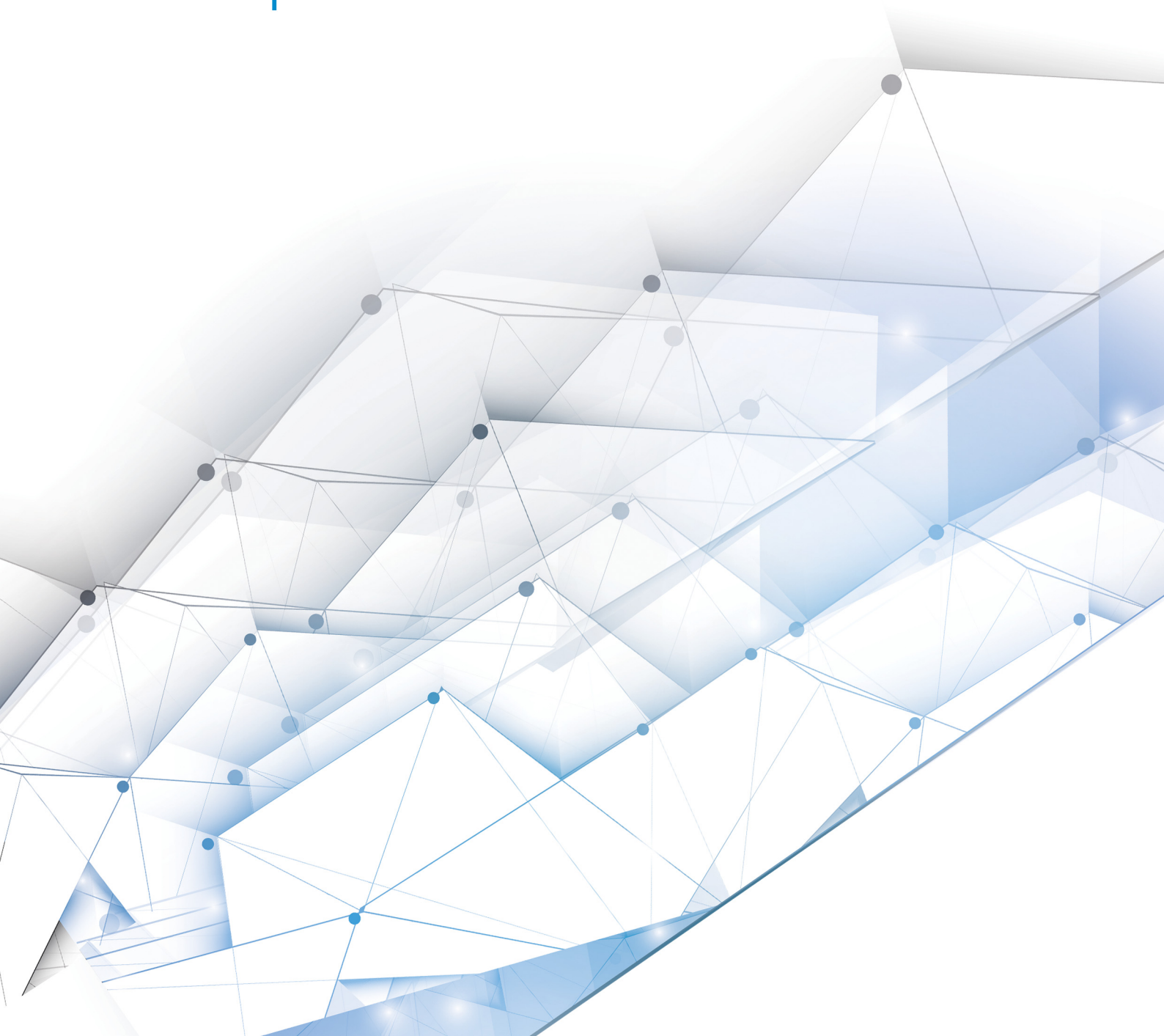
panagenda

ConnectionsExpert

Setup Guide



SETUP GUIDE

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Table of Contents

Welcome to panagenda ConnectionsExpert!

This guide will help you to set up panagenda ConnectionsExpert in no time. If you have any comments or suggestions, please contact us at support@panagenda.com.

About ConnectionsExpert

ConnectionsExpert offers unique insights into your IBM Connections environment and provides vital information for many roles in your organization: Operative monitoring dashboards and performance analytics for administrators, as well as adoption and usage KPIs for social adoption experts and management.

ConnectionsExpert is a virtual appliance, which collects various statistical information from IBM Connections. **All data is stored on premises!**

System Requirements

IBM Connections

In order to run ConnectionsExpert properly, the following prerequisites must be met:

- IBM Connections 5.0, 5.5 or 6.0
- IBM Connections Backend Database is based on DB2 or Oracle
- IBM Connections Metrics Application is available

Running Cognos is not a prerequisite. The Metrics application collects data in the background to the Metrics database. ConnectionsExpert processes the data from this database.

Elasticsearch is currently not supported.

To be able to access your environment, ConnectionsExpert needs to authenticate against the Bridgehead (/bridgehead; see "Bridgehead Installation" on page 16) via basic authentication. To perform the user simulations checks, the appliance requires form-based authentication to authenticate against your IBM Connections environment. Please contact support@panagenda.com in case those requirements are not met or if you have any question related to this topic.

Host Software

panagenda ConnectionsExpert comes as a VMWare appliance including its own operating system based on the popular CentOS Linux distribution. No operating system needs to be prepared for the installation on the virtualization software side.

Virtual appliances are available for:

- **VMWare vSphere - ESXi** (recommended for production)
- **VMWare Workstation** (for evaluation purposes)

For compatibility reasons, our appliances are configured for ESXi 6.0 and Workstation 11. If you run a newer version, we recommend to upgrade the virtual machine hardware version.

- **Microsoft Hyper-V**

The underlying hardware and OS need to have VT-x support enabled (in BIOS). This is mainly relevant in scenarios where Workstation act as host software. Detailed information about operating system requirements can be found on the respective product pages: www.vmware.com/products/

Virtual Hardware

Minimum hardware requirements for production environment:

- a modern CPU with 2-4 processor cores
- 4 GB - 16 GB of RAM available to the virtual appliance
- min. 40 GB of free disk space for virtual appliance

If additional disk space is required for long term storage, the disk can be enlarged (see "Disclaimer" on page 29). It is not an option to add additional disks to the system in order to provide more disk space.

