HP Anywhere

For the Windows $\ensuremath{\mathbb{R}}$ operating system

Software Version: 9.1

Installation and Configuration

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Chapter 1

Overview

This guide describes the process of installing and configuring the HP Anywhere server on your system, along with references to additional information from external sources.

HP Anywhere Documentation Library

HP Anywhere includes the following guides and references available in PDF format. For the latest copies of the HP Anywhere documentation go the HP Software Manuals website: http://h20230.www2.hp.com/selfsolve/manuals. This site requires that you register for an HP Passport and sign in.

Guide	Description
HP Anywhere Installation and Configuration Guide	Describes the process of installing and configuring the HP Anywhere server.
	This guide is available in the Documentation folder on the HP Anywhere DVD.
HP Anywhere Administrator Guide	Explains how to set up the HP Anywhere server, enabling the administrator to download mini apps to the end user's mobile devices.
	This guide is available in the HP Software Manuals website.
HP Anywhere Support Matrix	Lists all software and hardware requirements necessary before installing and working with HP Anywhere.
	This guide is available in the Documentation folder on the HP Anywhere DVD.
HP Anywhere Release Notes	Provides last-minute news and information about HP Anywhere.
	This guide is available in the HP Software Manuals website.
HP Anywhere Open Sources and Third-Party Software Agreements	Lists the licenses for open source and third- party components included in HP Anywhere.
	This guide is available in the Documentation folder on the HP Anywhere DVD.

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Chapter 2

HP Anywhere Server Installation

This task explains how to install the HP Anywhere Server on your Windows 2008 operating system and how to configure the database connection.

The installation procedure is divided into the following stages:

- "Pre-installation" below. Steps to initialize and customize the HP Anywhere Server application installation.
- "Installation Steps" below. Steps to install the HP Anywhere Server.
- "Post-installation and Configuration" on page 12. Steps to configure the database and HP Live Network Connection.

Pre-installation

- Insert the HP Anywhere Windows Installation DVD into the drive from which you want to install.
- Run HP_Anywhere_9.00_setup.exe.
- 3. If the Open File warning window opens, click **Run** in this window.
- 4. The system performs validation checks and configures HP Anywhere 9.0 according to the current system definitions.

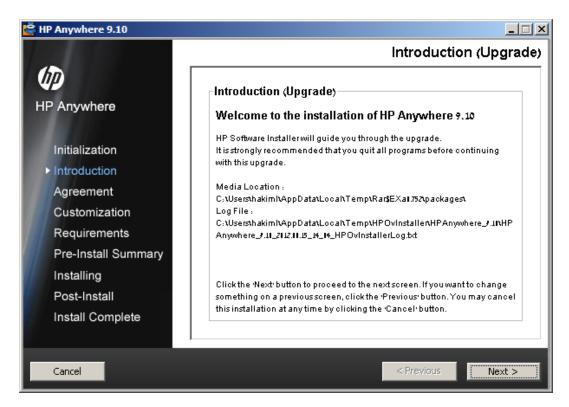
The Install Launcher runs. After it completes, the HP Anywhere Wizard Introduction window appears.

Installation Steps

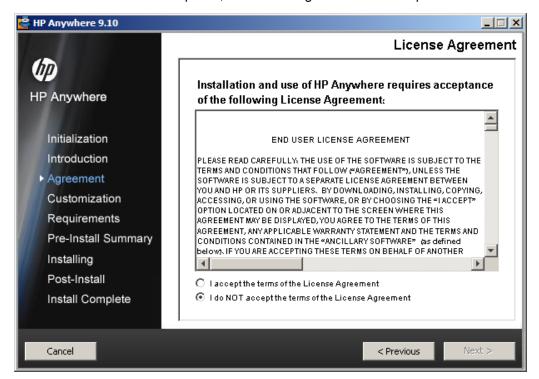
This section provides a detailed description of the Installation wizard steps.

The first window of the wizard is the Introduction window. It presents the location of the installation and log files.

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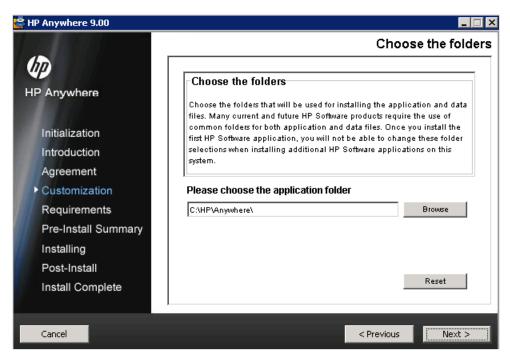
- 1. Click Next.
- 2. After the Install Launcher completes, the License Agreement window opens.



