



vSphere plug-in

Qlik Sense®

2.2

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1 Introduction

This guide describes the VMware vSphere plug-in for the Qlik Deployment Console (QDC).

This document is derived from the online help for Qlik Sense. It is intended for those who want to read parts of the help offline or print pages easily, and does not include any additional information compared with the online help.

A plug-in is a ZIP file that contains all DLL files needed to deploy Qlik Sense sites in a specific cloud computing environment.

A plug-in typically includes functionality for:

- Configuring the cloud computing environment and fetching status information from it
- Setting and getting the name and a description
- Verifying the version of the environment
- Getting data from the environment
- Creating and deleting sites and nodes
- Uploading files
- Getting network information and handling certificates for communication
- Setting the Qlik Sense license
- Scaling sites and nodes
- Handling errors and logging
- Handling upgrades



Plug-ins are developed outside of the Qlik Deployment Console (QDC).

1.1 vSphere plug-in conventions

The following conventions are used in the description of the VMware vSphere plug-in.

Style coding

- Menu commands and dialog options are written in **bold**.
- Filenames and paths are written in *Italics*.
- Sample code is written in `Lucida Console`.

Environment variables

The paths used in the description of the vSphere plug-in may use environment variables. The variables and the equivalent paths in the Microsoft Windows operating system are listed below.

| Environment variable | Microsoft Windows |
|-----------------------------|--|
| <i>%LocalAppData%</i> | <i>C:\Users\<<username>\AppData\Local</i> |
| <i>%ProgramData%</i> | <i>C:\ProgramData</i> |
| <i>%ProgramFiles%</i> | <i>C:\Program Files</i> |
| <i>%UserProfile%</i> | <i>C:\Users\<<username></i> |

1.2 Additional documentation

Besides this document, the following documentation is available for the VMware vSphere plug-in:

- Qlik Deployment Console (QDC): Describes how to deploy and manage Qlik Sense sites in cloud computing environments using the Qlik Deployment Console (QDC).
- Plan Qlik Sense deployments: Describes Qlik Sense and provides reference information on the architecture, security, logging, and licensing.

2 vSphere plug-in requirements

This section lists the requirements that must be fulfilled to successfully use the VMware vSphere plug-in.

2.1 Qlik Deployment Console

The Qlik Deployment Console (QDC) must be installed on the target machine and the following items must be available and configured in the QDC:

- Qlik Sense setup file
- Qlik Sense license object
- vSphere service user object

See: *vSphere service user object type (page 16)*

2.2 vSphere account


A vSphere account is needed.

2.3 vSphere options

The vSphere plug-in provides different options when it comes to creating nodes in Qlik Sense sites, as described in the following table.

| Option | Description | Requirements |
|----------------------------|---|--|
| vSphere environment | <p>Automatically clone a new machine for every new node that you create.</p> <p>It is recommended to use this option when you plan to keep your node for a longer period of time.</p> | <ul style="list-style-type: none">• There must exist a user on the machine that can be used to run the Qlik Sense services.• The Windows User Account Control (UAC) must be turned off. |

2 vSphere plug-in requirements

| Option | Description | Requirements |
|---|---|---|
| vSphere environment (machine pool) | <p>Make the Qlik Deployment Console (QDC) pick a machine from the machine pool. This means that you do not have to wait for the cloning to finish when creating a new node.</p> <p>It is recommended to use this option when you want to setup a test server or need a new node as quickly as possible.</p> <div data-bbox="391 607 1023 824" style="border: 1px solid gray; padding: 5px;"> <i>Do not use machines from the machine pool for long-term deployments as the machines are reset (that is, the Qlik Sense installation is lost) when restarted.</i></div> | <p>The same requirements as above, but with the following addition:</p> <ul style="list-style-type: none">• The hard drive for each machine in the pool must be set to be independent and non-persistent. |

3 Using the vSphere plug-in

This section describes how to use the VMware vSphere plug-in in the Qlik Deployment Console (QDC).

3.1 Creating sites



This procedure is used to create a new central node.

Proceed as follows to create a Qlik Sense site based on the VMware vSphere (vSphere) plug-in:

1. Select **Sites** in the left panel.
2. Click **Create new site** to create a new site.
3. Select the **vSphere environment** or **vSphere environment (machine pool)** plug-in.

| Option | Description | Requirements |
|---|---|---|
| vSphere environment | <p>Automatically clone a new machine for every new node that you create.</p> <p>It is recommended to use this option when you plan to keep your node for a longer period of time.</p> | <ul style="list-style-type: none"> • There must exist a user on the machine that can be used to run the Qlik Sense services. • The Windows User Account Control (UAC) must be turned off. |
| vSphere environment (machine pool) | <p>Make the Qlik Deployment Console (QDC) pick a machine from the machine pool. This means that you do not have to wait for the cloning to finish when creating a new node.</p> <p>It is recommended to use this option when you want to setup a test server or need a new node as quickly as possible.</p> <div data-bbox="491 1630 555 1697" style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><i>Do not use machines from the machine pool for long-term deployments as the machines are reset (that is, the Qlik Sense installation is lost) when restarted.</i></p> </div> | <p>The same requirements as above, but with the following addition:</p> <ul style="list-style-type: none"> • The hard drive for each machine in the pool must be set to be independent and non-persistent. |

4. Fill in the fields in the **Site configuration** section.

To return to the **Sites** view, click <.

