

GroupWise TeamWorks 18.1.1

Installation and Deployment Guide

March 2019

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About This Guide

Production Deployments

To create a production-viable, best practice TeamWorks deployment, complete the sections below in the order presented.

- ♦ Chapter 1, “Start Here,” on page 7
- ♦ Chapter 2, “Planning Is Important,” on page 9
- ♦ Chapter 3, “System Requirements,” on page 11
- ♦ Chapter 4, “Setting Up NFS Shared Storage,” on page 17
- ♦ Chapter 5, “Downloading and Preparing the TeamWorks Software,” on page 19
- ♦ Chapter 6, “Creating the TeamWorks Virtual Machines,” on page 21
- ♦ Chapter 7, “Starting and Configuring the Appliances,” on page 25
- ♦ Chapter 8, “Creating a Multiple-Appliance TeamWorks Deployment,” on page 29
- ♦ Chapter 9, “Setting Up TeamWorks Services,” on page 35
- ♦ Chapter 10, “Updating to TeamWorks 18.1.1,” on page 37

Test and Evaluation Deployments

To create an evaluation or test deployment, see [Appendix A, “Creating an All-in-One Deployment,” on page 43](#).

Audience

This guide is intended for TeamWorks Administrators.

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the [comment on this topic](#) link at the bottom of each page of the online documentation.

Documentation Updates

For the most recent version of this guide, visit the [TeamWorks Documentation web site \(http://www.novell.com/documentation/teamworks-18\)](http://www.novell.com/documentation/teamworks-18).

Additional Documentation

For other documentation on TeamWorks, see the [TeamWorks Documentation web site \(http://www.novell.com/documentation/teamworks-18\)](http://www.novell.com/documentation/teamworks-18).

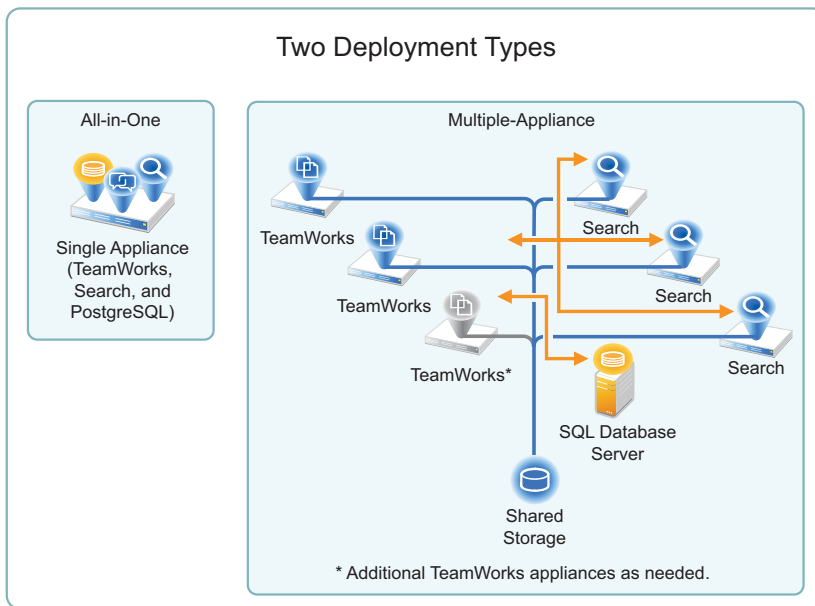
1 Start Here

IMPORTANT: TeamWorks 18.1.1 is delivered as online updates that are applied on fully deployed and functioning TeamWorks 18.1 appliances.

If you are new to TeamWorks, begin here and install 18.1 first. Then after your 18.1 deployment is complete, follow the instructions in [Chapter 10, “Updating to TeamWorks 18.1.1,”](#) on page 37.

If you already have a TeamWorks 18.1 deployment and want to move to version 18.1.1, see [Chapter 10, “Updating to TeamWorks 18.1.1,”](#) on page 37.

You can deploy TeamWorks in two different ways.



Micro Focus recommends multiple-appliance deployments as a best practice for the following reasons.

All-in-One	Multiple-Appliance
<ul style="list-style-type: none">◆ One All-in-One Appliance◆ No fault tolerance—Single Point of Failure◆ Not expandable beyond a single All-in-One appliance	<ul style="list-style-type: none">◆ Multiple Appliances◆ Fault-tolerant TeamWorks services◆ Expandable by adding TeamWorks appliances, disk space, or RAM as needs increase

To deploy an all-in-one appliance, follow the instructions in [Appendix A, “Creating an All-in-One Deployment,”](#) on page 43.

Otherwise, continue with [Chapter 2, “Planning Is Important,”](#) on page 9.

2 Planning Is Important

Creating a successful TeamWorks deployment requires that you

1. Involve pertinent stakeholders.
2. Conduct a thorough needs assessment.
3. Plan your deployment based on the needs assessment.

The sections that follow assume that you have:

1. Completed the planning processes outlined in the [TeamWorks 18.1.1 Planning Your TeamWorks Deployment—Best Practices](#) guide.
2. Filled in the [TeamWorks 18 Planning Worksheets](#) associated with the Planning—Best Practices guide.

3 System Requirements

Multiple-Appliance Deployments Are the Focus of This Guide

All-in-One deployments are covered in [Appendix A, “Creating an All-in-One Deployment,”](#) on page 43.

The following sections outline platform, version, and other requirements for your multi-appliance TeamWorks deployment.

- ◆ [“Administrative Workstations and Browsers”](#) on page 11
- ◆ [“Appliance Disk Space”](#) on page 11
- ◆ [“Appliance Memory and CPU”](#) on page 12
- ◆ [“Appliance Shared Storage \(/vashare Mount Point\) Platforms”](#) on page 12
- ◆ [“Web Application Access”](#) on page 13
- ◆ [“TeamWorks Software”](#) on page 13
- ◆ [“IP Addresses”](#) on page 13
- ◆ [“LDAP Directory Services \(Users and Groups\)”](#) on page 14
- ◆ [“Mobile Device Platforms”](#) on page 15
- ◆ [“SQL Database Server”](#) on page 15
- ◆ [“Virtualization Hypervisor Platform”](#) on page 15

Administrative Workstations and Browsers

Table 3-1 *Administrative Workstations and Browsers*

Platform	Browser	Requirement
Windows, Mac, or Linux	Mozilla Firefox	Latest version
Capable of running a listed browser	Microsoft Internet Explorer	11
	Microsoft Edge (Port 8443 tasks only)	Latest version
	Chrome	Latest version
	Safari	Latest version

Appliance Disk Space

- ◆ See [Worksheet 14—Storage Planning Summary](#)

Planning for disk space varies widely according to organization needs and the planning process is covered in the [TeamWorks 18.1.1 Planning Your TeamWorks Deployment—Best Practices](#) guide.

General guidelines are summarized in the following sections of the [Planning Best Practices](#) guide:

- ◆ [Using Worksheet 10 - TeamWorks Appliances](#)

- ◆ [Using Worksheet 11 - Search Appliances](#)
- ◆ [Using Worksheet 12 - SQL Database](#)

Appliance Shared Storage (/vashare Mount Point) Platforms

- ◆ See Worksheet 14—Storage Planning Summary

The TeamWorks appliances in a Multi-appliance deployment access a commonly-shared NFS storage disk that you will identify and create in [Chapter 4, “Setting Up NFS Shared Storage,”](#) on [page 17](#).

