SIEMENS

Polarion 18 Windows Installation

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Chapter 1: About this guide

Overview

Welcome and thanks for using Polarion.

This guide covers installation information and procedures for creating a production installation for all Polarion products based on the Polarion Application Lifecycle Management Platform. The list of products covered by this guide currently includes:

- **Polarion ALM™**

- **Polarion REQUIREMENTS™**

- **Polarion QA™**

In general, the information is applicable to all of the above products. Any product-specific differences are explicitly noted. The information covers both new installations and, where applicable, the updating of existing installations.

This guide applies to installation of the above Polarion products on supported Microsoft Windows® operating systems.

If you want to install a product on a Linux system, see the separate *Linux Installation* document.

Evaluation installations

If you are installing Polarion for evaluation purposes, we recommend the *Polarion ALM™ Trial* . It focuses on getting you up and running with an evaluation installation as quickly as possible, using the **Evaluation** install option of the Windows installer.

This is recommended for the initial stage of any evaluation.

Large-scale installations

If you need a large-scale server environment with multiple clustered servers and failover capabilities, multiple repositories and so forth, see *Polarion ALM™ Enterprise Setup*.

Topics covered there include:

- Requirements

- Installation use cases

- Configuring shared data

- Security options

- Using Resource Traceability in a cluster

Chapter 2:   System requirements and recommendations

Server software

Requirement	Description
Operating System	Microsoft Windows Server 2012 or 2016 (or any update release). For evaluation purposes, you can use Microsoft Windows 10. See *Installation on Windows 10*. Only 64-bit versions are supported.
Java Runtime Environment	Java Platform, Standard Edition Development Kit 8 - Oracle JDK 8. http://www.oracle.com/technetwork/java/javase/downloads/index.html (See the *Install Java* section for step by step instructions.) Note that OpenJDK 8 is not the same as Oracle Java 8 and is not officially supported. JAVA_HOME/bin should exist in the system paths. Polarion only supports 64 bit versions of Java.
Version Control System	Subversion version 1.6.x, 1.7.x, 1.8.x, or 1.9.x: (1.9 is recommended.) http://subversion.apache.org/ If you are compiling Subversion yourself, compile using the –with-apsx or the –with-httpd option.
Web Server	Apache HTTPD server with mod_proxy_ajp and Subversion extension (WebDAV+SVN apache modules): http://httpd.apache.org/ In general, the Polarion server should run with whatever Apache version is present on a Windows system provided it is at least the minimum required version (2.2), and mod_proxy_ajp and Subversion extension modules are also installed.
Database	Minimum: PostgreSQL version 8.4 Recommended: PostgreSQL version 9.2 or higher

Server hardware

Requirement	Description
RAM	• Minimum: 4 GB (gigabytes) for production installation. • Recommended: 8 GB or more
Disk Storage Space	• Minimum: 10 GB • Recommended: 40 GB or more There is no hard and fast rule for disk storage space. The actual amount you require depends on the number and size of projects managed with Polarion. The more projects, and the larger they are, the more disk storage you require.

Client software

Requirement	Description
Operating System	Any operating system that can run the supported web browsers with support for the Flash plugin (see below). If the client user will use a Polarion product supporting data interchange with Microsoft Office®, the client user must run a Windows operating system compatible with a supported version of the Microsoft Office application(s) used. For details, see *Appendix: Supported Microsoft Office Versions* .
Web Browser	All you need to use Polarion is a web browser. The most current list of supported browsers and versions is provided in the Release Notes section of the README.html file, delivered in all download distributions of all Polarion products.
Adobe Flash	The Polarion web portal displays charts and other graphical data about Polarion-managed projects using Adobe Flash. To view these properly using a web browser, the client computer must have Adobe Flash Player installed. You can download it free at http://www.adobe.com/products/flashplayer/.

Client hardware

Requirement	Description
RAM	Minimum: 2 GB (4 GB recommended)
Display Resolution	Minimum: 1280 x 800 pixels
Server Connection	Not less than 1 Mbit/s

Chapter 3: Additional recommendations

Libraries required for building the demo projects

The items described here are not critical for running and evaluating Polarion. However, the components described are needed to be able to fully utilize Polarion's capabilities.

The distribution contains several demo projects. Each of them needs its particular set of 3rd party libraries to be correctly built and have the project reports generated. Any missing libraries are automatically downloaded from the internet during project processing, so you may need a connection to the internet when you first try building the demo projects or run reports for them.

Enable email notifications

The Polarion server can send email notifications in response to various events in the system such as build completions and new work items. It can also notify users about external changes.

To enable Polarion to send out email notifications, you need to:

- Configure the SMTP server to be used by the Polarion server for sending emails. You can do this from the Windows installer during the regular installation process (That is not the **Evaluation** Installation), or after installation, but before starting Polarion server (see *Appendix*). You may wish to create a special account on your SMTP host for use with Polarion notifications.

- Provide a valid email address for each user in their user account. (**Administration → User Management → Users**.) This can be automated through user self-creation of accounts, or integration with LDAP. See **Help, Administrator's Guide: Managing Users and Permissions**in Polarion's Help.

When this configuration is correctly set up, the system sends notification emails about various events according to the notification targets configuration. For information on configuring email notifications, see **Help, Administrator's Guide: Configuring Notifications**.

> If a work item is modified outside of the Polarion portal, for example manually in the SVN, email notifications are sent as if the modification occurred in the portal.

See also, *Appendix: Enabling email notifications*

Enable support for Javadoc

The demo and your own projects can be configured to provide Javadoc reports.

Javadoc must also be enabled for the **descriptors.xml** file. Access it in the Repository browser: **Repository/.polarion/reports/descriptors.xml**. Refer to comments within the in the **descriptors.xml** for details on how to enable Javadoc.

Chapter 4: Before installation

Java runtime

You need to have a supported version of Java installed on the computer that will run Polarion ALM. The installer program asks for the location of Java. **JAVA_HOME/bin** should exist in the system paths.

⚠️ Due to licensing issues, Java is no longer bundled with Polarion.

It must be installed before running the Polarion installation Wizard.

(OpenJDK 8 is not the same as Oracle Java 8 and is not officially supported.)

Polarion only supports 64 bit versions of Java.

Use only Java 8: Older versions are no longer supported and Java 9 has not been tested.

Install Java

1. Go to the Java SE Development Kit 8 download page on Oracle's website.

2. Read the Oracle Binary Code License Agreement for Java SE.

3. Click **Accept License Agreement** to enter into the agreement with Oracle.

   (Required to download the Java SE Development Kit installer.)