Access and Permissions

User Accounts:

During the configuration of ConnectionsExpert's Bridgehead application, a WebSphere administrator account must be supplied (see "Configure the adminclient.props settings:" on page 17). It will be used to perform WebSphere internal operations.

In order to perform user simulations and connect to the Bridgehead application, an active Connections account (LDAP User) is required. Creating a dedicated account is recommended (see "Bridgehead Connector - User Information" on page 27).

Network (Firewall/Ports):

Connections to and from the appliance need to be allowed for the following services:

Outbound (originating in virtual appliance):

- **HTTP/HTTPS** to WebSphere servers for data collection (TCP 80/443)

Inbound (accessing virtual appliance):

- **HTTP/HTTPS** for configuration and reports (TCP 80/443)
- **SSH** for system configuration and application tuning (TCP 22)
- **VNC** for system configuration (TCP 5901)
- Optional: PostgreSQL for data warehouse access where enabled (TCP 5432)

It is recommended that the ConnectionsExpert application owner has access to the console of the virtual machine.
Internet access for the appliance is not mandatory, but it is recommended to grant at least proxy access to *.panagenda.com and your defined CentOS repository (default *.centos.org) for security and application updates.

See https://www.panagenda.com/kbase/x/7Y7o if the following IP address ranges are routable in your network environment:
- 172.17.0.1/16
- 172.18.0.1/16.

Client System Requirements

Hardware, Operating System and Software Requirements:

The panagenda ConnectionsExpert web interface is based on HTML5 and therefore accessible on any **HTML5 capable device**.

- We recommend the following browsers in latest **64-bit** versions: **Chrome** and **Firefox**

Browser Security and Network Access:
No special web browser security settings are required to run the panagenda ConnectionsExpert web interface.
To access the ConnectionsExpert web interface, you need to have access to the panagenda ConnectionsExpert appliance via TCP/IP, Port 80 (HTTP) and Port 443 (HTTPS).

ConnectionsExpert Appliance Details

panagenda ConnectionsExpert is developed as a virtual appliance:

The panagenda ConnectionsExpert Virtual Image

- **CentOS 7.5**

  panagenda ConnectionsExpert is based on the very popular CentOS Linux distribution, which is based on the source code of Red Hat Enterprise Linux (RHEL). CentOS 7 was chosen because of its stability and its long time support (Maintenance until June 2024). It uses a current kernel version (3.10.x) for virtual systems. Only security patches are configured for automatic update via the YUM (yellowdog updater modified).

- **Docker 18 CE**
- **Docker Compose 1.19**
- **Tomcat 8 Application Server**
- **NodeJS 8.11 Application Server**
- **Nginx 1.11 Reverse Proxy Server**
- **Java 8 Virtual Machine**
- **PostGreSQL 10 Relational Database Server**

GETTING STARTED

Setup

On our website (www.panagenda.com/downloads-connectionsexpert/), the latest versions of the following files are available:

- **panagenda_ConnectionsExpert.ova** – image file directly deployable via the VMWare vSphere client. It holds the ConnectionsExpert virtual appliance in open virtualization format (OVF)
- **panagenda_ConnectionsExpert_HyperV.exe** – self-extracting 7z archive which contains the ConnectionsExpert virtual appliance in Microsoft Hyper-V format
- **Connections Expert Setup Guide** – extended installation and configuration guide.

We recommend running ConnectionsExpert production systems in a VMWare vSphere/ESX enterprise environment. Additional options are available with images for Microsoft Hyper-V and VMWare Player/Workstation. Especially the latter is mainly targeted at temporary evaluation environments and are not supported for production use.

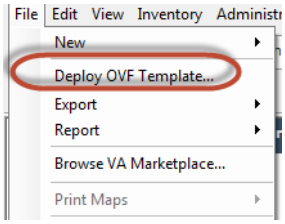
Please note that a license file is required to run ConnectionsExpert. This also applies to the free Basic edition. Please contact sales@panagenda.com to request a license.

Place the license file ConnectionsExpert.lic in a folder on your local hard drive. This file will be uploaded to the virtual appliance in a later step using the panagenda ConnectionsExpert web interface.

Starting up on the virtualization software

Recommended: VMWare vSphere/ESX via OVA

Open VMWare ESX, ESXi or vSphere and select:



The Deploy OVF Template dialog will open:

1. **Source:** Specify the location where you saved the ConnectionsExpert OVA file on your hard drive – for example: *C:/Temp/panagena_ConnectionsExpert.ova*

2. **OVF Template Details:** In this step you can inform yourself about the ConnectionsExpert version you are about to deploy. When you are done, just click on Next

3. **Name and Location:** Is the next relevant step for deploying ConnectionsExpert. We recommend to name this template "**panagenda ConnectionsExpert**"

4. **Storage:** Then you have to select a destination storage for the virtual machine files.

5. **Disk Format:** In this step, please select the format you want to store the virtual disks. We recommend to choose "Thick Provision Eager Zeroed"

6. **Network Mapping:** Then select the network the deployed ConnectionsExpert template should use.

7. **Ready to Complete:** In the final step you are shown the options you set up. Click on Finish if you are satisfied with you setting to start the deployment task.

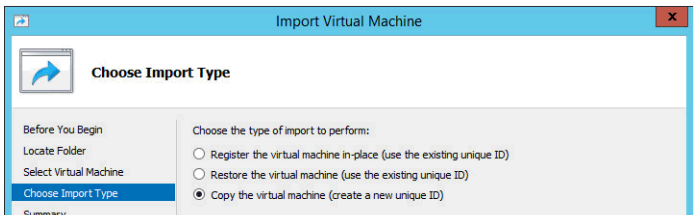
Alternative: Microsoft Hyper-V

- Extract the file **panagenda_ConnectionsExpert_HyperV.exe**

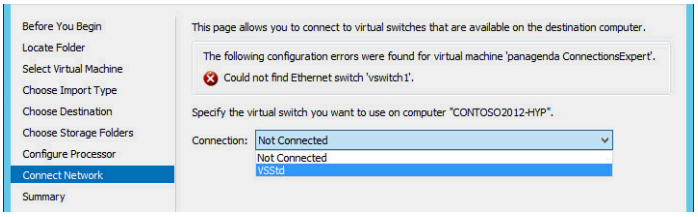
- Start Hyper-V Manager

- Right-click on your server and select "Import Virtual Machine" from the context menu

- Click **Next** on "Before you Begin" screen
- Select the folder that contains the extracted files and click **Next**
- Select the ConnectionsExpert image
- Select "Copy the virtual machine (create a new unique ID)"



- Click **Next** in the "Choose Destination" screen, unless you want to set the folders individually
- Select the folder where you want to store the virtual hard disk
- Click **Next** int the "Configure Processor" step – please don't change the processor settings
- Specify a network connection



- Select **Finish** on the summary screen to start the copy

Alternative: Starting up on VMWare Workstation

- Start VMWare Workstation
- Open Virtual Machine
- Select the file **panagenda_ConnectionsExpert.ova**

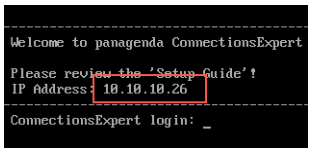
Starting the Virtual Appliance

For VMWare products, we recommend raising the hardware version of the virtual machine according to your environment.