Table 3-2 Shared Storage Platforms (/vashare Mount Point)

Protocol	Requirement
NFS	Exported mount point on one of the following: <ul style="list-style-type: none"> ◆ SLES 12 ◆ SLES 15 <p>NFS on Windows is not supported.</p>

Appliance Memory and CPU

Table 3-3 Memory and CPU

Appliance	Recommended
TeamWorks	<ul style="list-style-type: none"> ◆ 8 GB RAM 1.5 GB Operating System 6.5 GB Java Heap ◆ 4 CPUs
TeamWorks Search	<p>Less than 1,000 Users</p> <ul style="list-style-type: none"> ◆ 8 GB RAM ◆ 2 CPUs <p>More than 1,000 Users</p> <ul style="list-style-type: none"> ◆ 12 GB RAM ◆ 2 CPUs

Appliance	Recommended
PostgreSQL	Less than 1,000 Users
	<ul style="list-style-type: none"> ◆ 8 GB RAM 2 GB Operating System 2 GB Memcached 4 GB Java Heap ◆ 2 CPUs
	More than 1,000 Users
	<ul style="list-style-type: none"> ◆ 12 GB RAM 2 GB Operating System 3 GB Memcached 7 GB Java Heap ◆ 2 CPUs

Web Application Access

Table 3-4 Browsers for Web Application Access

Platform	Requirement
Linux	Mozilla Firefox; Google Chrome (latest versions)
Windows	Microsoft Edge
	Microsoft Internet Explorer 11
	Mozilla Firefox; Google Chrome (latest versions)
Mac	Safari; Mozilla Firefox (latest versions)

TeamWorks Software

You will download and prepare the TeamWorks software in [Chapter 5, “Downloading and Preparing the TeamWorks Software,”](#) on page 19.

IP Addresses

Each appliance requires the following.

Table 3-5 IP Addresses

Component	Requirement
IP Address	<ul style="list-style-type: none"> ◆ A static address that is associated with a DNS host name. <p>Example: 192.168.1.61</p>

Component	Requirement
Network Mask	<ul style="list-style-type: none"> The appropriate network mask for the IP address. <p>Example: 255.255.255.0</p>
Gateway IP Address	<ul style="list-style-type: none"> The gateway for the IP address subnet. <p>Example: 192.168.1.254</p>
DNS Host Name	<ul style="list-style-type: none"> The DNS name associated with the IP address. <p>Example: TeamWorks-1.myorg.local</p>
DNS IP Address	<ul style="list-style-type: none"> Up to three IP addresses of DNS servers for the IP address subnet. <p>Example: 192.168.1.1</p>
NTP IP Address or DNS Name	<ul style="list-style-type: none"> Up to three IP addresses or DNS names of reliable NTP servers used to coordinate time on your organization's network—especially your LDAP directory servers. <p>Example: time.myorg.local</p> <p>If using VMware, Micro Focus recommends setting up NTP in accordance with the VMware best practices guidelines (http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1006427).</p>

LDAP Directory Services (Users and Groups)

Table 3-6 LDAP Directory Services

Directory Service	Platform	Version	Support
GroupWise	All	<ul style="list-style-type: none"> 2018 	Recommended
eDirectory	Linux	<ul style="list-style-type: none"> Version 8.8 with latest patch <p>For more information, see the NetIQ eDirectory 8.8 Documentation website (http://www.novell.com/documentation/edir88).</p>	Recommended
		<ul style="list-style-type: none"> Version 9.x <p>For more information, see the NetIQ eDirectory 9.1 Documentation website (https://www.netiq.com/documentation/edirectory-91/).</p>	
	Windows	<ul style="list-style-type: none"> Version 8.8 with latest patch on standalone Windows. 	Supported
Active Directory	Windows	<ul style="list-style-type: none"> 2016 Active Directory with the latest Service Pack 	Recommended
		<ul style="list-style-type: none"> 2012 R2 Active Directory with the latest Service Pack 	Supported

Mobile Device Platforms

IMPORTANT: Accessing TeamWorks through a web browser on a mobile device is not recommended unless an app is not available for the device.

For more information about the TeamWorks mobile app, see the [TeamWorks User Help](#).

Table 3-7 Mobile Devices

Platform	Supported Versions
iOS Phones and Tablets	<ul style="list-style-type: none">◆ iOS 10.x or later <p>The native app is available as a free download in the Apple App Store.</p>
Android Phones and Tablets	<ul style="list-style-type: none">◆ Android phones and tablets for Android 7.x or later <p>The native app is available in the Android app store.</p>

SQL Database Server

Table 3-8 SQL Database Server

Database Type	Supported Platforms
PostgreSQL (10 and later)	<ul style="list-style-type: none">◆ Linux◆ Windows
Microsoft SQL Server	<ul style="list-style-type: none">◆ 2014 SP1/SP2 on Windows 2012 R2 and later.◆ 2016 on Windows 2016

Virtualization Hypervisor Platform

Table 3-9 Virtualization Hypervisor Platform

Hypervisor Type	Supported Versions
VMware	<ul style="list-style-type: none">◆ A VMware ESXi 6.x host server with the latest update for hosting the appliance VMs. For the most up-to-date compatibility matrix of supported VMware host servers, see the VMware Compatibility Guide (http://www.vmware.com/resources/compatibility/search.php?deviceCategory=software&testConfig=16) provided by VMware.◆ A VMware vSphere client 6.x or later for accessing the host server and the appliances for initial configuration. Not all versions of the vSphere client are compatible with versions of VMware ESXi. See the VMware Product Interoperability Matrixes (http://partnerweb.vmware.com/comp_guide2/sim/interop_matrix.php) provided by VMware.◆ VMware vMotion is supported when running TeamWorks on VMware ESXi.

4

Setting Up NFS Shared Storage

- ◆ See Worksheet 14—Storage Planning Summary

Table 4-1 Exporting an NFS Directory for /vashare

Page, Dialog, or Option	Do This
	1 - Verify that the server has adequate disk space.
	<ol style="list-style-type: none">1. Make sure that the Linux server that you are targeting has the available disk space you identified in “Planning Your Appliances” in the TeamWorks 18.1.1 Planning Your TeamWorks Deployment—Best Practices guide and recorded on Worksheet 25. If necessary, add disk space to the Linux server.
	<ol style="list-style-type: none">1. On the Linux server, launch YaST2.
YaST Control Center	<ol style="list-style-type: none">1. In the Network Services section, click NFS Server. The NFS Server Configuration dialog box displays.
NFS Server Configuration	<ol style="list-style-type: none">1. Make sure that the NFS Server is set to Start, that Open Port in Firewall is selected (running firewall required for option), and that Enable NFSv4 is <i>not selected</i> - i.e. NFS v4 is disabled.2. Click Next.
Directories to Export	<ol style="list-style-type: none">1. Click Add Directory.
YaST2	<ol style="list-style-type: none">1. Click Browse and choose the directory or share path identified on Worksheet 25 that has the required disk space. You can add a directory name, such as <code>/shared</code> to the path if desired. IMPORTANT: The directory path must not be located in the <code>/var</code> directory structure on the NFS server, as explained in “NFS Mount Point Must Not Point to /var on Target Server” in the TeamWorks 18.1.1 Release Notes.2. Click OK. As your first TeamWorks appliance is deployed, a directory named <code>TeamWorks</code> will be created within the directory path you have specified.3. If you added to the directory path, click Yes to confirm directory creation.4. Leave the asterisk (*) in the Host Wild Card field.5. Click the Options field to edit it and change the following options:<ul style="list-style-type: none">◆ <code>ro</code> to <code>rw</code> (read-only to read-write)◆ <code>root_squash</code> to <code>no_root_squash</code>.6. Click OK.
Directories to Export	<ol style="list-style-type: none">1. Click Finish.2. Skip to Chapter 5, “Downloading and Preparing the TeamWorks Software,” on page 19.