4. Select the appropriate operating system.

Java SE Development Kit 8u131
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.

◯ Accept License Agreement   ◉ Decline License Agreement

Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.87 MB	⬇️jdk-8u131-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.81 MB	⬇️jdk-8u131-linux-arm64-vfp-hflt.tar.gz
Linux x86	164.66 MB	⬇️jdk-8u131-linux-i586.rpm
Linux x86	179.39 MB	⬇️jdk-8u131-linux-i586.tar.gz
Linux x64	162.11 MB	⬇️jdk-8u131-linux-x64.rpm
Linux x64	176.95 MB	⬇️jdk-8u131-linux-x64.tar.gz
Mac OS X	226.57 MB	⬇️jdk-8u131-macosx-x64.dmg
Solaris SPARC 64-bit	139.79 MB	⬇️jdk-8u131-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	99.13 MB	⬇️jdk-8u131-solaris-sparcv9.tar.gz
Solaris x64	140.51 MB	⬇️jdk-8u131-solaris-x64.tar.Z
Solaris x64	96.96 MB	⬇️jdk-8u131-solaris-x64.tar.gz
Windows x86	191.22 MB	⬇️jdk-8u131-windows-i586.exe

5. Double-click the downloaded file to launch the Java Install Wizard.

6. On the welcome window, click **Next** .

7. Leave the optional feature selection as it is and click **Next**.

8. The installer asks to confirm the installation folder. Click **Next**.
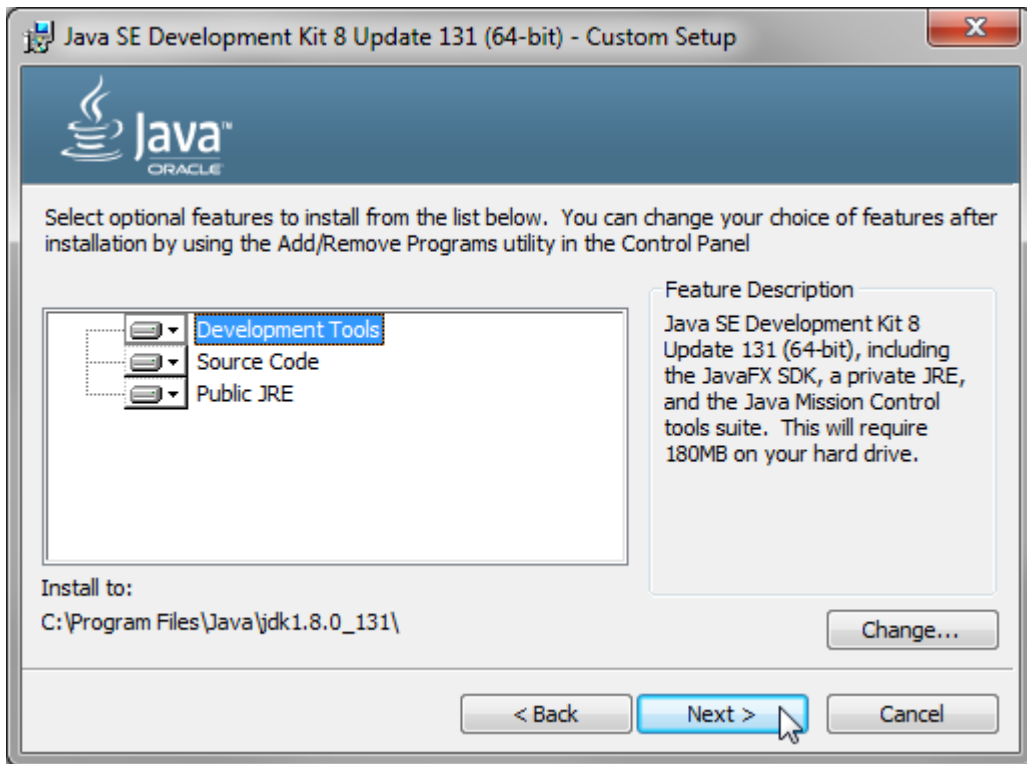
9. Once the Java installation is complete, click **Close**.

Chapter 5: Install Polarion

Windows installer

Overview

The installer for Windows® systems is a 64-bit Windows executable (.exe) file. The distribution file name contains the product name, version number, service release ID (if applicable), the processor specification and .exe. For example:

PolarionALM_NN.N_x64.exe

Windows 64-bit distribution for Polarion.

… where **NN** is the Polarion version number (the last two digits of the year of the release) and **.N** is the Service Release number (which does not appear if the distribution is not for a Service Release).

What the installer can install

The Windows installer can be used for a new (clean) installation only. Installing an update for an existing installation requires a different distribution archive. The installer program will advise you of this if it detects an existing installation.

Disable firewall

The installer program for Windows leads you step-by-step through the installation process.

> ⚠️ If the computer is running a firewall, disable it or allow the Polarion installation to access ports. (Polarion will need to check for the availability of required ports.)

Choose an installation type

- **Evaluation**: Only intended for evaluation installations. All *Polarion components* are installed and default and simple values are used for ports, paths, and other configuration settings.

  See *Polarion® ALM™ Trial*, for step by step "**Evaluation**" installation instructions.

- *Standard*: Intended for production installations. This installation type allows you to select which components to install and to modify default installation parameters.

  Recommended for actual or simulated for example, POC production installation.

Standard (production) installation

1. If the computer that you are installing Polarion on is running a firewall, disable it for the duration of the installation. This enables the installer to check for the availability of needed ports.

2. Copy the installer program file and the evaluation license file to the folder Polarion will be installed in. (The default *c:\Polarion* is recommended.)

> *Java should be installed* before running the Polarion installer.

3. **Right-click** the PolarionALM_version_number_x64.exe file and run as an **Administrator**.

> **Welcome to the InstallShield Wizard for Polarion® ALM(TM) 17**
>
> The InstallShield® Wizard will install Polarion® ALM(TM) 17 on your computer. To continue, click Next.