Further information: *https://kb.vmware.com/s/article/1010675*

Welcome Screen and IP Address

After starting up the appliance for the first time, you should be presented with a panagenda ConnectionsExpert welcome screen. If your network has a public DHCP server available, the system might already have acquired an IP address and will display the URL. **Use the shown IP address (interface URL) in your web browser to connect to the panagenda ConnectionsExpert web interface.** If DHCP is not available within your network or the ConnectionsExpert appliance did not acquire any IP address, you have to configure the network settings (see "Network Settings:" on page 15).



Appliance Login

ConnectionsExpert provides a console and a graphical user interface in order to configure operating system level settings like network, time and time zone settings.

Default login information:

user "root" with password "config"

Changing default credentials:

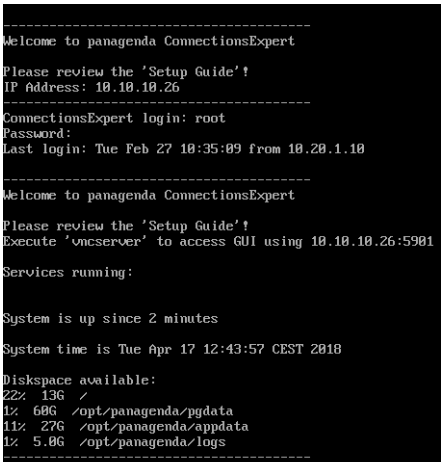
Default credentials are supplied for setup and initial configuration. It is not recommended to keep using them after the appliance has been set up.

We strongly suggest changing the default credentials for these components:

- Linux user "root" (using the "**passwd**" command)
- VNC server (https://www.panagenda.com/kbase/x/fg5wAQ)
- Web user "config" (https://www.panagenda.com/kbase/x/dQ5wAQ)

Console

After login, basic information, such as disk space, system time and IP address, are shown:



Graphical User Interface

There are two ways to use the GUI to configure your ConnectionsExpert appliance:

1 **Local**

In order to start the GUI locally, enter the command "**startx**"

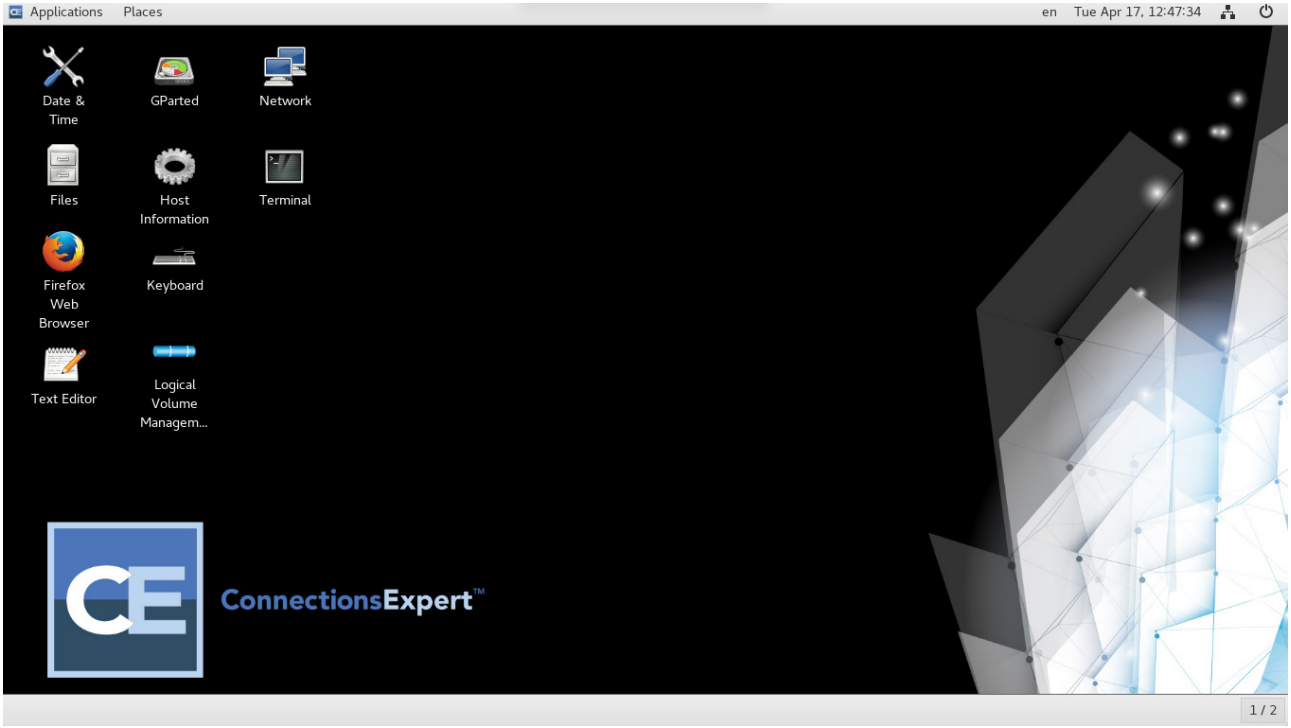
To start the GUI automatically when ConnectionsExpert is booted, please enter the following command: "**systemctl set-default graphical.target**"

2 **Remote Access via VNC**

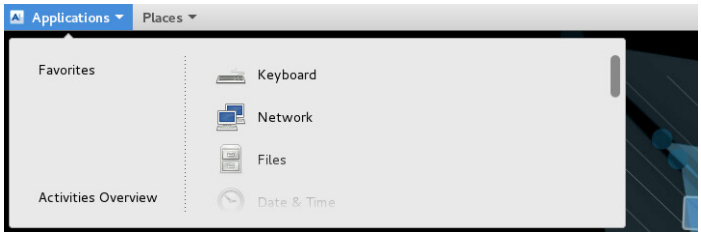
Please note that remote VNC access is only possible if the ConnectionsExpert appliance received an IP address via DHCP.