5 Downloading and Preparing the TeamWorks Software

After [planning your deployment](#) and making sure you have the necessary [system requirements](#) in place, you are ready to download and prepare the TeamWorks software that applies to your virtualization platform.

- 1 [Download the TeamWorks software](#) shown below to your management workstation.

IMPORTANT: Registration with Micro Focus is required to receive an email with a download link.

Appliance Type	Filename
TeamWorks	TeamWorks-18. <i>version</i> .ovf.zip
Search	TeamWorks-Search-18. <i>version</i> .ovf.zip
PostgreSQL (only if no in-house SQL server is available)	PostgreSQL-1. <i>version</i> .ovf.zip

- 2 Extract each `.ovf.zip` file on your management workstation until an `ApplianceType-version` folder appears.
- 3 Continue with [“Creating the TeamWorks Virtual Machines”](#) on page 21.

6 Creating the TeamWorks Virtual Machines

Referring to the following Worksheets, complete the steps in [Table 6-1](#) for each appliance you have planned to deploy:

- ♦ Worksheet 10 - TeamWorks Appliances
- ♦ Worksheet 11 - Search Appliances
- ♦ Worksheet 12 - SQL Database (if you are not using an in-house SQL database server)

Table 6-1 *Creating an appliance VM on VMware*

Page, Dialog, or Option	Do This
1 - Launch the vSphere Client, name the VM, and choose the datastore.	
vSphere Client	<input type="checkbox"/> On your management workstation, start the vSphere Client. <input type="checkbox"/> Click File > Deploy OVF Template .
Deploy OVF Template	<input type="checkbox"/> Click Browse .
Open	<input type="checkbox"/> Navigate to the contents of the folder extracted in Step 2 on page 19 . <input type="checkbox"/> Select the <code>.ovf</code> file. <input type="checkbox"/> Click Open .
Deploy OVF Template	<input type="checkbox"/> Click Next > Next . <input type="checkbox"/> In the Name field, type the name of the appliance as planned on the applicable worksheet. <input type="checkbox"/> Click Next . <input type="checkbox"/> Choose the datastore and click Next to accept the default disk format. <input type="checkbox"/> Do not select Power on after deployment . <input type="checkbox"/> Click Finish . <p>The boot disk is created and the appliance is deployed as specified to this point.</p>
2 - Edit the VM settings.	
vSphere Client	<input type="checkbox"/> In the vSphere Client, right-click the VM and select Edit Settings .
Virtual Machine Properties	<input type="checkbox"/> Adjust the Memory and CPU settings according to the calculations and settings on the applicable worksheet. <p>Of course if needed, you can adjust them later for performance tuning purposes.</p>

Page, Dialog, or Option	Do This
Virtual Machine Properties	<ul style="list-style-type: none"> <input type="checkbox"/> Adjust the Memory and CPU settings according to the calculations and settings on the applicable worksheet. <p>Of course if needed, you can adjust these settings later for performance tuning purposes.</p> <ul style="list-style-type: none"> <input type="checkbox"/> VMware recommends optimizing disk performance by using VMware Paravirtual as the SCSI Controller Type. This is especially recommended for high-data-load installations. <p>Therefore, if you are installing in an ESX or ESXi environment, Micro Focus recommends changing the SCSI Controller at this point to VMware Paravirtual. You can safely ignore any warnings.</p> <p>Also, if needed you can adjust these settings later for performance tuning or other purposes. See “Optimizing Disk Performance” in <i>TeamWorks 18.1.1: Maintenance Best Practices Guide</i>.</p>
3 - Add and configure a second disk (/vastorage)	
Virtual Machine Properties	<ul style="list-style-type: none"> <input type="checkbox"/> Click Add.
Add Hardware	<ul style="list-style-type: none"> <input type="checkbox"/> Select Hard Disk, then click Next > Next (create a new virtual disk). <input type="checkbox"/> Adjust the Disk Size field value as planned for the appliance you are deploying. <input type="checkbox"/> Under Disk Provisioning, select either: <ul style="list-style-type: none"> ◆ Thick Provision Eager Zeroed or ◆ Support clustering features such as Fault Tolerance <p>Depending on the VMware version that you are running.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Under Location, select Specify a datastore or Datastore cluster <input type="checkbox"/> Click Browse, select a datastore, then click OK > Next. <input type="checkbox"/> Under Virtual Device Node section, select SCSI (1:0). <input type="checkbox"/> Under Mode, select Independent and Persistent. <input type="checkbox"/> Click Next > Finish.
4 - Add and Configure a third disk (/var)	
Virtual Machine Properties	<ul style="list-style-type: none"> <input type="checkbox"/> Click Add.

Page, Dialog, or Option Do This

Add Hardware

- Select **Hard Disk**, then click **Next > Next** (create a new virtual disk).
- Adjust the **Disk Size** field value a planned for your product.
- Under **Disk Provisioning**, select either:
 - ◆ **Thick Provision Eager Zeroed**
 - or
 - ◆ **Support clustering features such as Fault Tolerance**
- Under **Location**, select **Specify a datastore or Datastore cluster**
- Click **Browse**, select a datastore, then click **OK > Next**.
- Under **Virtual Device Node** section, select **SCSI (2:0)**.
- Click **Next > Finish**.

The appliance should shut down at this point.

- Return to the beginning and deploy the next appliance.

When all of the planned appliances are deployed, continue with [Chapter 7, "Starting and Configuring the Appliances,"](#) on page 25.

7 Starting and Configuring the Appliances

After the VMs are deployed with the necessary disks added and other settings adjusted according to your worksheets, it is time to start and configure the appliance software on each appliance. When this section is completed, all of the appliances will be running and ready to be deployed as an integrated TeamWorks infrastructure.

Table 7-1 Starting and Configuring the Appliances

Page, Dialog, or Option	Do This
	1 - Before you deploy the first VM.
	<ol style="list-style-type: none">(Multi-appliance deployments only) If you have not already done so, before you begin this process, you must set up shared storage for your TeamWorks appliances by:<ul style="list-style-type: none">Exporting an NFS directorySee the “Network-Based Shared Disk Space for /vashare” section of <i>Worksheet 14</i> and complete the instructions in Section 4, “Setting Up NFS Shared Storage,” on page 17 before continuing.
	2 - Select an appliance.
	<ol style="list-style-type: none">Choose one of the appliances that you deployed in Chapter 6, “Creating the TeamWorks Virtual Machines,” on page 21 and refer to its planning worksheet as you start and configure it.<p>NOTE: You can complete the instructions in this section for all of your TeamWorks appliances in whatever order works best for you.</p><p>When you finish, the appliances will all be running, but TeamWorks <i>will not yet be deployed.</i></p><p>CAUTION: (Multi-appliance deployment only) In contrast to the flexibility that you have in starting and initially configuring your appliances, there is a strict order for creating your multi-appliance TeamWorks deployment.</p><p>You must deploy the appliances in the exact order that is specified in Chapter 8, “Creating a Multiple-Appliance TeamWorks Deployment,” on page 29.</p>
	3 - Start the appliance.
	<ol style="list-style-type: none">After you have downloaded the TeamWorks software and configured your appliances, you must start and configure each appliance in turn.<ul style="list-style-type: none">VMware: In the vSphere Client, power on the first appliance, then click the Console tab.
	4 - Accept the license and specify the keyboard layout.
	<ol style="list-style-type: none">After the appliance boots, the License Agreement screen displays.