4. On the welcome screen, click **Next** .

> Please enter your name and the name of the company for which you work.
>
> User Name:
>
> Username
>
> Company Name:
>
> Company name

5. Enter a **User Name** and **Company Name** and click **Next**.

6. Select the **Standard** installation and **location**:

> Click the type of setup you prefer.
> NOTE: Java SDK 8 must be pre-installed on the target computer.
>
> ○ Evaluation Installation
>   Setup will install the necessary bundled third-party components,
>   and perform basic configuration enabling Polarion® REQUIREMENTS(TM)
>   to run with default settings.
>   Recommended for evaluation installations.
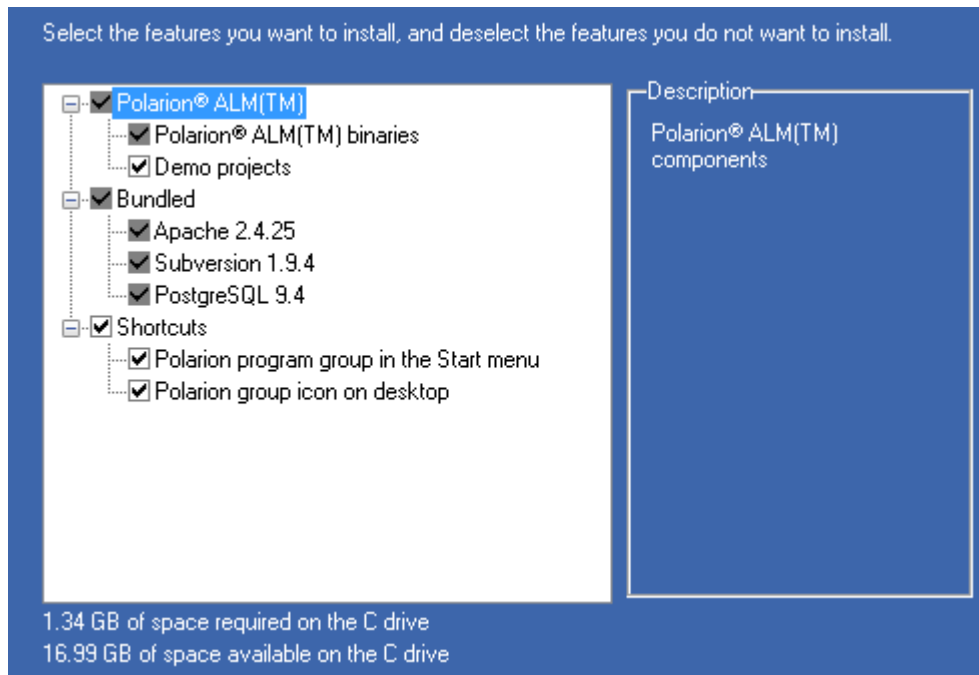>
> ◉ Standard Installation
>   This installation type allows you to select which components to install
>   and to modify default installation parameters.
>   Recommended for actual or simulated (e.g. POC) production installations.

> ⚠ If you change the default **C:\Polarion** installation path by clicking **Browse**;
>
> Pick a location other than the **Program Files** folder.

7. Click **Next**.

8. Clear any unwanted optional (☑) features and click **Next**.
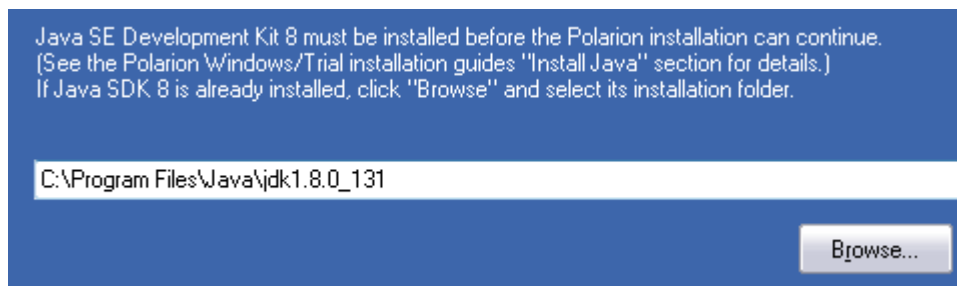
> ⚠ The installer inserts the path from the **JAVA HOME** environment variable.
>
> Make sure that it points to the Jdk folder, not the jre folder.
>
> (**C:\Program Files\Java\jdk1.8.0_version#**) by default.

9. Click **Browse**, navigate to the Java SE Development Kit 8 folder.
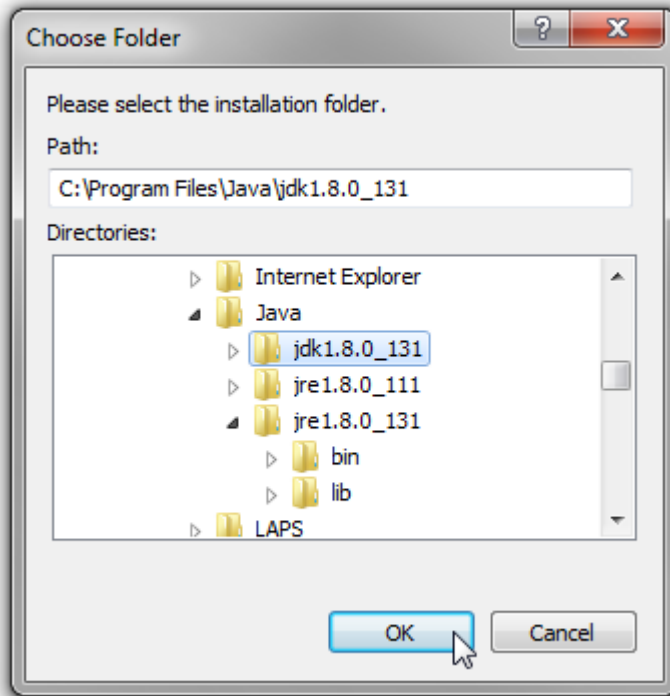
10. Click **OK**, and then **Next**.

11. Click **Install** to begin the installation with the selected settings, or **Back** to change them.

12. Click **Next** when the screen above appears.

Specify the following Apache and Polarion® ALM(TM) server parameters.

Domain:

Network domain that is used in Apache configuration

Host:

Apache and Polarion® ALM(TM) server name

E-Mail: admin@mydomain.com

Apache administrator e-mail address

Type: ☑ Install Apache and Polarion® ALM(TM) as service

If unchecked they will run as console applications.

Click "Next" to check accessibility of the host

13. Enter a **Domain**, **Host** and **E-Mail**.

Clear **Type** to have the Apache and Polarion services run as console applications.

- As services they run hidden in the background.

- As console applications, they appear in the Windows taskbar.

Please choose ports. The default settings are suitable for most computers.