5. Review and, if needed, edit the fields in the remaining sections.

See: *Connection information (page 9)*

See: *Clone information (page 9)*

See: *Service information (page 10)*

See: *Machine pool information (page 10)*

6. If needed, add additional nodes to the site:

- a. Click **Add node** to add a new node.
- b. Review and, if needed, edit the fields in the **Node configuration** section.
- c. Review and, if needed, edit the fields in the remaining sections.

See: *Connection information (page 9)*

See: *Clone information (page 9)*

See: *Service information (page 10)*

See: *Machine pool information (page 10)*

7. Click **Deploy site** to implement any changes.

The deployment is initiated. For details on the progress of a specific node, select the node and check the **Deployment progress** section in the **Properties** area.

Connection information

Proceed as follows to fill in the fields.

| | |
|----------------|---|
| Account | Select a vSphere account object in the drop-down list. This is the account to use when logging in to vSphere. If the list is empty, you need to add an object. See: <i>vSphere account object type (page 16)</i> |
|----------------|---|

Clone information



*This is only included when **vSphere environment** was selected in as plug-in.*

Proceed as follows to fill in the fields.

| | |
|----------------------|---|
| Template | Select the template to clone in the drop-down list. Templates allow you to create multiple virtual machines with the same characteristics, such as resources allocated to CPU and memory, or type of virtual hardware. |
| Folder | Select a folder in the drop-down list. The folder for the central node of the Qlik Sense site. |
| Customization | Select the type of customization in the drop-down list. The type of customization for your new node. |

Service information

Proceed as follows to fill in the fields.

| | |
|---------------------|--|
| Service user | Select a service user object in the drop-down list. The service user is: <ul style="list-style-type: none"> • Created on the machine that is cloned in vSphere • Configured to be RootAdmin in Qlik Sense on the cloned machine <p>If the list is empty, you need to add an object.</p> <p>See: <i>vSphere service user object type (page 16)</i></p> |
|---------------------|--|

Machine pool information



*This is only included when **vSphere environment (machine pool)** was selected as plug-in.*

Proceed as follows to fill in the fields.

| | |
|--|---|
| Machine pool folder | Select a machine pool folder in the drop-down list. A folder that contains already existing vSphere machines. |
| Time to wait for a free machine | Select the amount of time to wait for a free machine in the drop-down list. If there is no machine available in the machine pool before the end of the selected time period, the site or node will be in an error state and have to be deleted manually. |

See also:

▢ *Adding new nodes (page 11)*

3.2 Adding new nodes

Proceed as follows to add a new node in a Qlik Sense site based on the VMware vSphere (vSphere) plug-in:



This procedure is used to add new nodes in an existing Qlik Sense site.

1. Select **Sites** in the left panel.
2. Select a Qlik Sense site.
3. Click **Add node** to add a new node.

To return to the **Sites** view, click <.

4. Select the **vSphere environment** or **vSphere environment (machine pool)** plug-in.

| Option | Description | Requirements |
|---|--|---|
| vSphere environment | <p>Automatically clone a new machine for every new node that you create.</p> <p>It is recommended to use this option when you plan to keep your node for a longer period of time.</p> | <ul style="list-style-type: none"> • There must exist a user on the machine that can be used to run the Qlik Sense services. • The Windows User Account Control (UAC) must be turned off. |
| vSphere environment (machine pool) | <p>Make the Qlik Deployment Console (QDC) pick a machine from the machine pool. This means that you do not have to wait for the cloning to finish when creating a new node.</p> <p>It is recommended to use this option when you want to setup a test server or need a new node as quickly as possible.</p> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p> <i>Do not use machines from the machine pool for long-term deployments as the machines are reset (that is, the Qlik Sense installation is lost) when restarted.</i></p> </div> | <p>The same requirements as above, but with the following addition:</p> <ul style="list-style-type: none"> • The hard drive for each machine in the pool must be set to be independent and non-persistent. |

5. Review and, if needed, edit the fields in the **Node configuration** section.

6. Review and, if needed, edit the fields in the remaining sections.

See: *Connection information (page 12)*

See: *Clone information (page 12)*

See: *Service information (page 13)*

See: *Machine pool information (page 13)*

7. If you want to add another node, return to step 3.

8. If you want to clone a node, select a node and then click **Clone**:

- a. Review and, if needed, edit the fields in the **Node configuration** section.

- b. Review and, if needed, edit the fields in the remaining sections.

See: *Connection information (page 12)*

See: *Clone information (page 12)*

See: *Service information (page 13)*

See: *Machine pool information (page 13)*

9. Click **Deploy site** to implement any changes.

The deployment is initiated. For details on the progress of a specific node, select the node and check the **Deployment progress** section in the **Properties** area.