Please refer to https://www.panagenda.com/kbase/x/fg5wAQ for more details on VNC access.

GUI Basics



The Applications menu provides access to all required applications:



You can access all required applications by using the desktop icons, too.

To check an established internet connection, a **web browser** (Mozilla Firefox) is available on the panagenda ConnectionsExpert appliance.

You can use the **terminal window** to check if your TCP/IP connection is established, using Linux *ping* and *ifconfig* command. For more information about *ping* and *ifconfig* commands, type *man ping* or *man ifconfig* in the terminal console window.

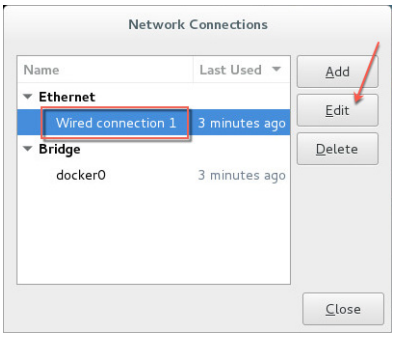
panagenda ConnectionsExpert log files can be found within the /opt/panagenda/logs directory. The main log file (/opt/panagenda/logs/tomcat/idna.log) holds essential

information about panagenda ConnectionsExpert runtime behavior. Use the **Files** app to navigate to these log files.

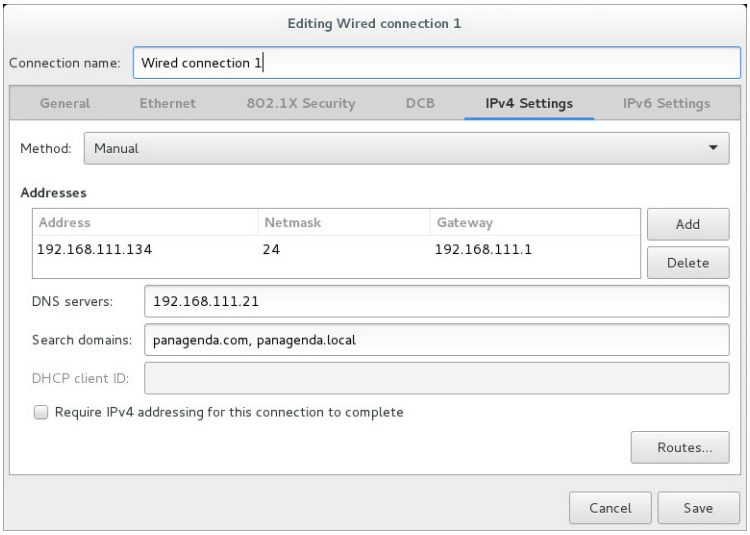
To check the panagenda ConnectionsExpert appliances system behavior, you can use the installed **system monitor**.

Network Settings:

To change the IP address and DNS configuration please click on the **Network** icon. Select the *Ethernet* connection and click on *Edit*:



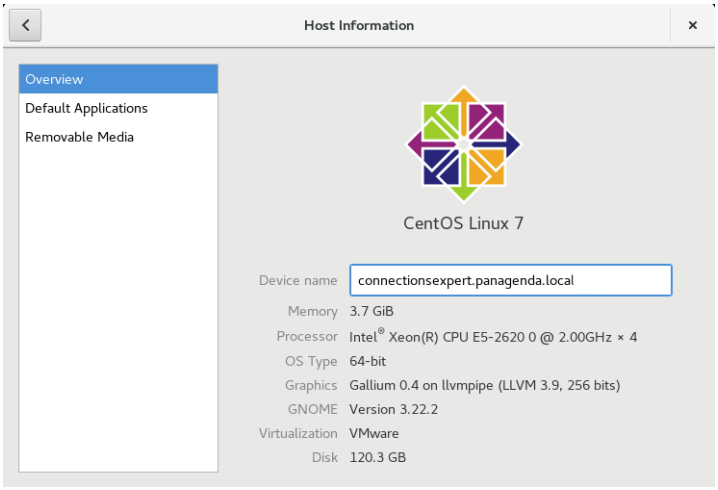
Go to the IPv4 Settings tab and select *Manual* from the *Method* drop down menu to configure the network settings as required:

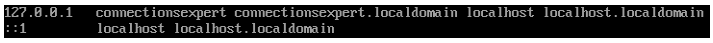


TIP: If you configure "DNS Search domains", not full qualified names will also be resolved.

The virtual appliance MUST be able to resolve its own host name. Please verify that by opening a terminal window (click "Terminal" on the desktop) and using the ping command. It is recommended that both host/common name as well full qualified domain name are pingable.

When changing the host name (default is "ConnectionsExpert") in the **Host Information** application, please make sure to adapt the host alias properties for 127.0.1.1 in /etc/hosts. This can be done using the **gedit** application. It is recommended that both host name and full qualified domain name are entered here:





Time Zone Settings:

Please check the time zone settings of the appliance, use the **Time and Date** application to adjust.

It is very important to adjust the appliance's time zone. Please reboot the appliance after changing the date/time settings as the web server and database system require a clean start with the new configuration.

Bridgehead Installation

The Bridgehead is an interface application for WebSphere that transfers IBM Connections statistics directly to ConnectionsExpert.

Follow these steps to deploy the Bridgehead application on your WebSphere server.

In the Bridgehead installation described here, the EAR will be installed in the AppsCluster, so all scopes are set to AppsCluster. If you want to deploy the EAR to a different Cluster, please adjust the scope.

1 Download and copy Files

Connect to the ConnectionsExpert web interface (see "Using the Web Interface" on page 26). In the Configuration view you can download the **ConnectionsExpert_Bridgehead.zip**. If you are not in the Configuration view, click on the cogwheel icon (top-right corner). The Bridgehead archive includes EAR and configuration files for the installation of the so called Bridgehead:

- *bridgehead.ear*
- *pbh/*

  - adminclient.props

  - jyscripts

  - jython-standalone-2.5.3.jar

  - queries

Please copy the folder "pbh" into the Connections customization directory.