HTTP port: 80

The port on which Apache web server will run

JK2 port: 8889

The port for communication between Apache and Polarion® ALM(TM)

Shutdown: 8887

The port where Polarion® ALM(TM) will listen for local shutdown requests

Click "Next" to check accessibility of the ports

14. Enter the Polarion Port settings and click **Next**.

15. Enter the PostgreSQL **Password** twice and click **Next**.

16. Enter the **SMTP server** address.

(Optional) To use SMTP Authentication, select the [✔ Use SMTP Authentication] box and enter the following:

- **Account name**: The SMTP account

- - **Password / Retype password**: The password used for the selected SMTP account.
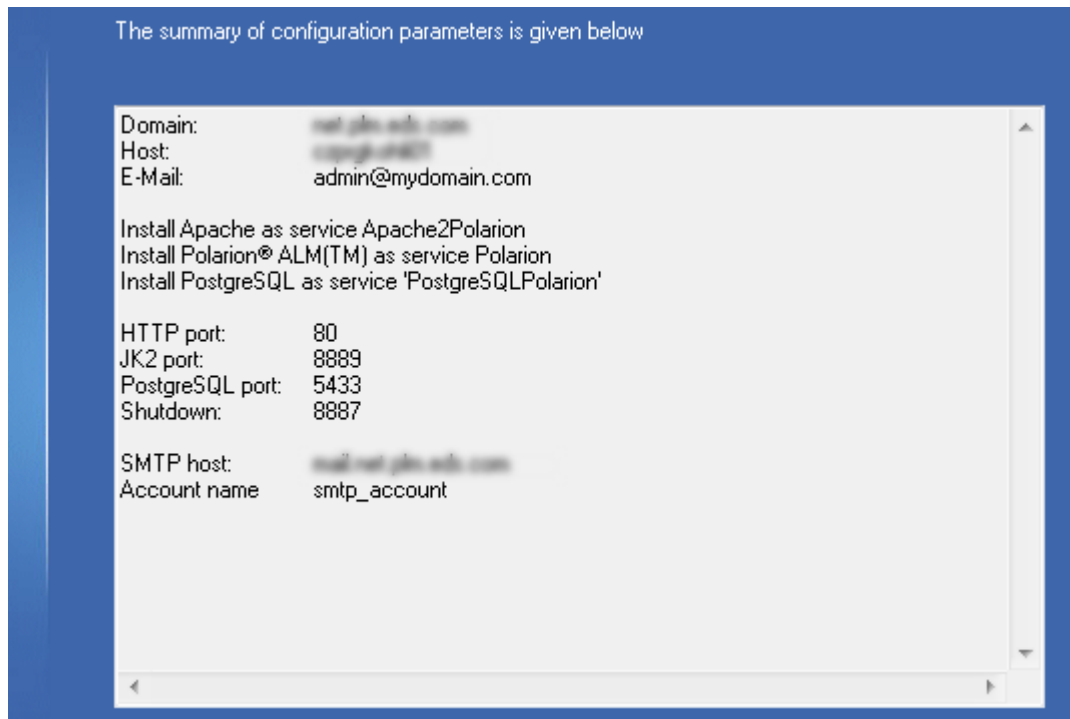
17. Confirm the configuration parameters. Click **Back** as needed to change any of the configuration settings listed above or **Next** to continue.

18. The Polarion Server starts automatically.

    (Unless **Start Polarion Server and open its portal page**) on the previous screen was cleared.
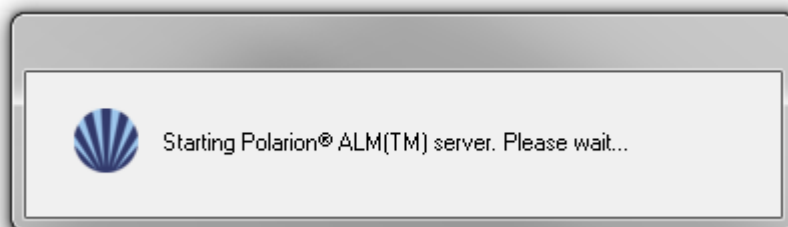
19. The Polarion README.html will launch in a tab of the default web browser.