Accept the License Agreement and click Next.

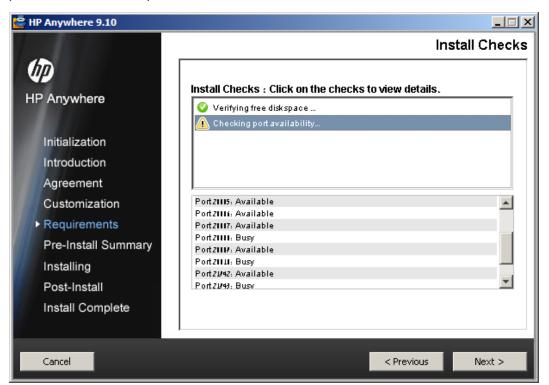
3. The Choose the folders window opens.

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Browse to the Application Folder (optional) and click **Next**. This folder will be used for installing the application and data files.

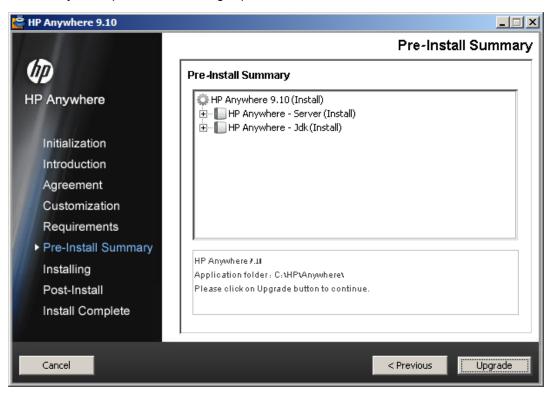
4. The installation wizard checks that there is sufficient disk space to install and that the relevant ports are available and open.



Click Next.

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5. A summary of the pre-installation stage opens.



- 6. Click **Install** to begin the installation process. When completed, the HP Anywhere Installation Opening screen appears.
- 7. Click **OK**. If HP Anywhere was previously uninstalled from this computer, the system restart message opens.



- 8. Click **Details** >> to see the changes that will be made to the configuration after installation.
 - Click Continue to continue with the installation without rebooting at this stage. The HP Anywhere Configuration Wizard opens.

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Chapter 3

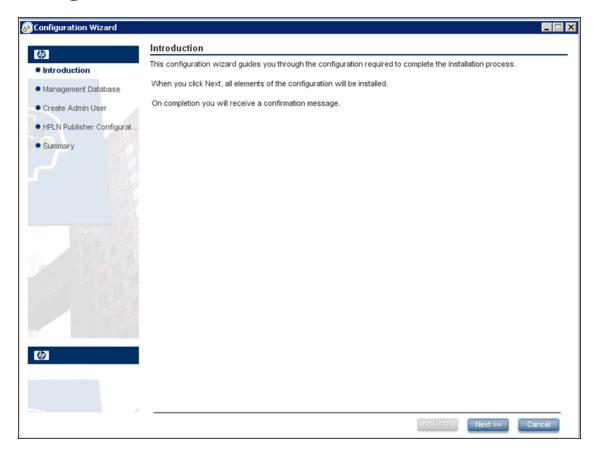
Post-installation and Configuration

After the pre-installation wizard completes, the post-installation Configuration wizard begins automatically.

This section provides details on the post-installation wizard which guides you through the configuration of the HP Anywhere Server components. It contains the following topics:

- "Configuration Introduction" below
- "Management Database Configure Management Database Settings" on next page
- "Database Configuration Oracle or Microsoft SQL Server" on page 14
- "Create Admin User" on page 18
- "Configure HPLN Publisher Credentials" on page 19

Configuration Introduction



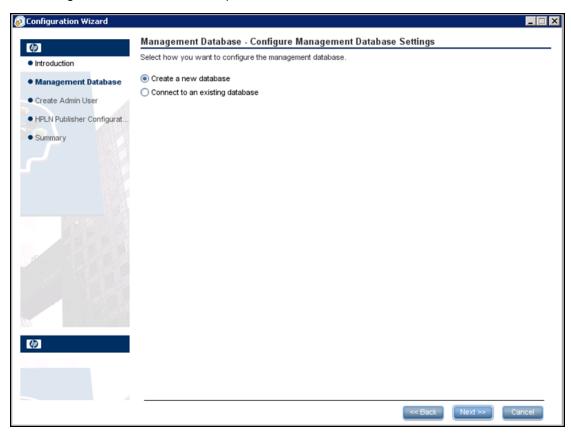
Click **Next** to open the Management Database window.