2 Configure the **adminclient.props** settings:

```
host=<dmgr_fqdn> (default: localhost)
port=<dmgr_soap_port> (default: 8879)
type=SOAP
securityEnabled=true
username=<username>
password=<password>
autoAcceptSignerForThisConnectionOnly=true
```

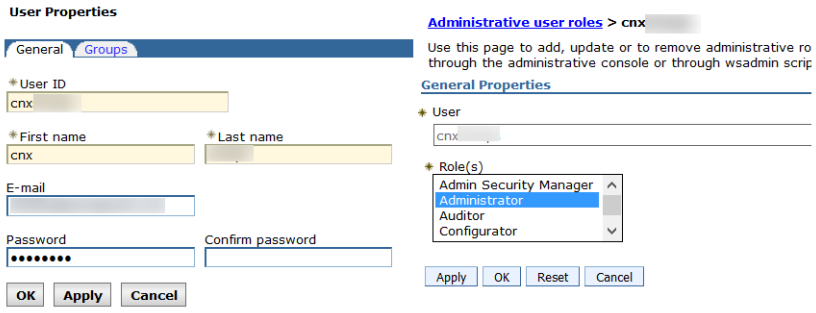
localhost only works in non-clustered environments. Please use the hostname (FQDN) in clustered environments.

Enter your *username* and *password* and configure the other settings according to your WebSphere environment.

You need to add a WebSphere Administrator Account here, no special Connections access roles are needed.

So you can use an already existing account (local or LDAP), or you create a local WebSphere Administrator Account.

Create a local user **Users and Groups > Manage Users > Add...** and add this user to **Users and Groups > Administrative** user roles:

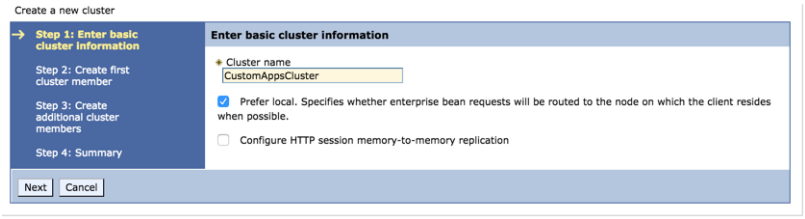


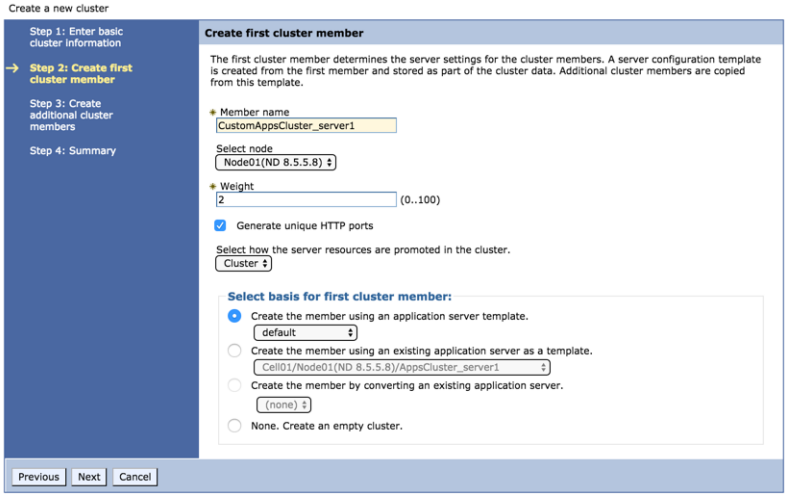
Optional: To encrypt the password in the **adminclient.props** you can use the following command:

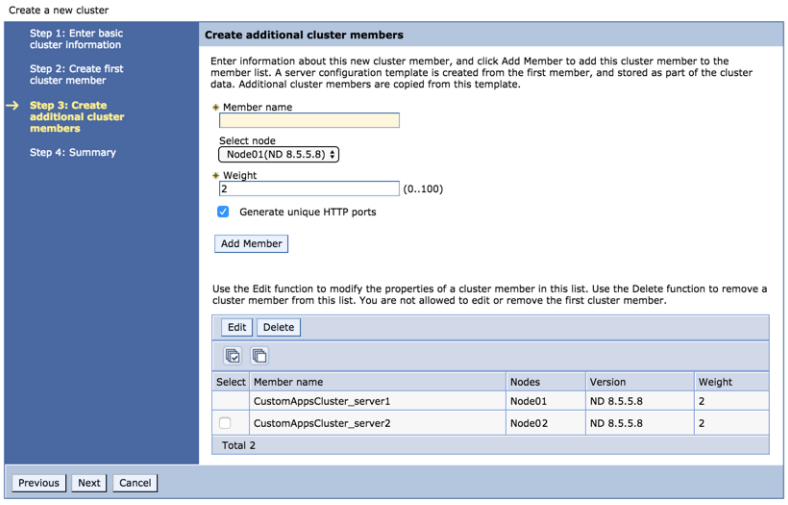
- Linux:
  `/opt/IBM/WebSphere/AppServer/bin/PropFilePasswordEncoder.`***`<sh|bat>`*** `/`***`<path_to_pbh_dir>`***`/adminclient.props password`
- Windows:
  `<customer-specific>\WebSphere\AppServer\bin\PropFilePasswordEncoder.`***`<sh|bat>`*** `\`***`<path_to_pbh_dir>`***`\adminclient.props password`

3 Create WebSphere Cluster

In the WebSphere Integrated Solution Console (ICS) go to **Clusters** > **WebSphere Application Clusters**. Create a cluster with one or optionally more nodes.

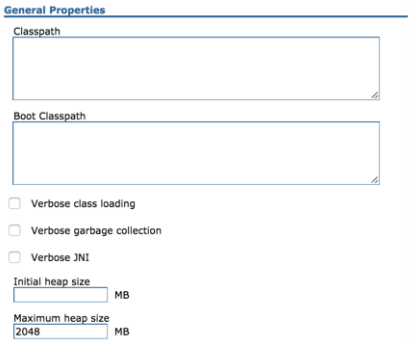






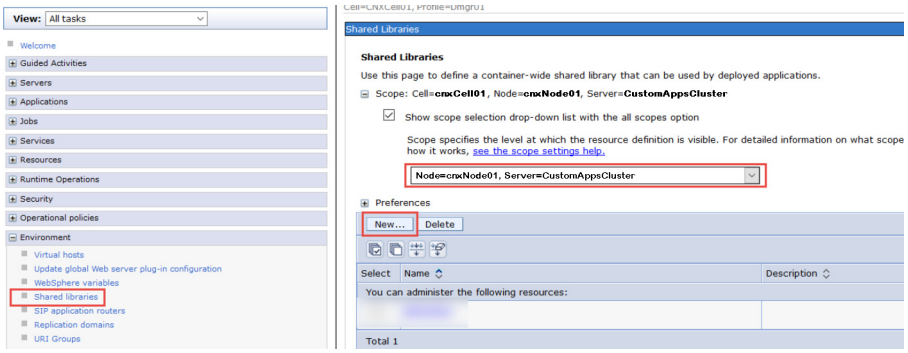
In clustered Connections environments you can select more than one node to install the panagenda Bridgehead on.