    (Unless **View Readme file** on the previous screen was unchecked.
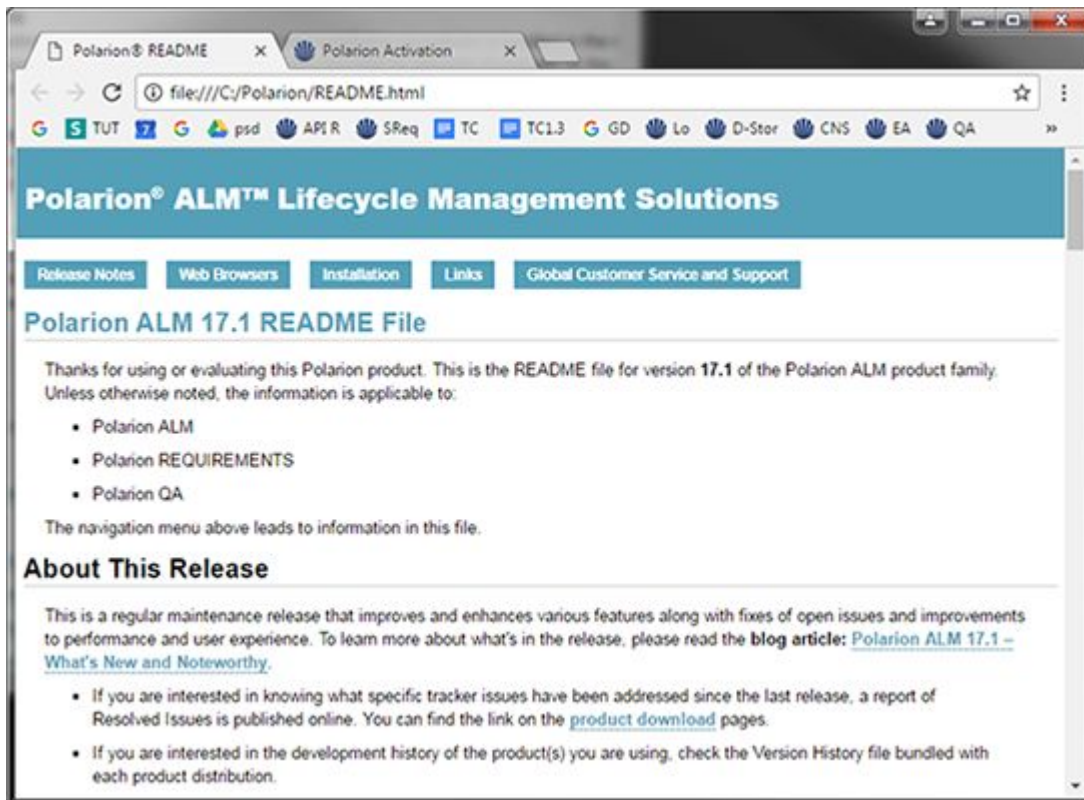
20. The Polarion logon page will launch in another browser.
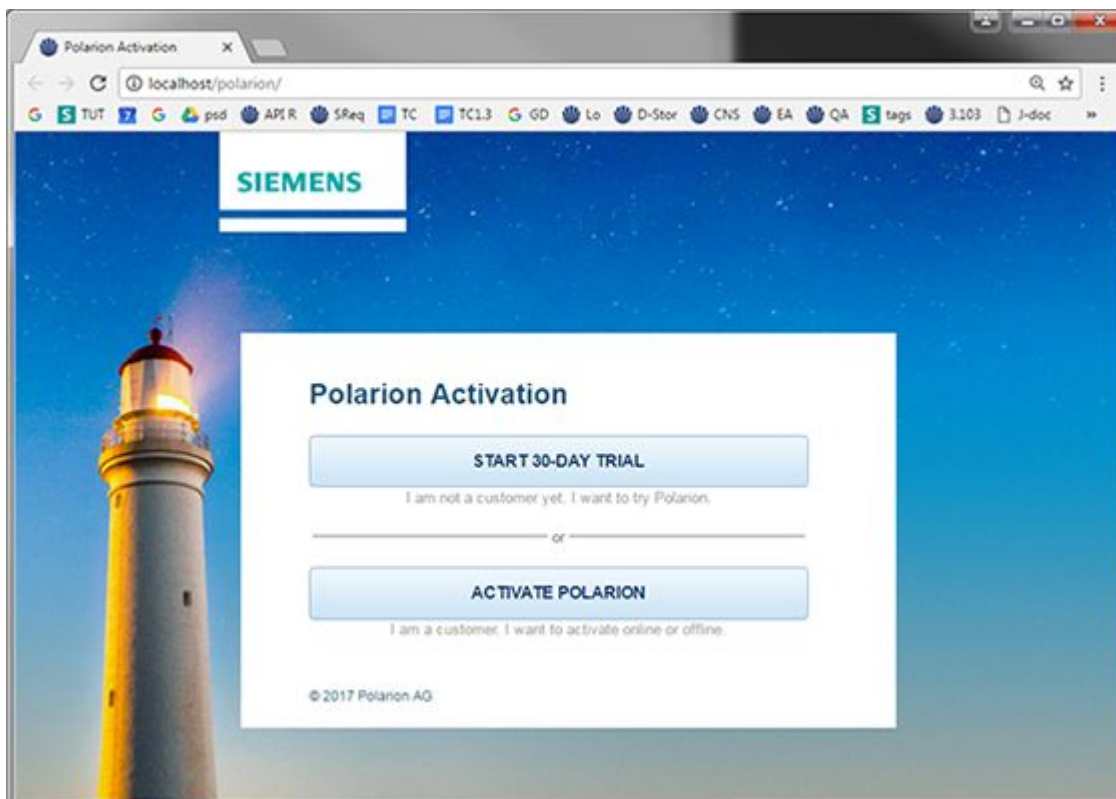
Services and license key

Three services will be started once the installation is complete and the Polarion license key is required for the first browser login session. Clients access the Polarion server through a web browser using a designated URL.

> Have your license key handy to activate Polarion once the installation is complete. See
> SIEMENS Licensing to obtain a license key. A Webkey account is required.

Polarion components installed

Component	Description
Polarion binaries	Files needed for Polarion to run.
Demo projects	Repository folders containing sample projects and data. Installation of this component is recommended if you are evaluating Polarion. You may choose to omit it for production installations.
Apache HTTP Server	You should shut down any other Apache server you may be running on the computer where you are installing Polarion.
Subversion	The latest supported version at time of the Polarion release.
Java SE JRE	The Java runtime environment is needed by Polarion for a number of different functions, including running Polarion itself. If you already have an installation of the same JRE version, you may opt not to install it. Polarion will prompt you to specify the location of your existing Java JRE installation. For evaluation purposes, it will be simplest to go ahead and install the JRE. You can uninstall Polarion after your evaluation period and the JRE will be removed as well.
PostgreSQL	SQL database used to process complex queries that retrieve data for reports, dashboards and so on.
Polarion program group in the start menu(Optional)	A program group for Polarion in the start menu.
Polarion group icon on the desktop (Optional.)	Desktop shortcut that opens the installed `polarion shortcuts` folder which contains shortcuts for starting and stopping Apache service and Polarion server.

See *Manually updating third-party software* for information on what versions of bundled software are distributed with Polarion.

Installation on Windows 10

For evaluation purposes you can install Polarion on computers running Microsoft Windows 10 (64-bit only).

For production use, it is important that you use a supported server operating system.

> ⚠️ Installing Polarion in the **C:\Program Files or C:\Program Files (x86)** folder is not recommended.
>
> Some components would not have the necessary read/write permissions by default.

We recommend that evaluators view *Polarion ALM Trial*.

Chapter 6: Starting and stopping the Polarion server

Polarion shortcuts

The installer provides the option of starting the Polarion server for the first time after installation. Later on, you will need to know how to stop and restart the Polarion server manually.

The Windows installer creates and automatically configures a set of shortcuts that enable you to start and stop the Apache service, start and stop the Polarion server, start and stop the integrated PostgreSQL database, and launch the web portal in the default browser. These are located in the folder **[POLARION_HOME]\polarion shortcuts**. The installer places an icon on the desktop that opens this folder in Windows Explorer.
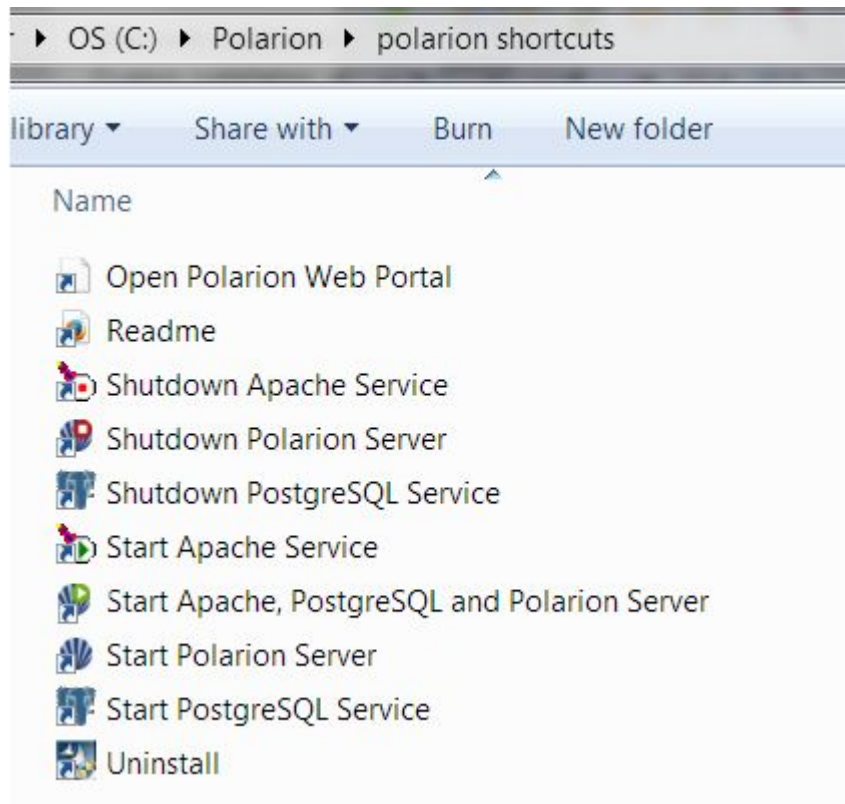
Starting the server