Page, Dialog, or Option	Do This
License Agreement	<ol style="list-style-type: none"> 1. Select your preferred keyboard layout in the Keyboard Language drop-down. 2. (Optional) use the License Language drop-down to change the license language. 3. (Optional) use the Keyboard Language drop-down to change the keyboard layout. 4. Accept the license agreement.
Passwords and Time Zone	<ol style="list-style-type: none"> 1. On the configuration page, specify the following information: <p>IMPORTANT: Keep a confidential record of the passwords you set for the root and vaadmin users below.</p> <p>Root password and confirmation: The root password provides root access to the appliance terminal prompt. Do not access appliances as the root user unless specifically requested by TeamWorks support personnel.</p> <p>Vaadmin password and confirmation: The preferred user for accessing the appliance as requested by TeamWorks support personnel.</p> <p>Consider using a different password for each appliance for enhanced security.</p> <p>NTP Server: The IP address or DNS name of the reliable external Network Time Protocol (NTP) server for your network.</p> <p>Example: time.example.com.</p> <p>For the best results, set up NTP in accordance with the VMware best practices guidelines (http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1006427).</p> <p>Region: Your local region.</p> <p>Time Zone: The time zone where the appliance is located.</p> 2. Click Next.

Page, Dialog, or Option Do This

Network Settings	<ol style="list-style-type: none">1. Specify the Hostname: Hostname: The fully qualified DNS host name associated with the appliance's static IP address. Example: TW-Search-1.mynetwork.example.com.2. Specify the following: IP Address: The static IP address for the appliance. Example: 172.17.2.3. Network Mask: The network mask associated with the appliance's IP address. Example: 255.255.255.0. Gateway: The IP address of the gateway on the subnet where your TeamWorks virtual appliance is located. Example: 172.17.2.254. IMPORTANT: TeamWorks appliances do not tolerate latency and should be installed in the same subnet or a near-subnet. DNS Servers: The IP address of a primary DNS server for your network. Example: 172.17.1.1. Domain Search: The domain that is associated with the TeamWorks host name. The first is derived from the hostname. If your deployment is located in multiple domains, be sure to include the other domains as well.3. Click Next.
Additional LAN Card Configuration	<ol style="list-style-type: none">1. (Conditional) If you configured multiple network adapters for this appliance, select from the following options, then click Next:<ul style="list-style-type: none">◆ Do Not Configure: Select this option to configure this network at a later time as described in "Changing Network Settings" in the TeamWorks 18.1.1: Administrative UI Reference.◆ DHCP Dynamic Address: Select this option to have an IP address assigned dynamically on the secondary network.◆ Statically Assigned IP Address: Select this option to assign a static IP address on the secondary network. Then specify the IP address, network mask, and host name.
Data Store Location	<ol style="list-style-type: none">1. Hard Disk 2 is automatically detected and the disk designation is displayed in the hard drive drop-down. Accept the defaults for the other options on this page by clicking Next. WARNING: If you have not already created additional disks 2 and 3 for each of your VMs and prepared a shared storage location for your TeamWorks appliances as described in early sections of this guide and in Planning Your Appliances in the TeamWorks 18.1.1 Planning Your TeamWorks Deployment—Best Practices guide, power off the virtual machine and make sure you have the required disk space in place for your deployment before proceeding. Otherwise, there is a substantial risk that your deployment will not meet your organization's needs.

Page, Dialog, or Option	Do This
Data Log Location	<ol style="list-style-type: none"> 1. Hard Disk 3 is automatically detected and the disk designation is displayed in the hard drive drop-down. <p>TeamWorks: Accept the defaults for the other options on this page by clicking Next.</p> <p>Search and PostgreSQL: Accept the defaults for the other options on this page by clicking Configure.</p>
Shared Storage Type (TeamWorks and Search)	<ol style="list-style-type: none"> 1. If you are configuring a PostgreSQL appliance, this page doesn't appear. Go to "Configuring Password, Time, and Network Settings" on page 28. 2. If you are configuring a TeamWorks or Search appliance in a multi-appliance deployment, click Next.
Shared Storage NFS Location	<p>Referring to the work you did in Table 4-1, "Exporting an NFS Directory for /vashare," on page 17, do the following:</p> <ol style="list-style-type: none"> 1. For the NFS Server Hostname field, click Browse and select the NFS server that you identified. <p>If the NFS server is not found by browsing, typing its IP address or DNS name in the field should resolve the issue.</p> <ol style="list-style-type: none"> 2. For the Remote Directory field, click Browse and select the directory that you exported. <p>IMPORTANT: It is important to use the browse feature for this step to ensure that NFS is working and the path is correct.</p> <p>If the Remote Directory is not found, verify that the NFS server path is entered correctly and NFS is running on the server. Then browse for the directory again.</p> <p>If the server is still not found, or if you overlooked making an NFS mount point available, you must do the following in order to proceed:</p> <ul style="list-style-type: none"> ◆ Click Shut Down Appliance to Fix Resources and confirm your action. ◆ Complete the instructions in Table 4-1, "Exporting an NFS Directory for /vashare," on page 17, and verify that an NFS client can connect to the mount point you have just created. ◆ When the NFS service is verified, power on the appliance. ◆ When prompted, re-enter the passwords for the <code>root</code> and <code>vaadmin</code> users, then click Next to confirm the choices you entered in all of the dialogs, until you reach the NFS Server Hostname field prompt (Step 1, above). <ol style="list-style-type: none"> 3. Click Configure. 4. Continue with "Configuring Password, Time, and Network Settings" on page 28.
Configuring Password, Time, and Network Settings	<ol style="list-style-type: none"> 1. The settings you have specified are configured, storage is verified, and the appliance starts. 2. Continue as indicated for your deployment type: <p>Multi-appliance Deployment: Repeat the above steps starting with "2 - Select an appliance." on page 25 until all of your appliances are started, configured, and running. Only then should you go to Chapter 8, "Creating a Multiple-Appliance TeamWorks Deployment," on page 29.</p> <p>All-in-one (Small) Deployment: Return to Creating an All-in-One Deployment > "Setting Up an All-in-One (small) TeamWorks Appliance" on page 44.</p>

8

Creating a Multiple-Appliance TeamWorks Deployment

- ♦ [“If You Need to Use a PostgreSQL Appliance Instead of a Server” on page 29](#)
- ♦ [“Setting Up the SQL Database” on page 29](#)
- ♦ [“Setting Up Three Search Appliances” on page 31](#)
- ♦ [“Setting Up the TeamWorks Appliances” on page 33](#)

If You Need to Use a PostgreSQL Appliance Instead of a Server

IMPORTANT: Micro Focus recommends using an existing SQL database if one is available. Instructions are provided in [“Setting Up the SQL Database” on page 29](#).