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Management Database - Configure Management Database Settings

This section enables you to add a new schema to the management database or connect to an existing management database.

The Management Database window opens.



Select one of the following options:

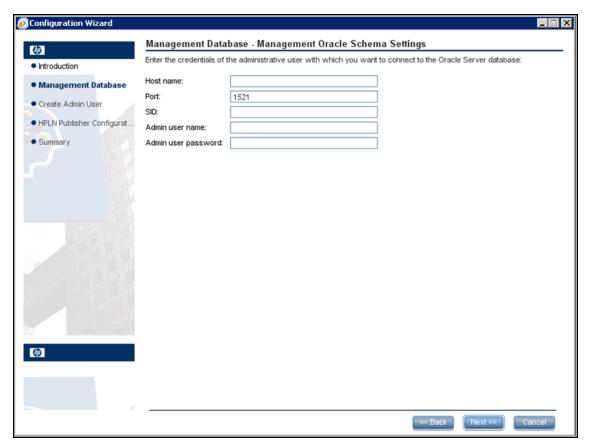
- Create a new database (for new installations)
- Connect to an existing database (for upgrading an existing database).

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Database Configuration - Oracle or Microsoft SQL Server

- When creating a new database, select the type of database that you use: Oracle or Microsoft SQL Server and click Next.
- 2. For each database type, you need to enter different parameters. Fill in the fields as described below.

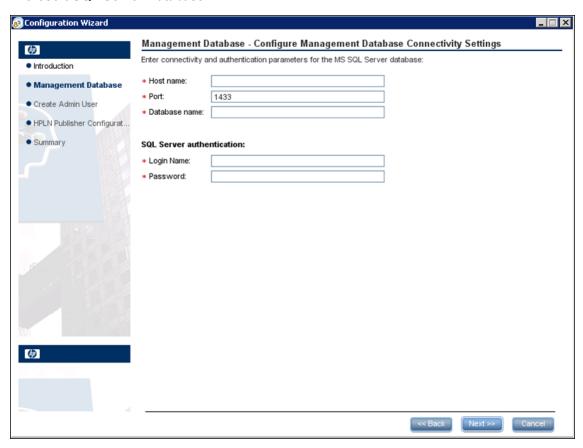
Oracle Database



Parameter	Description
Host name	The name or IP address of the host computer on which the Oracle DB Server is located.
Port	The number of the port used to connect to the server.
SID	The Oracle System ID used to uniquely identify a particular database on a system.
Admin user name	The name of the administrator who will connect to the database.
Admin user password	The password of the administrator.

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Microsoft SQL Server Database



Parameter	Description
Host name	The fully qualified domain name (FQDN) or IP address of the MS SQL Server hosting the Management database.
Port	The port of the MS SQL server listener. The default port is 1433.
Database Name	The name of the management database.
	It is recommended that you use the following database naming convention:
	databasename_mng
SQL Server authentication	
Login Name	The MS SQL login name used to create or connect to the database.
Password	The password for the specified user.

- 3. Click **Next**. The wizard reports on the final status of the Management database configuration. If the configuration was unsuccessful, possible reasons for the failure are shown.
- 4. Click Next to move to the Create Admin User window.

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Web Server and SSL Configuration

This section provides detailed information on how to set up the Apache Web Server for secure access to the internet, and how to configure SSL for use between the Web Server and Client and application servers.

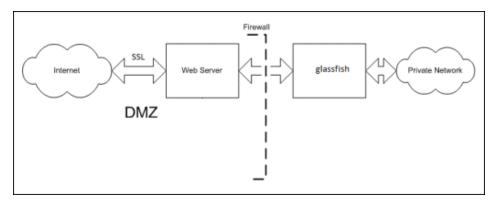
This section includes:

- "Setting Up Apache Web Server on GlassFish (Optional)" below
- "Configure mod_jk" below
- "Web Server and SSL Configuration" above

Setting Up Apache Web Server on GlassFish (Optional)

To enable secure access from mobile devices in the internet to HP Anywhere, you need to install a Web Server that redirects all requests to GlassFish. This Web Server is located in the DMZ, and acts as a reverse proxy allowing SSL connections only in the direction from clients to the Web Server.

The following image displays a Web Server configured on GlassFish:



Note: If you are using a domain that is different from that of HP Anywhere, make sure that you configure the Web Server correctly as described in "HP Anywhere Lightweight Single Sign-On Configuration" on page 21.

