CEM MiNiFi Java Agent 1.22.07

# **MiNiFi Java Agent Installation**

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# Install the MiNiFi Java agent

Learn how to install the MiNiFi Java agent. You need to install and configure the MiNiFi Java agent and then start it. You can also do the same on Windows.

# System requirements for MiNiFi Java

Before you begin your installation of Cloudera Edge Management (CEM) software, carefully review the system requirements for MiNiFi Java to understand operating system and JDK support.

#### **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	JDK8, JDK11
Oracle JDK	JDK8, JDK11

# Installing MiNiFi Java agent on Linux

Learn how to install the MiNiFi Java agent on Linux, install it as a service, and start it.

## Installing Java for MiNiFi Java agent

You should install Java on each machine where you will install a MiNiFi Java agent.

#### Procedure

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

For RHEL/CentOS:

yum install java-1.8.0-openjdk

For Debian and Ubuntu:

apt-get install openjdk-8-jre

#### Installing the MiNiFi Java agent

To install your MiNiFi Java agent, you need to download the software for the agent and extract it.

#### Procedure

1. Download the tar.gz or zip files for the MiNiFi Java agent.

wget {java.tar.gz}

2. To install the MiNiFi Java agent, extract the file to your desired home directory.

### 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 nifi.properties file at every startup. You should not use it for general agent configuration. If you want to override any property set in nifi.properties, you can do it using the NiFi Properties Overrides section at the end of the config.yml file.

For example, to change the content repository location, you need to override the default path:

```
NiFi Properties Overrides: {
    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
c2.rest.path.heartbeat=/api/c2-protocol/heartbeat
c2.rest.path.acknowledge=/api/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 MiNiFi to recognise the changes in the config.yml file during publishing:

```
nifi.minifi.notifier.ingestors=org.apache.nifi.minifi.bootstrap.configur
ation.ingestors.FileChangeIngestor
nifi.minifi.notifier.ingestors.file.config.path=./conf/config-new.yml
nifi.minifi.notifier.ingestors.file.polling.period.seconds=5
```



Note: This step is not needed if you are running MiNiFi Java agent version 1.23.02 or higher.

**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 agent**

After MiNiFi is installed and configured, you can start it. Learn how to start your MiNiFi agent.

#### Procedure

- 1. From a terminal window, navigate to the MiNiFi installation directory.
- 2. To start MiNiFi in the foreground, enter:

bin/minifi.sh run

3. To start MiNiFi in the background, enter:

bin/minifi.sh start

# Installing MiNiFi Java agent on Windows

Learn how to install the MiNiFi Java agent on Windows and configure it. Also learn about the prerequisites before you install and configure the MiNiFi Java agent.

## Before you begin installing MiNiFi Java on Windows

Before you begin your MiNiFi Java installation on Windows, ensure that you meet the prerequisites.

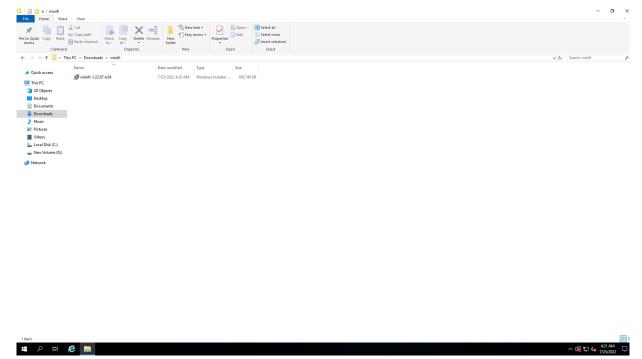
- Install JDK 8.0 64 bit.
- Install Java to C:/java instead of C:/Program Files because recent Windows versions mark everything in C:\Progr am Files as read only.
- Set the JAVA\_HOME environment variable using the 8.3 style naming conventions. For example: C:\Program\j dk1.8.0.
- Ensure that the JAVA\_HOME 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 4GB.

## Installing MiNiFi Java on Windows

Learn how to install the MiNiFi Java agent on Windows.

#### Procedure

1. Download the MiNiFi Java installer in 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	
ava.arg.2	
-Xms12m	
ava.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	Diomac
	Show
Truststore type	
iks	
Keystore location	
	Browse
Keystore password	browse
10	Show
Kaustana kara	510W
Keystore type	

- **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

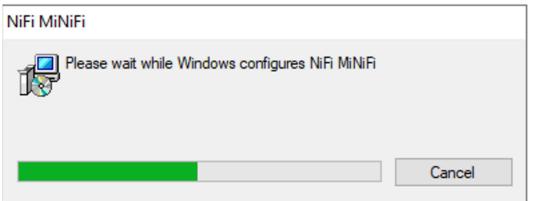
The MiNiFi service is configured to be executed by either a local user in the computer, or a domain user in the Active Directory. These parameters are the username/password pairs for the given user. For detailed user configuration, see *Configuring users for running MiNiFi Java on Windows*.

• Enable C2

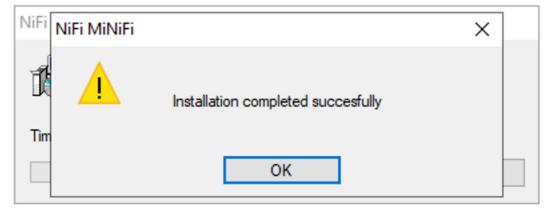
If you want to integrate your agent with EFM you can set up the following basic C2 parameters:

- 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.

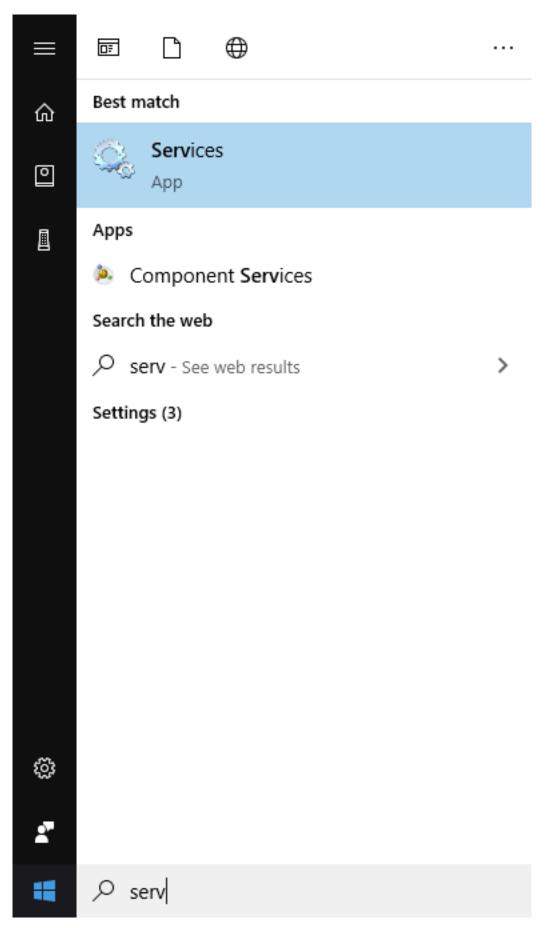
Windows starts configuring NiFi MiNiFi, as shown in the following image:



**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 ~	
	This task will be created with administrative privileges.	
	OK Cancel <u>B</u> rowse	

After you click OK, the Services window appears.

<ul> <li>Services (Local)</li> </ul>					
Apache minifi	Name	Description Status	Startup Type	.og On As	
	ActiveX Installer (AxInstSV)	Provides Us	Disabled	.ocal Syste	
Stop the service Restart the service	AllJoyn Router Service	Routes AllJo	Manual (Trig	local Service	
in and a second	🖓 Apache minifi	Runni		\minifi	
	App Readiness	Gets apps re	Manual	.ocal Syste	
	Application Identity	Determines	Manual (Trig	local Service	