Steps for starting the server

When starting the server, run the startup in the following sequence:

1. Start up Apache Service by clicking on the ▣ Start Apache Service shortcut.

2. Start PostgreSQL by clicking on the ▣ Start PostgreSQL shortcut.

3. Start up Polarion Server by clicking on the ▣ (Start Polarion Server shortcut.

It is not necessary to start Apache Service again if it is already running. You can check if it is running using the Apache Monitor program.

($POLARION_HOME$\bundled\apache\bin\ApacheMonitor.exe).

The first time you start the Polarion server, you will see the following message in the console:

```
Not enough data for startup estimation.
```

This is not an error message. On startup and on re-index operations, Polarion estimates and reports the amount of time the operation will take. You will see this estimate in the console and log file on subsequent startups, but the first time, no data exists on which to base the estimate.

The following startup phases are reported in the console and log file:

*   Platform startup

*   Context recognition

*   Context initialization

*   Revisions processing

*   Build artifacts recognition

*   BIR inspection

*   Data indexing

*   Polarion startup

Express startup shortcut

Click the **Start Apache, PostgreSQL and Polarion Server** to initiate all startup operations in the correct sequence.

> ⚠️ This shortcut should only be used to start Polarion when none of these services are running.
>
> If you are unsure whether a service or process is running, click all of the following shortcuts before clicking **Start Apache, PostgreSQL and Polarion Server**.

- **Shutdown Apache Service**

- **Shutdown Polarion Server**

- **Shutdown PostgreSQL Service**

Starting the Polarion server as a service

Overview

By default, Polarion Server is installed as a Windows service. The service name is Polarion. The service description is Polarion Server.

When Polarion is installed as a service, the shortcuts previously described are configured to run the necessary executables with the required parameters so that Polarion is started as a service. The shortcuts are the recommended way to start the Polarion Server. If you want to start the server from the command line, you can invoke the following after making sure the Apache service is running: **C:\WINDOWS\system32\net.exe start Polarion**

Notes about running as a service

When the Polarion service is started, parameters from the **polarion.ini** file, memory settings and so on, are not taken into account. So if you need to change **polarion.ini** and you run Polarion as a service, you must reinstall the Polarion service after changes in **polarion.ini** are completed.

To do this, use the command line to first run:

1. **C:\Polarion\polarion\service.bat -uninstall**

2. And then run:

   C:\Polarion\polarion\service.bat –install

Starting Polarion as a console application

Polarion can be run as a console application by running the following in a Windows console window:

C:\Polarion\polarion\polarion.exe.

> This file is provided mainly for backward compatibility. If you installed Polarion as a service, you should run it as such, as previously described.

Shutting down the Polarion server

When shutting down the server, use the following sequence:

1. Click the **Shutdown Polarion server** shortcut.

2. Click the **Shutdown PostgreSQL Service database** shortcut.

3. Click the **Shutdown Apache Service** shortcut.

> It is not normally necessary to shut down the Apache Service if you just want to restart the Polarion Server.

The *Appendix* provides reference information on the default Polarion parameters used by the **Polarion installer** for Windows.

Chapter 7:   After installation

Securing the Polarion activation application

Beginning with version 2015, Polarion includes an activation application that makes it possible to install or update a license while the Polarion server is running, without the need to copy the license file manually to the target machine.

> ⚠️ Access to this application is not initially protected by user name and password
>
> For production use it is highly recommended to secure access to this application directly in the Apache configuration.

Beginning with version 2015, there is a template Apache configuration file in the Polarion installation folder: **\polarion\polarion\install\polarion.activation.conf.template**

To ensure that a user name and password is requested when accessing the activation application (**polarion\activate\online and \polarion\activate\offline**):

1. Copy this file to the Apache configuration folder, on Windows usually **C:\Polarion\bundled\apache\conf\extra**.

2. Rename it to remove the **.template** extension.

3. Open the file in any text editor and modify it according to the instruction comments provided.

   The template configuration is prepared for both user file authentication (like Polarion uses for Subversion by default, with user passwords data in a file) and for authentication against an LDAP server.

> 📝 In a multi-instance setup with a coordinator plus one or more instances that can be clustered, it is necessary to use this configuration only on the coordinator server. The activation application runs only on the coordinator. For additional information about this type of setup, see *Polarion ALM Enterprise Setup*.

Adjusting server memory allocation

The default installation on Windows uses a maximum memory allocation setting in **C:\Polarion\polarion\polarion.ini** of **-Xmx640m (640 megabytes)**, which is suitable memory allocation for evaluation purposes but not for most production setups. Before beginning production use of a new installation, the server administrator should adjust the setting to use the capacity of the server to its full extent. Use MEGABYTES as the measure. For example, for 2 GB, specify *–Xmx2000m*.

> ⚠ You must reinstall the Windows Service after modifying the polarion.ini file. Make sure the Polarion server is not running, then run the utility:
>
> **C:\Polarion\polarion\service.bat -install**

Java Virtual Machine memory limit

If you allocate too much memory for the Java Virtual Machine (JVM), the operating system will not initialize it. Diagnosing the issue can be difficult because the service does not start and no error log is written. An entry is written to the Windows Application log with the description "**Could not initialize the Java Virtual Machine**" but the reason is not specified.

The amount of memory you can allocate to the JVM depends on how much total memory exists on the computer. The more total memory, the more you can allocate to the JVM before the operating system imposes a limit. In tests on a 4 GB system, allocating 1.1 GB to the JVM resulted in failure to initialize.