Configure mod_jk

The Apache Web Server is made up of modules. Each module provides different functionality. The module responsible for the Web Server – Application Server communication is **mod_jk**.

To configure mod_jk:

- Download the Apache Web Server version 2.2x from http://httpd.apache.org/download.cgi.
- 2. Download **mod_jk** from http://mirror.metrocast.net/apache/tomcat/tomcat-connectors/jk/binaries/windows/tomcat-connectors-1.2.35-windows-i386-httpd-2.2.x.zip.

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- 3. Install **mod_jk** on the Apache web server. Detailed instructions for configuring mod_jk for can be found here.
- 4. Map the following requests to the HP Anywhere Server:

```
/btoa/*
/btoa-app/*
```

- 1. When you configure mod_jk you need to configure jk protocol port. The jk-connector port in glassfish in 20010 by default. You can configure this port in domain.xml
- 2. Copy the files to the /modules folder on the Apache Web Server.
- 3. Configure Apache to redirect all requests to HP Anywhere.
- 4. Restart the Apache Web Server

Configure SSL

You can configure SSL between clients and the Web Server and between the Web Server and the application server. To configure SSL, you must enable the **mod_SSL** module as follows:

- 1. Open the httpd.conf file.
- 2. Remove the **comment** tag the following lines:

```
LoadModule rewrite_module modules/mod_rewrite.so
LoadModule SSL_module modules/mod_SSL.so
Include conf/extra/httpd-SSL.conf
```

- In order to enforce HTTPS, you must redirect all HTTP requests to HTTPS requests as follows:
 - Add the following code at the end of the file:

```
# Redirect HTTP to HTTPS
RewriteEngine On RewriteCond %{HTTPS} off
RewriteRule (.*) https:HTTP_HOST}%{REQUEST_URI}
```

- 4. Open the conf/extra/httpd-SSL.conf file.
- 5. Add the following lines to the end of the file, before the line </VirtualHost>:

```
JkMount /btoa/* localAjp
JkMount /btoa-app/* localAjp
```

6. Copy the private key and certificate in the **/conf** folder and rename them as follows:

```
server.crt - certificate
server.pem - private key
```

7. In the conf/extra/httpd-SSL.conf file, update the path of the certificate in the following line:

```
SSLCertificateFile SSLCertificateFile "C:/Program Files (x86) /Apache Software Foundation/Apache2.2/conf/server.crt
```

8. In the conf/extra/httpd-SSL.conf file, update the path of the private key in the following line:

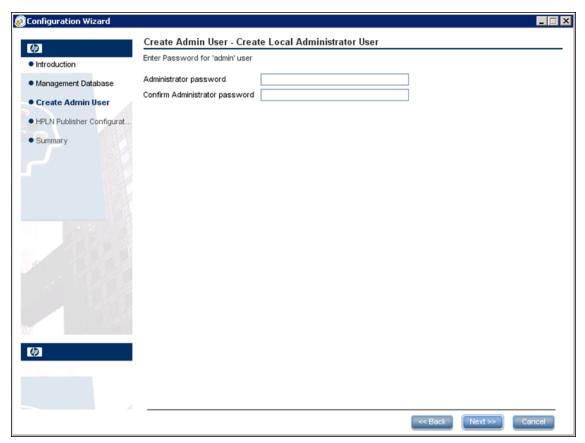
```
SSLCertificateKeyFile C:/Program Files (x86)/Apache Software Foundation/Apache2.2/conf/server.pem"
```

9. Restart the Apache Web Server.

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Create Admin User

The next stage of the installation process is to create an Admin user. The Admin user is responsible for downloading and configuring the mini apps.



1. Fill in the fields as follows:

Parameter	Description
Administrator password	The password assigned for the administrator. For example, admin.
Confirm Administrator password	Retype the administrator password.

2. Click Next.

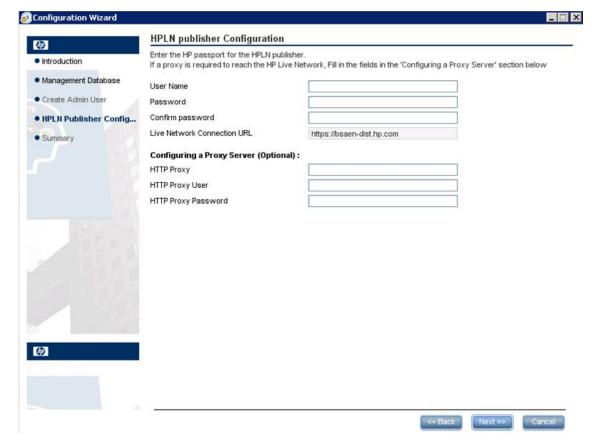
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Configure HPLN Publisher Credentials

The next step in the installation process is to configure the HP Passport credentials for the HP Live Network Connection (HPLN).