	Application Information	Facilitates t Runni		.ocal Syste	
	Application Layer Gateway	Provides su	Manual	local Service	
	Application Management	Processes in Runni		.ocal Syste	
	AppX Deployment Service (	Provides inf	Manual	.ocal Syste	
	Auto Time Zone Updater	Automatica	Disabled	local Service	
	AVCTP service	This is Audi Transfers fil Runni	Manual (Trig ng Automatic (D.,	.ocal Service	
	Background Intelligent Tran Background Tasks Infrastru			ocal Syste	
	BalloonService	Windows in Runni Balloon Ser Runni		.ocal Syste .ocal Syste	
	Saliconservice	The Base Fil Runni		.ocal Syste .ocal Service	
	Bluetooth Audio Gateway S		Manual (Trig	.ocal Service	
	Bluetooth Support Service	The Bluetoo	Manual (Trig	.ocal Service	
	Capability Access Manager			ocal Syste	
	CaptureService_3dc6df9	OneCore Ca	Manual	ocal Syste	
	Certificate Propagation	Copies user Runni		ocal Syste	
	Client License Service (ClipS		Manual (Trig	.ocal Syste	
	Clipboard User Service_3dc	This user se Runni		.ocal Syste	
	Cloudbase-init	Cloud Initial	Automatic	.ocal Syste	
	CNG Key Isolation	The CNG ke Runni		.ocal Syste	
	COM+ Event System	Supports Sy Runni		ocal Service	
	COM+ System Application	Manages th	Manual	.ocal Syste	
	Connected Devices Platfor	This service Runni	ng Automatic (D.	local Service	
	Connected Devices Platfor	This user se Runni	ng Automatic	.ocal Syste	
	Connected User Experience	The Connec Runni	ng Automatic	.ocal Syste	
	ConsentUX_3dc6df9	Allows Con	Manual	.ocal Syste	
	Contact Data_3dc6df9	Indexes con	Manual	.ocal Syste	
	CoreMessaging	Manages co Runni		local Service	
	Credential Manager	Provides se	Manual	.ocal Syste	
	Cryptographic Services	Provides thr Runni		Vetwork S	
	Cata Sharing Service	Provides da Runni		.ocal Syste	
	COM Server Process Laun	The DCOM Runni		.ocal Syste	
	Contraction Contraction	Performs co	Manual (Trig	Vetwork S	
	Device Association Service	Enables pair	Manual (Trig	.ocal Syste	
	Device Install Service	Enables a c	Manual (Trig	.ocal Syste	
	Device Management Enroll	Performs D	Manual	ocal Syste	
	Device Management Wirele		Disabled	ocal Syste	
	C Device Setup Manager	Enables the	Manual (Trig	.ocal Syste	
	DevicePicker_3dc6df9	This user se	Disabled	.ocal Syste	
	Contraction Devices Flow_3dc6df9	Allows Con	Manual	.ocal Syste	
	Or Contract Contra	Enables app	Manual (Trig	.ocal Syste .ocal Service	
Extended / Standard /	Call DHCP Client	Registers an Runni	ng Automatic	ocal service	

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

The Apache minifi Properties (Local Computer) window appears.

Services (Local)	0				
Apache minifi	Name		Status S	Startup Type	Log On As
	ActiveX Installer (AxInstSV)	Provides Us	0	Disabled	Local Syste
Stop the service Restart the service	AllJoyn Router Service	Routes AllJo	N	Manual (Trig	Local Service
Trease the service	🍓 Apache minifi	1		Automatic	Aminifi
	App Readiness	Gets apps re		Manual	Local Syste
	Application Identity	Determines		Manual (Trig	Local Service
	Application Information	Facilitates t	Running N	Manual (Trig	Local Syste
	Application Layer Gateway	Provides su	N	Manual	Local Service
	Application Management	Processes in	Running N	Manual	Local Syste
		Provides inf	N	Manual	Apache minifi Properties (Local Computer) X