However, if you need to use a PostgreSQL appliance, do the following:

1. Prepare the PostgreSQL appliance now by completing the instructions in [Appendix C, “Configuring the PostgreSQL Appliance to Provide the SQL Database,” on page 47](#)
 2. After the appliance is installed, configured, and running, skip to [“Setting Up Three Search Appliances” on page 31](#).
-

Setting Up the SQL Database

Prepare your in-house SQL server by completing the steps in one of the following sections:

- ♦ [“Configuring a PostgreSQL Server” on page 29](#)
- ♦ [“Configuring a Microsoft SQL Server” on page 30](#)

Configuring a PostgreSQL Server

IMPORTANT: Do not create the TeamWorks database on your PostgreSQL server manually.

Let the TeamWorks configuration wizard create the database to ensure the correct configuration.

Table 8-1 Configuring PostgreSQL for TeamWorks

File	Do This
	1 - Edit the configuration file.

File	Do This
PostgreSQL server > / etc/my.cnf file	<ol style="list-style-type: none"> 1. Edit the file as follows: <pre>[client] default-character-set = utf8 [PostgreSQLd] character-set-server = utf8 max_connections = 900 transaction-isolation = READ-COMMITTED expire_logs_days = 7</pre> <p>The <code>expire_logs_days</code> setting is optional, but is recommended because it cleans up PostgreSQL-bin-* files.</p> <p>Unless this is done regularly, the files will consume significant disk space in the <code>vastorage</code> directory.</p> 2. Uncomment the InnoDB tables section. 3. Increase the buffer pool size to approximately 60 percent of the amount of RAM that has been allocated to the dedicated server. <p>For example, a dedicated server with 4 GB of RAM should have a buffer pool size of 2560 MB, as follows:</p> <pre>innodb_buffer_pool_size = 2560M</pre> 4. Identify or create a user account with sufficient rights to create and manage the TeamWorks database.
Worksheet 12	<ol style="list-style-type: none"> 1. Record the username and password on Worksheet 12. 2. Continue with "Setting Up Three Search Appliances" on page 31.

Configuring a Microsoft SQL Server

IMPORTANT: Do not create the TeamWorks database on your MS SQL server manually.

Let the TeamWorks configuration wizard create the database to ensure the correct configuration.

Table 8-2 Configuring Microsoft SQL Server for TeamWorks

File	Do This
1 - Configure the server.	
Server management console	<ol style="list-style-type: none"> 1. Enable remote access to the Microsoft SQL database server. 2. Open port 1433 on the Windows firewall where the database server is running. 3. Identify or create a user account that is configured with SQL Server Authentication and has sufficient rights to create and manage the TeamWorks database. <p>IMPORTANT: TeamWorks supports only SQL Server Authentication. Windows Authentication and Windows Domain User Authentication to Microsoft SQL are not supported.</p>
Worksheet 23	<ol style="list-style-type: none"> 1. Record the username and password on Worksheet 23.

File	Do This
Server management console	<ol style="list-style-type: none"> 1. Run the following queries against the database: <pre>ALTER DATABASE <i>database-name</i> SET READ_COMMITTED_SNAPSHOT ON ALTER DATABASE <i>database-name</i> COLLATE Latin1_General_CI_AS_KS_WS</pre> 2. Continue with “Setting Up Three Search Appliances” on page 31.


Setting Up Three Search Appliances

TeamWorks best practices require that every multi-appliance deployment have three Search appliances. There are no advantages to having more than three.

Best practices allow for operating TeamWorks with fewer than three search appliances, but only under special circumstances, such as when reindexing is required. One appliance focuses on rebuilding the search index while the other two continue to service user requests and provide the Messaging services that TeamWorks requires.

Setting Up the First Search Appliance

Table 8-3 *Setting Up the First Search Appliance*


Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"> 1. Open a management browser on your administrative workstation and access the Port 9443 Appliance Console on the first Search appliance using the following URL: <pre>https://<i>IP_Address</i>:9443</pre> <p>Where <i>IP_Address</i> is the IP address of the first Search appliance.</p>
TeamWorks Search Appliance Sign In	<ol style="list-style-type: none"> 1. Log in as the <code>vaadmin</code> user with the password that you set for the appliance in “Vaadmin password and confirmation:” on page 26.
TeamWorks Search Tools	<ol style="list-style-type: none"> 1. Click the Configuration button  to launch the TeamWorks Search Configuration Wizard.
TeamWorks Search Configuration Wizard	<ol style="list-style-type: none"> 1. Read the information to be sure that you're ready to proceed. 2. Click Next.

Page, Dialog, or Option	Do This
Database	<ol style="list-style-type: none"> 1. Select the database type for this TeamWorks deployment. 2. Type the DNS name or IP address of the database server or appliance. 3. The standard port for the database type is shown. You can adjust this if required. 4. Enter a name for the database. The name must not contain a dash. 5. Type the name of the database user/role that you created when preparing the database for TeamWorks. 6. Type the password for the database user/role. 7. If you have prepared your appliances for SSL communications, leave the option selected. Otherwise, deselect it before continuing. 8. Click Next. The credentials are validated and the process continues.
Passwords	<ol style="list-style-type: none"> 1. Type and confirm a password for the Search and Messaging services administrator. Make a note of the password in case a support technician needs it later to resolve a support issue. 2. Type and confirm a password for service clients, such as Tomcat, to use for accessing the Search and Messaging services. 3. Click Next.
Locale	<ol style="list-style-type: none"> 1. Select a Default Locale. 2. Click Finish. Services configuration can take a few minutes. Do not proceed until the process finishes. 3. After the process finishes, best practice dictates setting up the other two Search appliances before setting up the TeamWorks appliances. However, this is not enforced in case your circumstances dictate a different setup order. You can deploy a TeamWorks appliance when the database and at least one Search appliance are running.

Setting Up Subsequent Search Appliances


Table 8-4 Setting Up Subsequent Search Appliance

Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"> 1. Open a management browser on your administrative workstation and access the Port 9443 Appliance Console on a subsequent Search appliance using the following URL: <code>https://IP_Address:9443</code> Where <i>IP_Address</i> is the IP address of a second or third, etc. Search appliance.
TeamWorks Search Appliance Sign In	<ol style="list-style-type: none"> 1. Log in as the <code>vaadmin</code> user with the password that you set for the appliance in "Vaadmin password and confirmation:" on page 26.

Page, Dialog, or Option	Do This
TeamWorks Search Tools	<ol style="list-style-type: none"> Click the Configuration button  to launch the TeamWorks Search Configuration Wizard.
TeamWorks Search Configuration Wizard	<ol style="list-style-type: none"> Read the information to be sure that you are ready to proceed. Click Next.
Search Clustering and Messaging Services	<ol style="list-style-type: none"> Best practices dictate that two Search appliances have Messaging services enabled. You can enable this on the second or third Search appliance. The configuration wizard prevents you from disabling the Messaging service when it is the only instance in the deployment. Click Finish. Services configuration can take a few minutes. Do not proceed until the process finishes. Repeat the process until three Search appliances are running—two of them with Messaging services enabled.