Configuring PostgreSQL database

This component must be installed and properly configured before you can start the Polarion server. The Windows installer attempts to install the software and configure it to run with Polarion, including some optimization for best performance. If for any reason the installer is unable to optimize PostgreSQL, you should do it manually.

Optimizing the PostgreSQL database

Changes to the Postgresql.conf file

Beginning with version **2015 SR2**, Polarion integrates the PostgreSQL database in all new installations. After a new Polarion installation containing this database, it is highly recommended that the administrator review, and if necessary, adjust some PostgreSQL settings to optimize performance.

After installation you should make the following changes in **postgresql.conf**.

Default path: **C:\Polarion\data\postgres-data\postgresql.conf**

```
max_connections = 80 # should be < 10 * number of CPUs

shared_buffers = 2GB # should be 10% - 15% of total system RAM

work_mem = 10MB # should be 10MB - 100MB

maintenance_work_mem = 200MB

fsync = off

synchronous_commit = off

full_page_writes = off

wal_buffers = 256kB # should be more than size of common

# transaction

checkpoint_segments = 32

effective_cache_size = 4GB # should be approx 2/3 of total

# system RAM

max_locks_per_transaction = 100 # specific for Polarion

# Optimal planner performance setting

# For HDD, keep default setting.  Otherwise, uncomment the

# applicable setting below:

# For SSD:

# random_page_cost = 1.5

# For SAN:

# random_page_cost = 2.0
```

Allowing remote connections to the PostgreSQL server (optional)

By default the PostgreSQL database is only available on localhost after a fresh install. If you need to have access from outside the host machine, follow these steps to allow remote access:

1. Change the listener addresses in the **postgresql.conf** file (see path above). Change: **#listen_addresses='localhost' to listen_addresses='*'**

2. In the same folder, you will find the **pg_hba.conf** file. Open it in a text editor and add the following line: **host all all 0.0.0.0/0 md5**

> If you allow external connection to the database, the external user has blanket access to the entire database content and effectively to all Polarion data - all projects, the HEAD revision as well as history. There is no further access control. All Polarion user names will also be visible. (User passwords will not be visible as those are not stored in a database or SVN.) Access is read-only.
>
> Administrators are advised to consider carefully before opening database access in a system in use for production.

Enter an error reporting email

The email for the **error.report.email** property in the **polarion.properties** file is empty by default for new installations. Add the email you want error reports sent to.

Chapter 8: Licensing and activation

Overview

In order to use Polarion you must obtain a license. A license with the necessary key and file is normally delivered by email to the address provided by the person who purchased the license. If you need help obtaining a license, contact sales@polarion.com.

Polarion installs with a 30-day evaluation license. After obtaining a license for production use, you must activate your Polarion installation. The login page provides action options leading to online and offline activation instructions. You will need the information provided by Polarion to complete the activation.

Using different license types

Several different license types are available - Evaluation, Site, User-limited, etc. If you begin using Polarion with one type of license key (**Evaluation**, for example), and want to continue using it with a different license type, simply remove the current license key file from the license folder and copy the new license key file there. If the Polarion server is running, you will need to restart it for the new license to take effect. You can install multiple license keys for different license types and/or Polarion products on the same server.

Assigning named and concurrent users

If your license allows for named and/or concurrent users, you will need to add assignments for each type of user in the appropriate section of the users file. By default this file is located in the license folder of your Polarion installation. If you change the location for license key files, be sure to move the users file to the same folder that stores your license key file.

You can edit it in the License topic in the global Administration in the portal. The file contains comments with complete instructions on how to find the user IDs of your named/concurrent users, and make the relevant assignments.

License usage log file

Administrators and managers can monitor license usage by checking the license usage log file **log4j-licensing-TIMESTAMP.log**. This file is located in the **[POLARION HOME]\data\workspace\.metadata** folder.

When a concurrent user logs on/off, a license usage statistics report is written to the licensing log. Concurrent licensing is not supported for all products.

The following example shows one user currently using an enterprise concurrent license type, the greatest number of users of this license during the current server session (peak), and the maximum number of users allowed by the license limit.

2008-05-14 11:12:29,609 [TP-Processor2] INFO PolarionLicensing - STATS:enterpriseConcurrentUsers,current:1,peak:2,limit:20

Chapter 9:   Changing default system passwords

Change the default system administrator password

To help ensure the security of your Polarion system, you should change the default password of the system administrator user account described below, and in the *Changing the password for the SVN 'polarion'' user* section.

The default account System Administrator has access to all administrative functions of Polarion, including read-write access to the subversion repository. After installing Polarion for actual production use, you should change the password on the default system administrator account.

Before you change the password on the default system administrator account, you may wish to create another account with administrator rights for yourself and/or someone else.

To change the default administrator password:

1. Log in to the Polarion portal with the default login. (username: admin, password: admin)

2. Click **My Polarion**. The **My Polarion page** for the System Administrator account loads in the content area.

3. Click on ⚙ ▾ on the top right and click 👤 **My Account**.

4. In the **My Account** page click 📝**Edit**.

5. Enter the new password in the **New Password** field, and again in the **Re-enter Password** field.

6. If you want to continue using this account as the main system administrator account, you may wish to add your email address in the **Email** field, and add a description for the account in the **Description** field.

7. When finished editing the System Administrator profile, click 💾 **Save**. The password is now changed and you will need to use it next time you log in.

> ⚠ Do not lose the new password.
>
> If you lose the changed password, you will not be able to log in as system administrator. If no other accounts exist with administrator rights, it will not be possible to change the configuration, add projects, manage user accounts, etc.

Changing the password for the SVN 'polarion' user

A subversion repository user named polarion is created by default when you install Polarion. This user acts on behalf of Polarion and has extensive permissions including read permission for all projects. Access to this user by unauthorized users would compromise the security of your Polarion system, so change this password before putting the system into production use.

The following steps assume you use **passwd** file authentication, which is the most common method.

1. Stop the Polarion server before changing this password.

2. Use the **htpasswd.exe** to change the password for the **polarion** user. The utility is located in the **[POLARION HOME]/bundled/apache/bin** folder.

   Utility syntax: **htpasswd path/passwdfilename username**.

   Example: **htpasswd Polarion\data\svn\passwd polarion**.

3. Change the value of the password property in the **polarion.properties** file to the password you set with the htpasswd utility. The yypical location of this file is **polarion/configuration/polarion.properties**.

   For LDAP Users

   The typical setup for most Polarion users is passwd file authentication for the polarion user with failover to LDAP for company users. This is also the default Polarion setup.