HPLN is required to allow automatic updates of mini apps that are uploaded to the HPLN Publisher.

To register for an HP Passport ID, go to HP Passport Registration.



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1. Fill in the fields as follows:

Field	Description
User Name	HP Passport user name
Password	HP Passport password
Confirm Password	Retype the HP Passport password

2. You can also optionally configure a proxy server for HPLN. Fill in the fields as follows:

Field	Description	
HTTP Proxy	The location of the proxy server in the format	
	<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	
HTTP Proxy User	The user name needed to access the proxy server.	
HTTP Proxy Password	The password needed to access the proxy server.	

3. Click **Next**. The Summary window appears. If the Configuration Wizard did not complete successfully, the reasons for the failure are displayed when possible.

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HP Anywhere and LDAP Configuration

This section provides detailed information on how to configure lightweight single sign-on and LDAP for use with HP Anywhere. It contains the following topics:

- "HP Anywhere Lightweight Single Sign-On Configuration" below
- "LDAP Configuration and Authentication" on next page
- "Staging Environment Configuration" on next page
- "Customize the LDAP Server as an External Repository" on page 23
- "Configure the Users Providers" on page 24
- "Configure the Users Objects Class" on page 25
- "Groups Search" on page 25
- "Groups Object Class (LDAP Vendor Dependent)" on page 26
- "Groups Hierarchy" on page 27
- "Advanced Configuration" on page 28
- "Configure LDAP Over SSL (LDAPS)" on page 28
- "How to Configure the Staging Environment" on page 28
- "Map HP Anywhere Roles to LDAP Users" on page 29
- "Finalize Configuration" on page 29

HP Anywhere Lightweight Single Sign-On Configuration

You can configure lightweight single sign-on for all the HP applications installed on your server.

This section describes how to configure the HP Anywhere LWSSO init string on both the HP Anywhere Server and the backend.

- Open the file %BTOA_ HOME%\glassfish\domains\BTOA\config\conf\lwssofmconf.xml
- Search for the text initString. It should appear as follows: initString="This string should be replaced"
- Replace the text "This string should be replaced" with the same string as appears in the PPM, BSM, ALM and any other applications that integrate with HP Anywhere and use single sign-on.
- 4. If the backend exists in a different domain to that of HP Anywhere, add a <DNSDomain> element for each such domain as follows and perform the remaining steps below:

<trustedHosts>

<DNSDomain>HPAdomain

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```
<DNSDomain>BSMdomain
<DNSDomain>PPMdomain
...
</trustedHosts>
```

5. If the customer configured a web server to have a different domain than the HP Anywhere server's domain, in the **<domain>** line marked below, change the domain to be the domain of the web server:

Note: In order to initiate lightweight single sign on for all the HP applications installed on your server, the init string must be identical in each application. If an application has a different init string, basic authentication will be used to authorize login for this application.

LDAP Configuration and Authentication

This section provides information on how to configure the HP Anywhere server to authenticate using LDAP.

To configure LDAP authentication, you need to:

- 1. Customize the LDAP Server as an External Repository.
- 2. Configure the staging environment.
- Map an LDAP user to the relevant Admin roles.
- 4. Configure authentication via LDAP.

Staging Environment Configuration

This section describes how to configure the staging environment used to authenticate the user against the database.

The staging environment is configured to authenticate the user against the HP Anywhere database while giving access to view/manage users from LDAP in the user management UI.

In this way, you can login with the temporary admin user but can also see and map real LDAP users to the Administrator role.

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Customize the LDAP Server as an External Repository

The external-ldap properties file contains the LDAP customization parameters.

To connect to the LDAP server, perform the following steps:

- Download and install the Apache Directory Studio LDAP browser from http://directory.apache.org/studio/.
- 2. Open the LDAP browser and click the **New Connection** button from the Connections tab located at the bottom left hand side of the application window.
- 3. Enter the LDAP host name (**Hostname**) and port number (**Port**).
- Select the appropriate encryption level (Use SSL encryption (Idaps://)).
- 5. Click Check Network Parameters.
- 6. Click Next.
- 7. Select one of the following authentication methods:
 - No Authentication useAdministrator=false
 - Simple Authentication useAdministrator=true
- 8. Click **Finish**. The connection is automatically tested.
- In the event that SSL is selected, the Certificate trust window may open. If applicable, select
 View Certificate. Ensure that the certificate appears in the Java key store used by
 HP Anywhere.
- 10. Update the LDAP parameters in the **external-Idap.properties** file as follows:

Attribute	Description
IdapHost	LDAP host name
IdapPort	LDAP port number
enableSSL	You must set this parameter to True - Use SSL connection to LDAP.
	For details on the importing the SSL certificate, see "Configure LDAP Over SSL (LDAPS)" on page 28.
useAdministrator	True: Use simple authentication
	False: No authentication
IdapAdministrator	LDAP user distinguished name (defined if useAdministrator = True)
IdapAdministratorPassword	LDAP user password (defined if useAdministrator = True)

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Configure the Users Providers

Update the **external-Idap.properties** file with the following attributes according to the organization's LDAP properties. This will configure the connection to the LDAP server:

Attribute	Description
usersBase	LDAP Base Distinguished Name (DN) for users search.
usersScope	LDAP search scope for users search. Defines how exactly the search under the usersBase location should be performed.
	SCOPE_BASE: search space contains a single entry pointed by the userBase
	SCOPE_ONE: search space contains the userBase and its direct children only
	SCOPE_SUB: search space contains the userBase and its whole sub tree
usersFilters	LDAP filter for users search

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Configure the Users Objects Class

The following parameters are used to define the LDAP vendor or customized implementationspecific objects that represent the users objects.

To map the users configuration properties to the LDAP server configuration properties, update the **external-Idap.properties** file with the following attributes according to the organization's LDAP properties.

Attribute	Description
usersObjectClass	LDAP object class representing users object.
usersUniqueIDAttribute	Users unique ID LDAP attribute name.
usersLoginNameAttribute	Users login name LDAP attribute name.
Optional Attributes	
usersDisplayNameAttribute	Users display name LDAP attribute name.
usersFirstNameAttribute	Users first name LDAP attribute name.
usersLastNameAttribute	Users last name LDAP attribute name.
usersEmailAttribute	Users email LDAP attribute name.
usersPreferredLanguageAttribute	Users preferred language LDAP attribute name.
usersPreferredLocationAttribute	Users preferred location LDAP attribute name.
usersTimeZoneAttribute	Users time zone LDAP attribute name.
usersDateFormatAttribute	Users date format LDAP attribute name.
usersNumberFormatAttribute	Users number format LDAP attribute name.
usersWorkWeekAttribute	Users work week LDAP attribute name.