Setting Up the TeamWorks Appliances

Table 8-5 Logging in and Starting the Configuration Wizard


Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"> Open a management browser on your administrative workstation and access the Port 9443 Appliance Console on a TeamWorks appliance using the following URL: <code>https://TeamWorks_IP_Address:9443</code> Where <i>IP_Address</i> is the IP address of the first TeamWorks appliance.
TeamWorks Appliance Sign In	<ol style="list-style-type: none"> Log in as the <code>vaadmin</code> user with the password that you set for the appliance in “Vaadmin password and confirmation:” on page 26.
TeamWorks Appliance Tools	<ol style="list-style-type: none"> Click the Configuration icon  to launch the TeamWorks Configuration Wizard.
TeamWorks Configuration Wizard	<p>The installation wizard accesses the shared storage specified for the appliance and verifies that the deployment is prepared for a TeamWorks appliance.</p> <p>It then displays the Search appliances added earlier and prompts you to add this appliance to the deployment.</p> <ol style="list-style-type: none"> Click Finish to add the TeamWorks appliance to the TeamWorks deployment. Repeat this process for all of the TeamWorks appliances. After adding all of the appliances planned for the initial deployment, continue with “Chapter 9, “Setting Up TeamWorks Services,” on page 35.”

9 Setting Up TeamWorks Services

Complete the following steps by using the [Port 9443 Appliance Console](#) to prepare your TeamWorks deployment and make it available to users.

NOTE: As you complete the steps in this section, refer to any Worksheets indicated to make sure that you follow your plans and have an accurate record of your TeamWorks deployment's configurations.

- 1 Changing some settings in the [Port 9443 Appliance Console](#) requires restarting TeamWorks. For example,

- ◆ All modifications to settings accessed through the Configuration Icon 
- ◆ Changes to the appliance's Network settings.

We recommend that you change these settings before users begin accessing TeamWorks services. For example:

- 1a Install Your TeamWorks License:** Using the [Port 9443 Appliance Console > Configuration Icon > License](#) dialog, install the same license on each TeamWorks appliance in your system.
- 1b Configure Port Redirection:** If you are enabling port redirection so that users don't need to include :8443 in the TeamWorks access URL, configure that now.

Worksheet - Network Support

1. **Path:** [Port 9443 Appliance Console > Configuration > Network](#)

- 2 Using the settings in the [Port 9443 Appliance Console > Firewall](#) dialog as a reference, make sure that your network's port and firewall settings are configured to support TeamWorks.
- 3 Add users and groups to your TeamWorks deployment and set up the LDAP synchronization processes.

Worksheet 4 - Users and Groups

1. Configure your TeamWorks system to connect to an existing LDAP source, such as eDirectory or Active Directory, to control user access to the system.

Path: [Port 8443 TeamWorks Admin Console](#) > **System** > **LDAP**

IMPORTANT: For initial access to the Port 8443 console, use `admin` as both the username and password. You are then prompted to change the password for user `Admin` before proceeding.

2. Manually create any non-LDAP users and groups that need access to TeamWorks services.

For more information, see “[the New User button](#)” in the *TeamWorks 18.1.1: Administrative UI Reference*.

Worksheet 5 - LDAP Synchronization

1. Configure the TeamWorks system to synchronize with your LDAP servers.

For assistance, see “[LDAP Servers and Synchronization](#)” in the *TeamWorks 18.1.1: Administrative UI Reference*.

4 Enable additional TeamWorks Users for Administrative Access.

Worksheet 8 - Administrative Access

1. Configure users for administrative access to TeamWorks.

For more information, see “[Assigning and Managing Port 8443 Designated Administrators](#)” in the *TeamWorks 18.1.1: Administrative UI Reference*.

- 5 If your TeamWorks deployment needs to support multiple languages, configure the site as described in “[Language and Locale Settings](#)” in the *TeamWorks 18.1.1: Maintenance Best Practices Guide*.

- 6 After you have completed all of the topics in this list that are relevant to your TeamWorks environment, you can invite users to use the TeamWorks deployment. For information about how to use the TeamWorks deployment, see the *TeamWorks User Help*.

10 Updating to TeamWorks 18.1.1

TeamWorks 18.1.1 is available as online updates for TeamWorks 18.1 and TeamWorks Search 18.1 appliances.

If your TeamWorks deployment leverages the Micro Focus PostgreSQL 1.1 appliance, you must also deploy a new PostgreSQL 1.1.1 appliance and migrate the database from the earlier appliance.

Use the information in the following sections to move to TeamWorks 18.1.1.

- ◆ [“You Must Register for Updates” on page 37](#)
- ◆ [“Updating an All-in-One Appliance” on page 37](#)
- ◆ [“Updating a Multi-Appliance Deployment” on page 37](#)

You Must Register for Updates

Only registered appliances can have updates applied. If you need to register an appliance, do the following:

- 1 On an appliance, log into the [Port 9443 console](#) as the vaadmin user.
- 2 Click the **Online Update** icon.
- 3 Use the Register Online Update Service dialog to register the appliance. For help, see [“Register Online Update Service”](#) in the *TeamWorks 18.1.1: Administrative UI Reference*.

Updating an All-in-One Appliance

To update an all-in-one TeamWorks appliance, complete the instructions in [Appendix B, “Updating an All-in-One TeamWorks Appliance to Version 18.1.1,” on page 45](#).

Updating a Multi-Appliance Deployment

IMPORTANT: Make sure that you update only one appliance at a time. Do not begin with the next update until the previous update process is completed.

Complete the following sections in the order presented:

- ◆ [“If You Use the PostgreSQL Appliance” on page 38](#)
- ◆ [“Disabling User Access” on page 38](#)
- ◆ [“Updating the Search Appliances” on page 38](#)
- ◆ [“Updating the TeamWorks Appliances” on page 39](#)
- ◆ [“Resolving Web Client Connection Issues” on page 39](#)

If You Use the PostgreSQL Appliance

If your deployment uses an in-house SQL database service rather than the PostgreSQL appliance, skip to [“Disabling User Access” on page 38](#).

Otherwise, because the PostgreSQL appliance must be upgraded/migrated to a new VM rather than simply being updated, you must shut down all of the appliances in your TeamWorks deployment before upgrading the PostgreSQL appliance.

Do the following:

- 1 Starting with the PostgreSQL appliance, log in to the [Port 9443 console](#).
- 2 Click the **Shutdown** button.
- 3 Repeat for each TeamWorks Search appliance.
- 4 When all the search appliances are down, shut down each TeamWorks appliance.
- 5 When all of the appliances are down, go to [“Upgrading the PostgreSQL Appliance to Version 1.1.1” on page 49](#) and complete the instructions there.
- 6 When the migrated PostgreSQL appliance is running, start each Search appliance and then start the TeamWorks appliances until your entire deployment is running again.
- 7 Continue with [“Disabling User Access” on page 38](#).

Disabling User Access

Before beginning the update process, you must disable user access to each TeamWorks appliance.

If you use a forward proxy or other load-balancing solution to provide TeamWorks access, you should be able to accomplish this by taking the service offline.

If your users access TeamWorks appliances directly, you must disable the TeamWorks service on each TeamWorks appliance by doing the following:

- 1 On a TeamWorks appliance, log in to the [Port 9443 console](#).
- 2 Click the **System Services** icon.
- 3 Click **GroupWise TeamWorks > Action > Stop**.
- 4 Repeat this on each TeamWorks appliance in your deployment.
- 5 (Conditional) If you are updating an all-in-one appliance, skip to [“Updating the TeamWorks Appliances” on page 39](#).

Updating the Search Appliances

If updates are available for the Search appliances, do the following. Otherwise, skip to [“Updating the TeamWorks Appliances” on page 39](#).