After creating the application servers, please change the JVM maximum heapsize setting to a value of 2048.



4 Create Shared Library

Go to **Environment** > **Shared Libraries**, select the scope on which your Bridgehead should run (CustomAppsCluster) and click on the **New...** button:

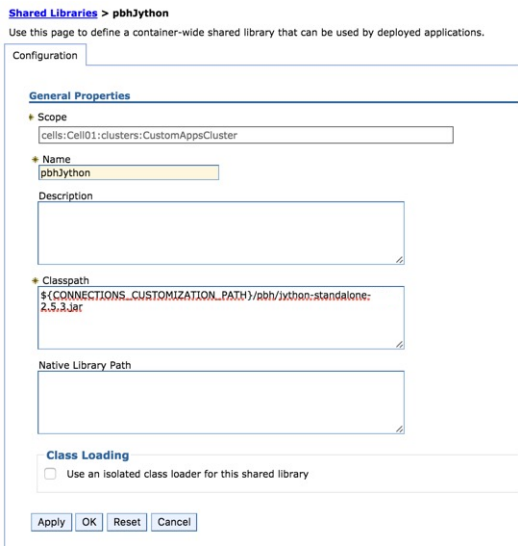


Enter "pbhJython" in the **Name** field and use a **Classpath** based on the Connections Customization directory, such as

`${CONNECTIONS_CUSTOMIZATION_PATH}/pbh/jython-standalone-2.5.3.jar`

(WebSphere Variable: CONNECTIONS_CUSTOMIZATION_PATH.)

Click on **OK** when you are done:

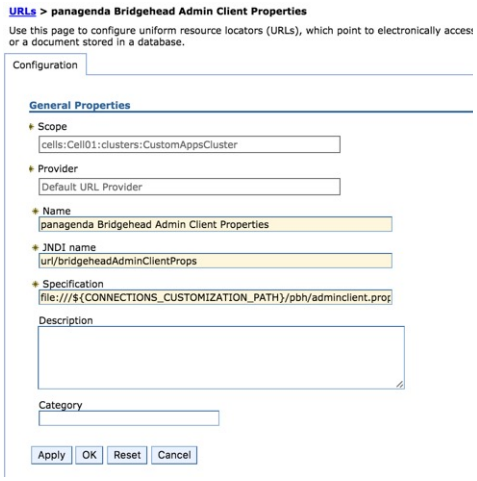


5 Create URL Resources

In the ICS go to **Resources** > **URL** select the scope on which your Bridgehead should run (CustomAppsCluster) from URLs and click on the **New...** button. Use as specification like `file:///${CONNECTIONS_CUSTOMIZATION_PATH}/pbh/...`

panagenda Bridgehead Admin Client Properties

Name:
`panagenda Bridgehead Admin Client Properties`
JNDI Name:
`url/bridgeheadAdminClientProps`
Specification:
`file:///${CONNECTIONS_CUSTOMIZATION_PATH}/pbh/adminclient.props`



panagenda Bridgehead SQL Queries

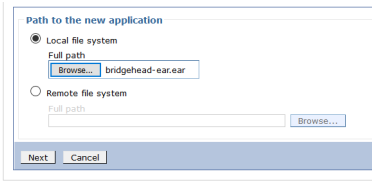
Name:
`panagenda Bridgehead SQL Queries`
JNDI Name:
`url/bridgeheadQueries`
Specification:
`file:///${CONNECTIONS_CUSTOMIZATION_PATH}/pbh/queries`

panagenda Bridgehead jyscripts

Name:
`panagenda Bridgehead jyscripts`
JNDI Name:
`url/bridgeheadJyScripts`
Specification:
`file:///${CONNECTIONS_CUSTOMIZATION_PATH}/pbh/jyscripts`

6 Deploy EAR

In the ICS go to **Applications** > **Application Types** > **WebSphere Enterprise Applications**, click the **Install** button and select the path to the file **bridgehead.ear:**

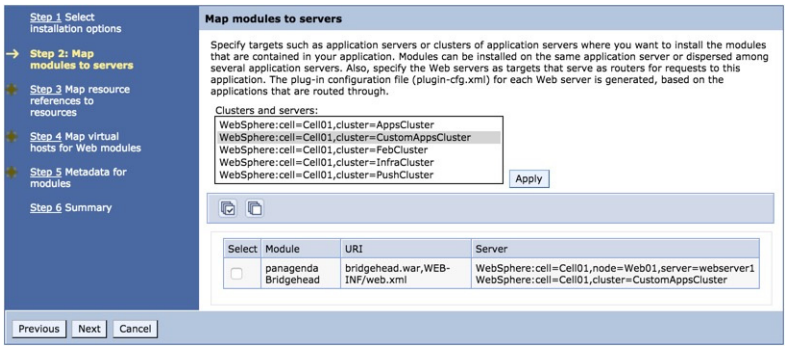


Select **Fast Path** and click *Next*.

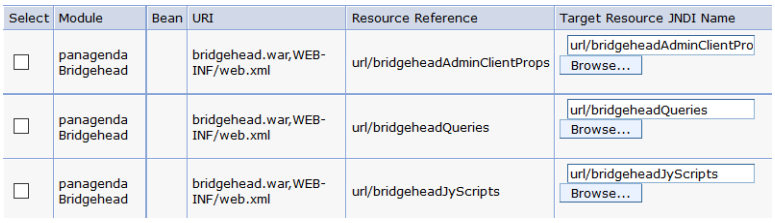
Just click on *Next* in Step 1 (no need to adjust/change anything here).

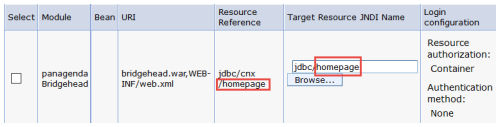
In Step 2, select the newly created cluster and a web server.