usersTenantIDAttribute	Users tenant ID LDAP attribute name.
usersPasswordAttribute	Users password LDAP attribute name.

Groups Search

The following properties define the search mechanism that is implemented on LDAP groups. There are two sets of properties: The first, for regular groups and the second for root groups.

In order to display only a limited number of groups, restrict the root groups search criteria appropriately. The same search criteria for both root and non-root groups, can also be used. This configuration is recommended when the overall number of groups is small.

Check Groups Search Configuration Properties

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To map the groups configuration properties to the LDAP server configuration properties, update the **external-Idap.properties** file with the following attributes according to the organization's LDAP properties.

Attribute	Description
groupsBase	LDAP Base Distinguished Name (DN) for groups search. Only groups under this DN in the LDAP hierarchy are returned from the search.
groupsScope	LDAP search scope for groups search. Defines how exactly the search under the groupsBase location should be performed.
	SCOPE_BASE: search space contains a single entry pointed by the groupsBase
	SCOPE_ONE: search space contains the groupsBase and its direct children only
	SCOPE_SUB: search space contains the groupsBase and its whole sub tree
groupsFilter	LDAP filter for groups search. The only valid values are rootGroupsBase, rootGroupsScope, or rootGroupsFilter.
rootGroupsBase	LDAP Base Distinguished Name (DN) for groups search. Only groups under this DN in LDAP hierarchy are returned from the search
rootGroupsScope	LDAP search scope for groups search. Specifies how the search under the gropusBase location should be performed.
	SCOPE_BASE search space contains a single entry pointed to the rootGroupsBase
	SCOPE_ONE - search space contains the rootGroupsBase and its direct children only
	SCOPE_SUB - search space contains the rootGroupsBase and its whole sub tree
rootGroupsFilter	LDAP filter for groups search

Groups Object Class (LDAP Vendor Dependent)

The following properties are used to define the LDAP vendor or custom implementation-specific objects representing static groups. More than one comma-separated object class is supported. In this scenario, the user can define the appropriate corresponding comma-separated attribute names.

To map the groups configuration properties to the LDAP server configuration properties, update the **external-Idap.properties** file with the following attributes according to the organization's LDAP properties.

Attribute	Description
groupsObjectClass	LDAP object class representing the group object.

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Attribute	Description
groupsMembersAttribute	Groups members LDAP attribute name. This multivalue attribute contains the full distinguished names (DNs) of static group members.
Optional Attributes	
groupsNameAttribute	Groups unique name LDAP attribute name. In most default LDAP implementations, this attribute is usually the same as groupsDisplayNameAttribute.
groupsDisplayNameAttribute	Groups display name LDAP attribute name. In most default LDAP implementations, this attribute is usually the same as groupsNameAttribute.
groupsDescriptionAttribute	Groups description LDAP attribute name. The attribute contains the groups' description.
enableDynamicGroups	Boolean attribute for enabling dynamic groups. If the value of this attribute is true, dynamic groups are searched. Note that enumerating members of very large dynamic groups may be time consuming.
dynamicGroupsClass	LDAP object class representing dynamic group object.
dynamicGroupsMemberAttribute	Dynamic groups members LDAP attribute name. This attribute contains the LDAP search URL. The values returned by this LDAP search URL are considered dynamic group members.
dynamicGroupsNameAttribute	Dynamic groups unique name LDAP attribute name. In most default LDAP implementations, this attribute is usually the same as dynamicGroupsDisplayNameAttribute.
dynamicGroupsDisplayNameAttribute	Dynamic groups display name LDAP attribute name. In most default LDAP implementations, this attribute is usually the same as dynamicGroupsNameAttribute.
dynamicGroupsDescriptionAttribute	Dynamic groups description LDAP attribute name. This attribute contains the groups description.

Groups Hierarchy

The Groups Hierarchy attributes defines whether HP Anywhere relates to LDAP server groups hierarchy information.

Attribute	Description
enableNestedGroups	Enable support of nested groups. If support of nested groups is disabled, subgroups of a group are not searched.

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Attribute	Description
maximalAllowedGroups HierarchyDepth	Maximal allowed depth of groups hierarchy. No groups are searched beneath this level.

Advanced Configuration

The advanced configuration attributes are used for fine-tuning the LDAP connection.

Attribute	Description
IdapVersion	LDAP protocol version. Possible values are:
	3 (default)
	2 (for old versions of LDAP)