- 1 On a Search appliance, log in to the [Port 9443 console](#).
- 2 Click the **Online Update** icon.
- 3 In the drop-down options list, make sure that **Needed Patches** is selected.
- 4 Above the drop-down options list, click **Update Now**.
- 5 When the update completes, click **Home** (upper-right corner).
- 6 Click the **Reboot Needed** button, click **OK**, and then wait for the appliance to reboot before continuing.

- 7 Repeat the update process on each Search appliance before continuing with the TeamWorks appliances.
- 8 When all of the Search appliances are updated and running, continue with [“Updating the TeamWorks Appliances” on page 39](#).

Updating the TeamWorks Appliances

For each TeamWorks appliance, do the following:

- 1 On a TeamWorks appliance, log in to the [Port 9443 console](#).
- 2 Click the **Online Update** icon.
- 3 In the drop-down options list, make sure that **Needed Patches** is selected.
- 4 Above the drop-down options list, click **Update Now**.
- 5 When the update completes, click **Home** (upper-right corner).
- 6 Click the **Reboot Needed** button, click **OK**, and then wait for the appliance to reboot before continuing.
- 7 Repeat the update process on each TeamWorks appliance.
- 8 When all of the TeamWorks appliances are updated and running, the update is complete.
Continue with [“Resolving Web Client Connection Issues” on page 39](#).

Resolving Web Client Connection Issues

Depending on the web browser and version, web client users that were connected to TeamWorks when the update process began, might have issues connecting after the update completes.

Connection issues can be resolved by doing one of the following:

- ♦ Refreshing the browser.
- ♦ Closing and restarting the browser.
- ♦ Clearing browser cache by typing Ctrl+F5.

Appendixes

- ◆ [Appendix A, “Creating an All-in-One Deployment,” on page 43](#)
- ◆ [Appendix B, “Updating an All-in-One TeamWorks Appliance to Version 18.1.1,” on page 45](#)
- ◆ [Appendix C, “Configuring the PostgreSQL Appliance to Provide the SQL Database,” on page 47](#)
- ◆ [Appendix D, “Upgrading the PostgreSQL Appliance to Version 1.1.1,” on page 49](#)
- ◆ [Appendix E, “Troubleshooting the TeamWorks Installation,” on page 53](#)
- ◆ [Appendix F, “Third-Party Materials,” on page 55](#)

A

Creating an All-in-One Deployment

To create an all-in-one deployment, you install one TeamWorks appliance. By default TeamWorks also includes the PostgreSQL database and Search functions.

Ensuring All-in-One Suitability

With few exceptions, small deployments are only suitable for proof-of-concept deployments, which, by definition, do not require extensive planning. There is, however, a planning worksheet for all-in-one deployments. See [Worksheet 10-1 - All-in-One Appliance](#).

For a production deployment, you should use the [TeamWorks 18.1.1 Planning Your TeamWorks Deployment—Best Practices](#) guide and associated planning worksheets to gauge whether a small deployment could meet your organization’s production needs.

All-in-One System Requirements

Most of the requirements in [Chapter 3, “System Requirements,”](#) on page 11 apply to small deployments.

However, minimum RAM and CPU recommendations are increased to handle the database and search functions running in addition to TeamWorks.

- ♦ 16 GB of RAM is the minimum
- ♦ 4 CPUs - minimum

80% of the RAM should be dedicated to the Java heap.

For information about adjusting the Java heap settings, see [“Changing the Memory Configuration Settings”](#) in the [TeamWorks 18.1.1: Administrative UI Reference](#).

All-in-One Deployment


To deploy an all-in-one TeamWorks appliance, complete the instructions in the following sections:

Table A-1

Section	Additional Information
Chapter 5, “Downloading and Preparing the TeamWorks Software,” on page 19	You only need to download the TeamWorks software for your virtualization platform.
Chapter 6, “Creating the TeamWorks Virtual Machines,” on page 21	Follow the instructions in the section for your virtualization platform.
Chapter 7, “Starting and Configuring the Appliances,” on page 25	Follow the instructions in the referenced section, then continue with “Setting Up an All-in-One (small) TeamWorks Appliance” on page 44

Setting Up an All-in-One (small) TeamWorks Appliance

Table A-2 Logging in and Setting Up a Small TeamWorks Appliance

Page, Dialog, or Option	Do This
	<ol style="list-style-type: none">1. Open a management browser on your administrative workstation and access the Port 9443 Appliance Console on the TeamWorks appliance using the following URL: <code>https://TeamWorks_IP_Address:9443</code> Where <i>IP_Address</i> is the IP address of the TeamWorks appliance.
TeamWorks Appliance Sign In	<ol style="list-style-type: none">1. Log in as the <code>vaadmin</code> user with the password that you set for the appliance in "Vaadmin password and confirmation:" on page 26.
TeamWorks Appliance Tools	<ol style="list-style-type: none">1. Click the Configuration icon  to launch the TeamWorks Configuration Wizard.
TeamWorks Configuration Wizard	<ol style="list-style-type: none">1. Click Next.
Database, Search, and Messaging services Passwords	<ol style="list-style-type: none">1. Type and confirm a password for each of the following system users:<ul style="list-style-type: none">◆ <code>db-user</code>◆ <code>postgres</code>◆ <code>svcs-user</code>◆ <code>svcs-admin</code>2. Make a record of the passwords in case Micro Focus Support needs them to resolve a support incident in the future. (No administrative tasks require these passwords.)
Default Locale	<ol style="list-style-type: none">1. Select your Default System Locale from the dropdown list.2. Click Finish.3. Do not close or exit the browser page until the warning message disappears.
Set Up TeamWorks Services	<ol style="list-style-type: none">1. Use the information in Chapter 9, "Setting Up TeamWorks Services," on page 35 as a guide for setting up your all-in-one appliance.

B Updating an All-in-One TeamWorks Appliance to Version 18.1.1

- ♦ “Disabling User Access” on page 45
- ♦ “Updating the All-in-One Appliance” on page 45
- ♦ “Resolving Web Client Connection Issues” on page 45

Disabling User Access

Disable the TeamWorks service by doing the following:

- 1 On the TeamWorks appliance, log in to the [Port 9443 console](#).
- 2 Click the **System Services** icon.
- 3 Click **GroupWise TeamWorks > Action > Stop**.
- 4 Continue with the next section.

Updating the All-in-One Appliance

Do the following:

- 1 In to the [Port 9443 console](#), click the **Online Update** icon.
- 2 In the drop-down options list, make sure that **Needed Patches** is selected.
- 3 Above the drop-down options list, click **Update Now**.
- 4 When the update completes, click **Home** (upper-right corner).
- 5 Click the **Reboot Needed** button, click **OK**, and then wait for the appliance to reboot before continuing.
- 6 Continue with “[Resolving Web Client Connection Issues](#)” on page 45.

Resolving Web Client Connection Issues

Depending on the web browser and version, web client users that were connected to TeamWorks when the update process began, might have issues connecting after the update completes.




Connection issues can be resolved by doing one of the following:

- ♦ Refreshing the browser.
- ♦ Closing and restarting the browser.
- ♦ Clearing browser cache by typing Ctrl+F5.