	🆏 Auto Time Zone Updater	Automatica		Disabled	Apache minini Properties (Local Computer)
	AVCTP service	This is Audi	N	Manual (Trig	General Log On Recovery Dependencies
				Automatic (D	
				Automatic	Service name: mini
	California BalloonService			Automatic	Display name: Apache minfi
	Base Filtering Engine	The Base Fil		Automatic	
		Service sup		Manual (Trig	Description:
		The Bluetoo		Manual (Trig	
		Provides fac		Manual	Path to executable:
	CaptureService_3dc6df9	OneCore Ca		Manual	C-Vminifi Vminifi-122.076-34 vminifi.exe
	Certificate Propagation	Copies user		Manual (Trig	Startup hore: Automatic
	Client License Service (ClipS			Manual (Trig	i minimu
		This user se		Manual	
	Cloudbase-init	Cloud Initial		Automatic	
	CNG Key Isolation	The CNG ke		Manual (Trig	Service status: Running
	COM+ Event System	Supports Sy		Automatic	Stat Stop Pause Resume
		Manages th		Manual	
	Connected Devices Platfor	This service		Automatic (D	You can specify the start parameters that apply when you start the service from here.
		This user se		Automatic	nom nere.
		The Connec		Automatic	Stat parameters:
	ConsentUX_3dc6df9	Allows Con		Manual	
	Contact Data_3dc6df9	Indexes con		Manual	
	CoreMessaging	Manages co		Automatic	OK Canoel Apply
	Credential Manager	Provides se		Manual	
	Cryptographic Services	Provides thr		Automatic	Network S
	Data Sharing Service			Manual (Trig	Local Syste
		The DCOM		Automatic	Local Syste
	Delivery Optimization	Performs co			Network S
		Enables pair			Local Syste
	Contract Device Install Service	Enables a c		Manual (Trig	
		Performs D		Manual	Local Syste
	Oevice Management Wirele			Disabled	Local Syste
	Device Setup Manager	Enables the			Local Syste
	DevicePicker_3dc6df9	This user se		Disabled	Local Syste
	OevicesFlow_3dc6df9	Allows Con		Manual	Local Syste
		Enables app			Local Syste
Extended Standard	CHCP Client	Registers an	Running A	Automatic	Local Service

8. Check the services setup and click OK.

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

☆ Task Manager ile Options View			- 0	>
Processes Performance Users Details Services				
^	1%	45%		
Jame Status	CPU	Memory		
γ Search (5) γ	078	0191 6161		
<ul> <li>Service Wrapper for Java</li> </ul>	0%	3.2 MB		
🔍 Apache minifi				
Spooler SubSystem App	0%	6.4 MB		
Usermode Font Driver Host	0%	1.0 MB		
Windows Security Health Service	0%	2.5 MB		
Windows Service Wrapper	0%	4.3 MB		
🗃 WMI Provider Host	0%	5.3 MB		
Windows processes (81)				
Client Server Runtime Process	0%	2.7 MB		
Local Security Authority Process	0%	18.3 MB		
🔯 LocalServiceNoNetworkFirewall	0%	11.7 MB		
Service Host: Application Mana	0%	0.5 MB		
Service Host: Background Intelli	0%	2.9 MB		
Service Host: Capability Access	0%	0.7 MB		

**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

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

#### 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 Use	r
MiNiFi service password		
	Show	
Enable C2		
Agent Class		
Agent Identifier (Optional)		_
Server Heartbeat URL		_
Server Acknowledge URL		
Heartbeat period(milliseconds)		
5000		$\sim$
Enable C2 Security		
Truststore Location		
	Browse	
Truststore password	DIOWSE	
	Show	
Truststore type		
iks	~	
Keystore location		
	Browse	
Keystore password		
18	8 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.