baseDistinguishNameDelimiter	Base DN delimiter. Symbol used in configuration when putting multiple base DNs for users or groups or users search. Note that this symbol must not appear as part of the base DN used in this configuration. If it appears in the base DNs, change the default value to some other symbol.
scopeDelimiter	Scope delimiter. Symbol used in configuration when putting multiple scopes for users or groups search. This symbol must not appear as part of the scope name used in this configuration. If it appears in the scope name, change the default value to some other symbol.
attributeValuesDelimiter	Symbol used in configuration when putting in multiple attribute names of users or group. Pay attention that this symbol must not appear as part of attributes used in this configuration. If it appears in attribute names, then change the default value to some other symbol.

Configure LDAP Over SSL (LDAPS)

In order for HP Anywhere to work with LDAP, you must enable it to run over SSL (LDAPS).

• Import your LDAP server certificate into the keystore:

%BTOA_HOME%\jdk\bin\keytool -import -file <path_of_certificate_file> -keystore "%BTOA_HOME%\jdk\jre\lib\security\cacerts"

How to Configure the Staging Environment

This section refers to the files located in the directory **%BTOA_ HOME**%/glassfish/glassfish/domains/BTOA/config/conf

- 1. Set the following properties in the **bsf.properties** file:
 - personalization.provider=EXTERNAL
 - users.provider=EXTERNAL

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- groups.provider=EXTERNAL
- external.uum=true
- 2. Restart HP Anywhere.

Map HP Anywhere Roles to LDAP Users

Follow the steps below in order to add roles to the LDAP user:

- 1. Open the User Management UI: http://<url>:<port>/bsf.
- 2. Log in using your temporary admin user (name: **admin**) with the password that the administrator configured during the post-installation.
- 3. In the **User Management** section, select **Search Users** and search for your LDAP user.
- 4. Add the following roles to the user:

Role	Purpose
Admin	For logging into HP Anywhere Admin Console.
BSF_ Admin	For logging into the User Management UI and BSF Admin UI to perform mapping.
Tester	For testing the application before it is published to all end users.

Finalize Configuration

• Set the following property in the bsf.properties file:

authentication.provider=EXTERNAL

At this stage, you need to restart HP Anywhere to apply the configuration settings.

Then, log into HP Anywhere using your LDAP credentials.

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Chapter 4

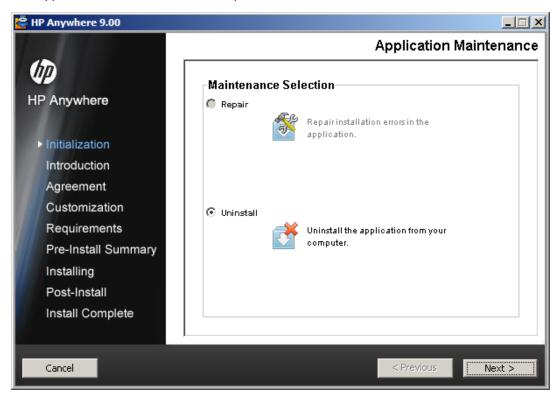
Uninstall HP Anywhere Server

This section contains instructions for uninstalling HP Anywhere version 9.00.

Uninstall Version 9.00

The following procedure explains how to uninstall the HP Anywhere 9.00 Server.

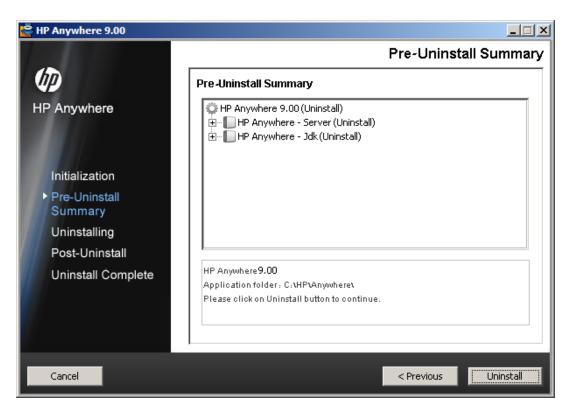
- From the Start menu, select All Programs > HP > HP Anywhere > Uninstall HP Anywhere.
- 2. The Application Maintenance window opens.



Select Uninstall and click Next.

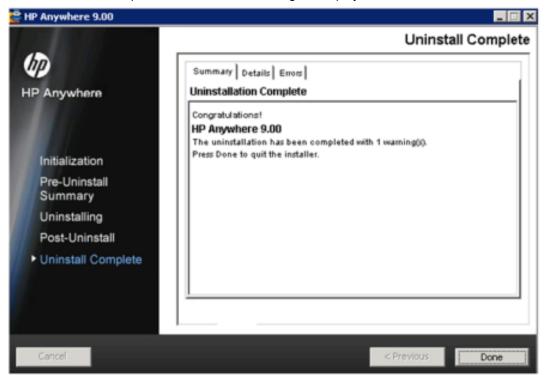
3. The wizard shows a summary of the components that will be uninstalled.

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Click Uninstall.

4. When uninstall is complete, a confirmation message is displayed.



Click **Done** to complete the uninstall process.

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Chapter 5

Troubleshooting and Limitations

This section describes known issues.

LDAP Issues

Problem: Communication with the LDAP server cannot be established. Communication exception appears in logs.

Solution: Check the LDAP host, port, and SSL mode settings:

- Check that LDAP host and port are configured correctly: Select System > Settings > User Management Configuration > External User Repository and check the IdapHost and IdapPort settings.
- Check that SSL mode is configured correctly. Check with your organizational LDAP administrator whether the administrator user is required for LDAP connection. Select System > Settings > User Management Configuration > External User Repository and check the enableSSL setting.
- Check that the appropriate server certificate is installed. Run the following command:
 Configuration Manager installation directory>\java\windows\x86_64
 \bin\keytool.exe -list -trustcacerts [-alias <certificate alias>] -keystore <Configuration Manager installation directory>\java\windows\x86_64\lib\security\cacerts -storepass changeit
- Check with your organizational LDAP administrator whether the administrator is required for LDAP connection. Select System > Settings > User Management Configuration > External User Repository and check the following settings: useAdministrator, IdapAdministrator, and IdapAdministratorPassword.

Client Login Issues

Problem: Cannot log into HP Anywhere from a mobile device with a valid connection (green). The message "Wrong user and pass" is shown even though the user name and password are correct.

Solution:Verify that full server name (machine name) is used in the server field (and not the IP address only). For example, if the HP Anywhere server runs on a machine named "server01 in the mycompany.com domain, you must use "server01.mycompany.com:8080" in the server field.

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