C

Configuring the PostgreSQL Appliance to Provide the SQL Database

Table C-1 Configuring a PostgreSQL Appliance

Page or Dialog	Do This
	<p>IMPORTANT: The following steps assume that you installed and prepared a PostgreSQL appliance in addition to your TeamWorks and Search appliances, as documented in Chapter 6, “Creating the TeamWorks Virtual Machines,” on page 21.</p>
	<ol style="list-style-type: none"> Using a browser on your management workstation, access the Port 9443 Appliance Console on the PostgreSQL appliance by entering the following URL: <pre>https://PostgreSQL_IP_Address:9443</pre> <p>Where <i>IP_Address</i> is the IP address of the PostgreSQL appliance.</p>
PostgreSQL Appliance Sign In	<ol style="list-style-type: none"> Log in as the <code>vaadmin</code> user with the password that you set for the appliance in “Vaadmin password and confirmation:” on page 26.
PostgreSQL Appliance Tools	<ol style="list-style-type: none"> Click the Configure PostgreSQL icon .
Postgres User Configuration	<ol style="list-style-type: none"> Type and confirm a new password for the <code>postgres</code> role/user, then click Submit.
PostgreSQL Appliance Tools	<ol style="list-style-type: none"> Click the phpPgAdmin icon  to launch the phpPgAdmin utility. In the left panel, click PostgreSQL, then log in as <code>postgres</code> with the password that you specified above.
phpPgAdmin	<ol style="list-style-type: none"> Click the Roles icon . Click Create role.
Create Role	<ol style="list-style-type: none"> Type a name in the Name field, such as <code>db-user</code>, for the role that will create the database for TeamWorks and provide TeamWorks services with database access. Type and confirm a password for the role that you are creating. Select the Create DB? and Can login? options. Click the Create button. <p>The role you created is added to the Roles list.</p> Close the browser and return to “Setting Up Three Search Appliances” on page 31.

D Upgrading the PostgreSQL Appliance to Version 1.1.1

- ♦ “Downloading and Preparing Software for the Upgrade” on page 49
- ♦ “Upgrading the VM” on page 49

Downloading and Preparing Software for the Upgrade

- 1 Download the PostgreSQL software (<https://www.microfocus.com/products/enterprise-messaging/teamworks/trial/>) (PostgreSQL.x86_64-version.ovf.zip).

IMPORTANT: Registration with Micro Focus is required to receive an email with a software-download link.

- 2 Extract the .ovf.zip file on your management workstation until a PostgreSQL-version folder appears.
- 3 Continue with “Upgrading the VM” on page 49.

Upgrading the VM

- 1 Complete the following steps.

Table D-1 Upgrading the PostgreSQL VM

Page, Dialog, or Option	Do This
	1 - Launching vSphere. 1. On your management workstation, start the vSphere Client (or for ESXi 6.5 or later, open the vSphere Web Client). IMPORTANT: The instructions that follow assume usage of the traditional vSphere Client. However, significant differences with vSphere Web Client usage are noted.
vSphere Client	2 - Deploying the OVF Template and naming the VM. IMPORTANT: The vSphere Web Client requires that you select (or drag/drop) both the .ovf and .vmdk files rather than simply deploying the .ovf. Also, when selecting the deployment options, you must manually deselect Power on Automatically . 1. Click File > Deploy OVF Template .
Deploy OVF Template	1. Click Browse .

Page, Dialog, or Option	Do This
Open	<ol style="list-style-type: none"> 1. Navigate to the contents of the PostgreSQL folder that you downloaded and extracted in “Downloading and Preparing Software for the Upgrade” on page 49. 2. Select and open the .ovf file. (Web Client - select and drag both the .ovf and the .vmdk files to the folder.)
Deploy OVF Template	<ol style="list-style-type: none"> 1. Name the appliance with a name that is easily associated with (but not the same as) the VM name of the associated appliance being upgraded Consider including information in the name that easily identifies the appliance type and other information, such as the IP address. For example, <ul style="list-style-type: none"> ◆ v1-1-1-PostgreSQL-1-192.168.1.81 2. Click Next. 3. Click Next to accept the default for the disk format. 4. Do not select Power on after deployment. (Web Client - Deselect Power on Automatically.) 5. Click Finish. The boot disk is created and the appliance is deployed as specified to this point.
3 - Copy Disk 2 to the New Appliance.	
vSphere Client	<p>Copying the appliance’s disk is at the heart of the upgrade process because it uses the corresponding “old” appliance’s configuration settings on Disk 2 to create an upgraded version of the appliance with minimal input on your part.</p> <ol style="list-style-type: none"> 1. Copy Disk 2 to the new VM folder that was created when you deployed the OVF template.. <p>NOTE: Default VMware disk names are constructed as follows:</p> <ul style="list-style-type: none"> ◆ <i>vm_name.vmdk</i> ◆ <i>vm_name_1.vmdk</i> - This is Disk 2 ◆ <i>vm_name_2.vmdk</i>
4 - Editing the VM settings.	
vSphere Client	<ol style="list-style-type: none"> 1. In the vSphere Client, right-click the VM you just deployed and select Edit Settings. The Virtual Machine Properties dialog displays.
Virtual Machine Properties	<ol style="list-style-type: none"> 1. Set the Memory and CPU settings to match the appliance you are replacing, or increase them as planned.
5 - Configuring disk 2 (/vstorage)	
Virtual Machine Properties	<ol style="list-style-type: none"> 1. Click Add.
Add Hardware	<ol style="list-style-type: none"> 1. Select Hard Disk, click Next and select Use an existing Virtual disk. 2. Click Next > Browse, then navigate to and select the copy of disk 2 that you made for this appliance. 3. Click Next > Next > Finish.

Page, Dialog, or Option	Do This
6 - Adding and Configuring disk 3 (/var)	
Virtual Machine Properties	1. Click Add .
Add Hardware	<ol style="list-style-type: none"> 1. Select Hard Disk. 2. Click Next > Next. 3. Adjust the Disk Size to the same size as disk 3 (/var) on the appliance you are replacing. 4. Under Disk Provisioning, select either: <ul style="list-style-type: none"> ◆ Thick Provision Eager Zeroed or ◆ Support clustering features such as Fault Tolerance <p>Depending on the VMware version that you are running.</p> 5. Under Location, select Specify a datastore or Datastore cluster 6. Click Browse. 7. Select the datastore and folder for this appliance. 8. Click OK. 9. Click Next. 10. Under the Virtual Device Node section, select SCSI (2:0). 11. Click Next. 12. Click Finish. 13. If you need to add network adapters, continue with 7 - (Optional) Adding a Network Adapter. Otherwise, click OK and return to “If You Use the PostgreSQL Appliance” on page 38.
7 - (Optional) Adding a Network Adapter	
<p>You can add a network adapter if your TeamWorks deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> ◆ Appliance administration. ◆ NFS mount access to the /vashare mount point. ◆ Security of memcached. <p>IMPORTANT: Bonding or teaming NICs is not supported with TeamWorks.</p>	
Virtual Machine Properties	1. Click Add .
Add Hardware	<ol style="list-style-type: none"> 1. Select Ethernet Adapter. 2. Click Next. 3. Under Network Connection, select the secondary network associated with the TeamWorks installation. 4. Click Next > Finish > OK.

E Troubleshooting the TeamWorks Installation

Unable to Access a Newly Installed Appliance

If you are unable to access a newly installed appliance and you need to change appliance settings, such as the IP address, use the VACONFIG utility from the TeamWorks command prompt.

For more information, see “[Using VACONFIG to Modify Network Information](#)” in the *TeamWorks 18.1.1: Maintenance Best Practices Guide*.

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PDF documents with complete information about the use of Oracle technology in TeamWorks are located in the following directory on the TeamWorks server:

`/opt/novell/TeamWorks/stellent-converter`

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