For licensing reasons, the Bridgehead application has to be accessible via the Connections HTTP server. If this is not possible in your environment, please contact *support@panagenda.com*.



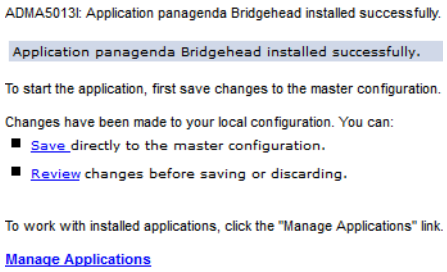
In the next step, please recheck the predefined values. If your installation differs from the default values, please adjust the JNDI names for URLs and all Data sources:





Continue the steps and click on **Finish**.

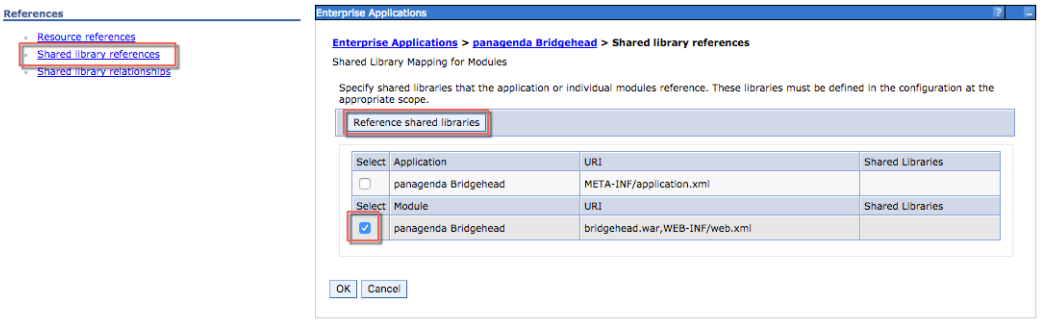
Wait until you see the message "Application panagenda Bridgehead installed successfully" and click on **Save**:



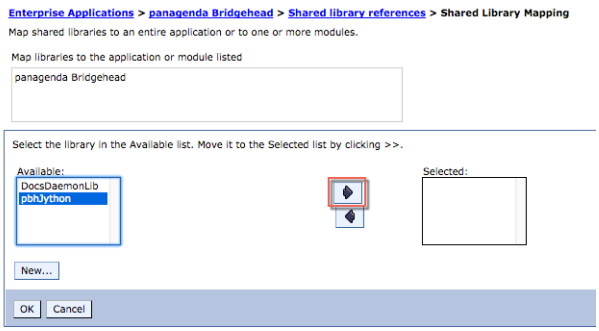
7 Map Shared Library Reference

In the ICS go to **Applications** > **Application Types** > **WebSphere Enterprise Applications**, select **panagenda Bridgehead** and set **Shared library references** to "pbhJython"

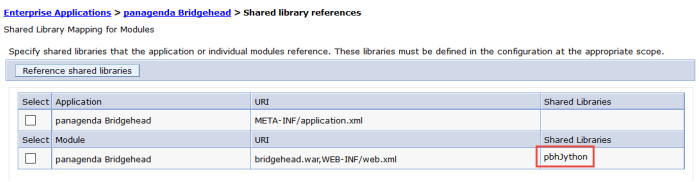
Select the second entry and click **Reference shared libraries**



Add "pbhJython" to the right box and click **OK**:



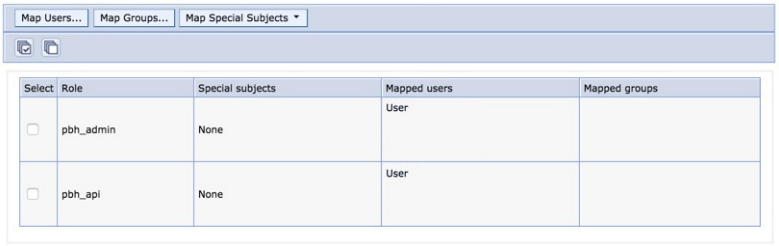
Your shared library reference should look like on this screenshot:



Close with **OK** and save to master configuration.

8 Change Security Role

Please assign the **pbh_admin** role to the user which you use on the ConnectionsExpert Configuration page (see "User Accounts:" on page 6):



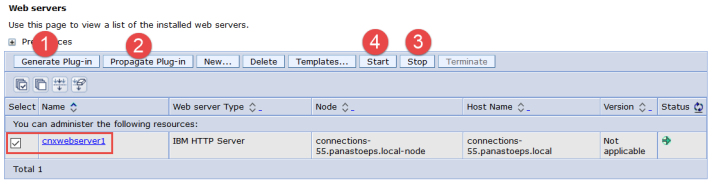
9 Restart Cluster

Please restart the newly created Cluster or Application Server (which is used for the Bridgehead application) in order to get everything initialized.

10 Populate Web Server Plugins

For licensing reasons, the Bridgehead application has to be accessible via the Connections HTTP server. If this is not possible in your environment, please contact support@panagenda.com.

In the ICS go to **Servers** > **Server Types** > **Web servers**



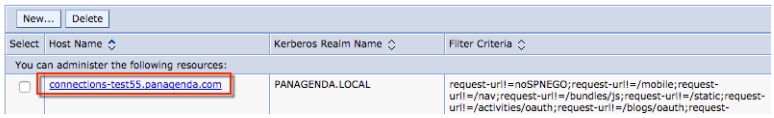
If you have a firewall between your HTTP and application server, please note that the panagenda Bridgehead ports need to be opened. Otherwise your HTTP server will not be able to access the Bridgehead cluster.

11 OPTIONAL: Adjust SPNEGO Configuration

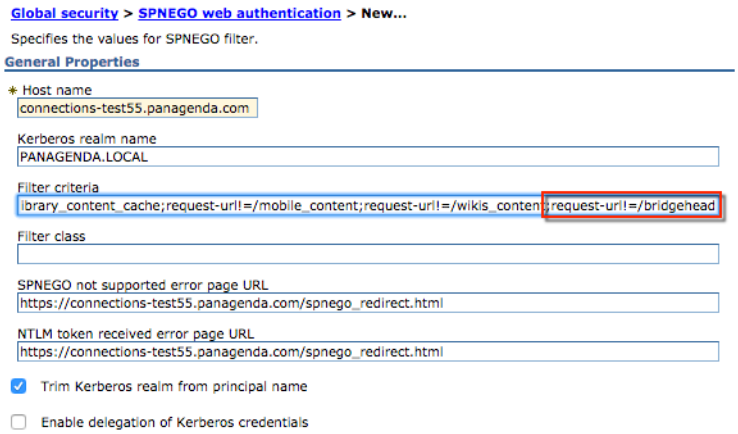
If SPNEGO is used, the panagenda Bridghead has to be added to its exceptions!