Connection information

Proceed as follows to fill in the fields.

| | |
|----------------|---|
| Account | Select a vSphere account object in the drop-down list. This is the account to use when logging in to vSphere. If the list is empty, you need to add an object. See: <i>vSphere account object type (page 16)</i> |
|----------------|---|

Clone information



*This is only included when **vSphere environment** was selected in as plug-in.*

Proceed as follows to fill in the fields.

| | |
|----------------------|---|
| Template | Select the template to clone in the drop-down list. Templates allow you to create multiple virtual machines with the same characteristics, such as resources allocated to CPU and memory, or type of virtual hardware. |
| Folder | Select a folder in the drop-down list. The folder for the central node of the Qlik Sense site. |
| Customization | Select the type of customization in the drop-down list. The type of customization for your new node. |

Service information

Proceed as follows to fill in the fields.

| | |
|---------------------|--|
| Service user | Select a service user object in the drop-down list. The service user is: <ul style="list-style-type: none"> • Created on the machine that is cloned in vSphere • Configured to be RootAdmin in Qlik Sense on the cloned machine <p>If the list is empty, you need to add an object.</p> <p>See: <i>vSphere service user object type (page 16)</i></p> |
|---------------------|--|

Machine pool information



*This is only included when **vSphere environment (machine pool)** was selected as plug-in.*

Proceed as follows to fill in the fields.

| | |
|--|---|
| Machine pool folder | Select a machine pool folder in the drop-down list. A folder that contains already existing vSphere machines. |
| Time to wait for a free machine | Select the amount of time to wait for a free machine in the drop-down list. If there is no machine available in the machine pool before the end of the selected time period, the site or node will be in an error state and have to be deleted manually. |

3.3 Configuration

To display the node configuration, select a node in the Site details view. The **Configuration** section is displayed in the **Properties** area.

Use ► and ▼ to show and hide information.

3 Using the vSphere plug-in



If the selected node is a central node, the first fields are as follows:


| | |
|------------------|---|
| Site name | The name of the site. |
| License | The name of the Qlik Sense license object used. |

If the selected node is not a central node, the first fields are as follows:

| | |
|------------------|---|
| Node name | The name of the node. |
| Node type | <p>The type of node:</p> <ul style="list-style-type: none">• Complete: A complete node that includes all Qlik Sense services.• Proxy: A node that is used to manage Qlik Sense authentication, session handling, and load balancing.• Engine: A node that provides the analytical power of Qlik Sense.• Proxy & Engine: A node that is a combination of the Proxy and Engine types listed above.• Scheduler: A node that is used to manage scheduled reloads of Qlik Sense apps and other types of reload triggering. |

The rest of the fields are provided by the VMware vSphere plug-in.

| | |
|----------------------------|---|
| Account | This is the account to use when logging in to vSphere. |
| Template | <p>Templates allow you to create multiple virtual machines with the same characteristics, such as resources allocated to CPU and memory, or type of virtual hardware.</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <i>This is only included when vSphere environment was selected in as plug-in.</i></div> |
| Service user | The user who runs the Qlik Sense services. |
| Machine pool folder | <p>A folder that contains already existing vSphere machines.</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <i>This is only included when vSphere environment (machine pool) was selected as plug-in.</i></div> |

| | |
|--|---|
| Time to wait for a free machine | <p>The time to wait for a free machine.</p> <p>If there is no machine available in the machine pool before the end of the selected time period, the site or node will be in an error state and have to be deleted manually.</p> <div data-bbox="424 398 1386 539" style="border: 1px solid #ccc; padding: 5px;"><p> <i>This is only included when vSphere environment (machine pool) was selected as plug-in.</i></p></div> |
|--|---|

4 vSphere object types

An object is used to hold a certain type of information related to a specific plug-in or cloud computing environment.

This section provides information on the object types that are provided by the VMware vSphere plug-in.

4.1 vSphere account object type

The VMware vSphere plug-in provides the vSphere account object type in the Qlik Deployment Console (QDC). The object type is used to hold vSphere access keys.

This is the account to use when logging in to vSphere.

Proceed as follows to fill in the fields for a vSphere account object.

| | |
|--------------------|---|
| Name | Enter a name for the vSphere account object. |
| vSphere URI | Enter the URI for the vSphere environment. |
| User name | Enter the name of the user of the vSphere account. |
| Password | Enter the password for the user of the vSphere account. |

4.2 vSphere service user object type

The VMware vSphere plug-in provides the vSphere service user object type in the Qlik Deployment Console (QDC). The object type is used to hold service users.

The service user is:

- Created on the machine that is cloned in vSphere
- Configured to be RootAdmin in Qlik Sense on the cloned machine

Proceed as follows to fill in the fields for a vSphere service user object.

| | |
|------------------|--|
| User name | Enter a name for the service user. |
| Password | Enter a password for the service user. |