]

For example, if you have installed the MiNiFi agent under /opt/cloudera/minifi, you can run the following commands:

/opt/cloudera/minifi/bin/minifi.sh stop && rm -rf /opt/cloudera/minifi

Uninstalling MiNiFi Java as a service

About this task

Follow this procedure if the MiNiFi agent was installed as a service with the bin/minifi.sh install [<<serviceName>>] command.

Procedure

1. Stop the MiNiFi service using the following command.

systemctl stop [<<service_name>>]

2. Remove the service script using the following command.

rm -rf /etc/init.d/[<<service_name>>]

3. Navigate to the MiNiFi directory and remove its contents with the following commands.

```
cd [<<minifi_directory>>]; rm -rf *
```

For example, if you have installed the MiNiFi service named dataflow under /opt/cloudera/minifi, you can run the following commands:

```
systemctl stop dataflow; rm -rf /etc/init.d/dataflow; cd /opt/cloudera/m
inifi; rm -rf *
```