In the ICS go to **Security** > **Global Security** > **Web and Sip Security** > **SPNEGO Web Authentication**:

- Select your SPNEGO filter

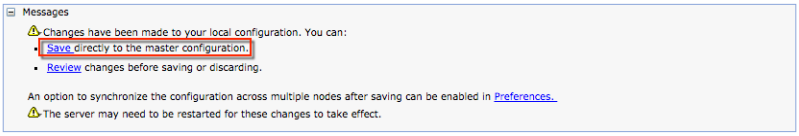


- Add
  `;request-url!=/bridgehead`
  to the end of the **Filter criteria**, as shown on the screenshot:

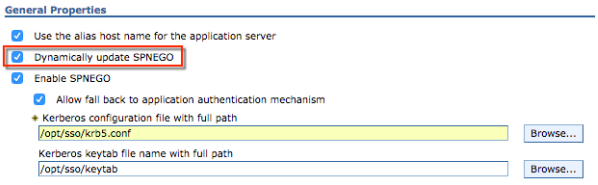


- Confirm by clicking **OK**

- Store your adjustments with **Save**:



- If **Dynamically update SPNEGO** is deactivated, you have restart your entire environment



12 Check Bridgehead Access and Version

Open **https://***<your connections url>***/bridgehead**. Login with the user you assigned the **pbh_admin** role to, see step 8 “Change Security Role” on page 24.

You should see a line similar to the following:

`{"status":"OK","ts":1524067997537...`

If the status is OK (“status”:”OK”), the Bridgehead installation has been successful.

Using the Web Interface

Please enter **https://***<FQDN or IP>* in your browser to connect to the panagenda ConnectionsExpert web interface. For further information about your ConnectionsExpert appliance's IP address, please refer to "Welcome Screen and IP Address" on page 12 and for further information about its hostname (FQDN), please refer to "Network Settings:" on page 15.

panagenda ConnectionsExpert uses HTTPS for secure communication between its appliance and its web interface, so you have to accept the security certificate, to continue.

Login

By default, a user with administrative credentials is available to access the panagenda ConnectionsExpert web interface.

Default login information:

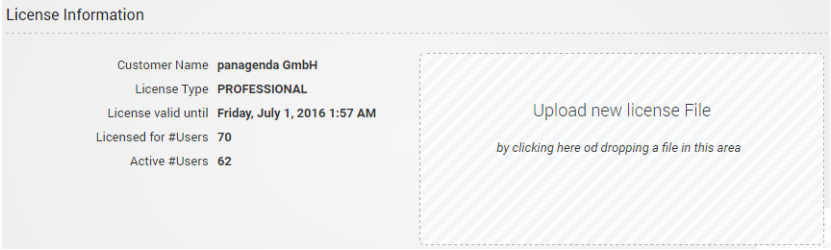
user "config" with password "config"

System Configuration and License File Upload

When you start ConnectionsExpert for the first time, an install wizard will guide you through the initial system configuration. Later on, you can always navigate to the System Configuration view by clicking on the **cogwheel icon** (top-right corner).

1 License File Upload

To upload the panagenda ConnectionsExpert license file **ConnectionsExpert.lic**, just drag and drop it to the Upload area in the Configuration view. Clicking this area opens an upload dialog. After the upload, your license information will be displayed.

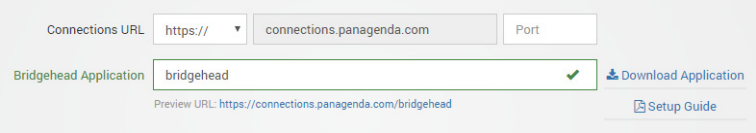


2 Bridgehead Connector - Endpoint

Bridgehead installation has to be completed (see "Bridgehead Installation" on page 16) before you perform this final configuration step.

The host name of your IBM Connections server will be filled out automatically based on your license information and cannot be edited. If needs to be changed, please contact sales@panagenda.com.

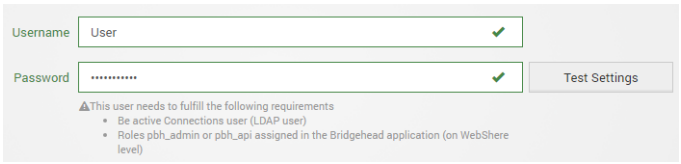
Please enter the **Bridgehead Application** path according to your installation:



3 Bridgehead Connector - User Information

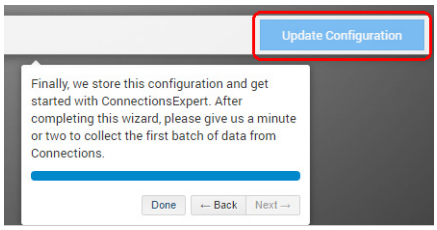
This user must be able to use Connections (LDAP user), have an active profile and needs roles in Bridgehead (pbh_admin or pbh_api, see "Bridgehead Installation" on page 16).

Please verify the entered settings by clicking the **Test Settings** button:



4 Start Data Collection

By clicking the **Update Configuration** button the configuration is stored. After around two minutes ConnectionsExpert will have collected the first batch of data from IBM Connections:



Configure Connections Widgets

Please refer to the following article in the ConnectionsExpert knowledge base:

https://www.panagenda.com/kbase/display/CE/Configure+Connections+Widgets

ADDITIONAL INFORMATION

Further useful information on how to get and keep panagenda ConnectionsExpert up and running can be found in our knowlege base:
https://www.panagenda.com/kbase/display/CE/

Especially the following topics may be relevant:

- Appliance Upgrade:
  https://www.panagenda.com/kbase/x/2Ibo
- Bridgehead Upgrade:
  https://www.panagenda.com/kbase/x/a4Xo
- User Management:
  https://www.panagenda.com/kbase/x/cA5wAQ
- Remote Appliance Access (VNC):
  https://www.panagenda.com/kbase/x/fg5wAQ
- SSL Certificate:
  https://www.panagenda.com/kbase/x/_47o
- Extending Disk Space:
  https://www.panagenda.com/kbase/x/gQ5wAQ
- Customize Docker IP Settings:
  https://www.panagenda.com/kbase/x/7Y7o

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