   For such setups, you do not need to enter the polarion user to your LDAP users.

Chapter 10:   Configuring OLE Object support

Overview

It is possible to import Microsoft Word documents that contain OLE objects. Polarion can display OLE Object thumbnails during Word document import. However, some additional third-party image converter software must be installed and configured before you can import such Word documents. OLE Objects in documents must contain their thumbnails in the .emf or .wmf file formats and the image converter used must support their conversion into the .JPEG format. OLE Objects themselves are not imported, only their thumbnails.

The recommended image converter software is ImageMagick. Windows distributions are preconfigured for ImageMagick. An empty folder is provided on path **[POLARION HOME]\polarion\imagemagick** which contains a README file describing what to download, how to unpack it and what to do next.

Include thumbnails for OLE DOORS and ReqIF imports

1. Download Image Magick.

2. Install Image Magick into an **imagemagick** sub-directory within the **\polarion** folder of the Polarion installation.

    The correct path for the default Polarion installation would be:

    C:\Polarion\polarion\imagemagick\convert.exe

3. If there is no **convert.exe**, then use **magick.exe** with the following properties:

    ```
    com.polarion.oleconverter.app=$[com.polarion.home]/imagemagick/magick.exe

    com.polarion.oleconverter.usefiles=true

    com.polarion.oleconverter.param1=convert

    com.polarion.oleconverter.param2=-flatten

    com.polarion.oleconverter.param3=$in

    com.polarion.oleconverter.param4=$out

    com.polarion.oleconverter.convertedImageFormat=png
    ```

Follow the description for the OLE Converter in the **polarion.properties** file.

Configuring Polarion for OLE

There are some system properties in the **common.properties** system configuration file that you will need to review and set after installing the image converter. Refer to comments in the section for the **com.polarion.oleconverter.app** property that explain the settings.

There is an additional system property in the **polarion.properties** file that specifies the target image format for the OLE thumbnail conversion. Set the **com.polarion.oleconverter.convertedImageFormat=png** property to have thumbnails converted to .PNG, or **com.polarion.oleconverter.convertedImageFormat=jpg** to have thumbnails converted to the .JPEG format.

The system properties are located on the following path:

[POLARION HOME]\polarion\configuration** (Windows), or **[POLARION_HOME]/etc/ (Linux).

Polarion Preview Generator - Teamcenter Visualization Convert and Print Shop

Configuration

Visit TeamCenter Visualization 11 to learn more about it.

The following Teamcenter Visualization Convert & Print configuration settings found in the **[Prepare]** section of the **vvcp.ini** file should also be adjusted:

The default path is:

[Teamcenter Installation Dir]\Visualization\VVCP\vvcp.ini

Adjust the following settings:

MainWindowState=hide

SingleProcess=off

Then follow the instructions for Teamcenter Visualization Convert & Print in the **polarion.properties** file.

Chapter 11: Multiple repository setup

If you use Polarion in a large enterprise with many users and projects, the standard single-repository installation may not be adequate. There are two Polarion features that enable you to work with multiple repositories, but they are fundamentally different. You need to understand the basics of each feature before deciding which approach to multiple repositories best meets your needs.

The **External Repository** feature gives you the ability to link Polarion artifacts stored in Polarion's integrated repository with changes (revisions) in source code stored on one or more external SVN or Git repositories. After installation, you can configure Polarion to use one or more external repositories in addition to the SVN repository bundled and installed with Polarion. For information on this feature, see the **Administrator's Guide: Configuring Repositories** in Polarion's Help.

The **Clustering** feature enables you to run Polarion on multiple servers, either physical, virtual, or a combination. The topography can be set up to host multiple Polarion servers running on separate machines each with its own Polarion repository, and/or multiple machines all accessing a single Polarion repository. (Polarion servers on any node can optionally be configured to access external repositories, as described above.)

Special installation and configuration procedures beyond the scope of this guide are required to set up a clustered multi-server environment. These are covered fully in Polarion ALM™ Enterprise Setup.

Chapter 12: Subversion optimization

Polarion uses a Subversion (SVN) repository as its main data storage. There are two topics in the Administrator's Guide component of Polarion online Help that provide guidance for administrators about optimizing Subversion for best performance. It is recommended that you review them before going into production with a new or updated installation.

- **Administrator's Guide → Advanced Administration: Topics → Optimizing Subversion** in Polarion's Help.

- **Administrator's Guide → System Maintenance: Topics → Maintaining Subversion (SVN)** in Polarin's Help.

> You should always set up and use the svn:// protocol for system user access.

Chapter 13: Accessing the portal

Use the **Open Polarion Web Portal** , accessible by clicking on the desktop, to open the portal login window in your default web browser after all system components are running.

The first time you log on after installation, use the default system administrator credentials:

• **User ID**: admin

• **Password**: admin

If the installation is not yet licensed and activated, the login screen first asks you to choose between running with the built-in evaluation license, and activating the installation with a production license.

See *Licensing and activation* for additional information.

Chapter 14: LDAP authorization

In a new installation, users are authorized using the Subversion integrated policy access functions (directives **AuthzSVNAccessFile** and **AuthUserFile** in **polarionSVN.conf** file). If you have an LDAP infrastructure, you can make Polarion authorize users against the LDAP database.

Information on performing this configuration, together with some examples, is provided in the **polarionSVN.conf** configuration file. The file is located at: **[POLARION_HOME]\bundled\apache\conf\extra\polarionSVN.conf**

The file is located one of the following paths, depending on your Linux distribution:

*   **/etc/apache2/conf.d**

*   **/etc/httpd/conf.d**

After modifying the configuration file, the Apache server must be restarted to reflect the changes.

For more information about the Apache LDAP modules and their capabilities, visit these web pages:

*   https://httpd.apache.org/docs/2.4/mod/mod_authnz_ldap.html

*   https://httpd.apache.org/docs/2.4/mod/mod_ldap.html .

You can find information on configuring Polarion to work with LDAP in the Polarion *Help* topic **Administrator's Guide → User Management → Integrating Polarion Server with LDAP/Active Directory**.

Chapter 15: Next steps after installation

Once you have installed Polarion and logged in to the Portal, consider taking a look at the demo projects (assuming you installed demo data). Click on the drop-down control in the **Navigation panel** on the left, select **Open Project or Project Group**, and open any project in the **Demo Projects** group. See the **User Guide** → **Getting Started with Projects** section in Polarion's Help for tips.

You may want to do some initial global customizations such as custom **Work Item** types, **Workflows**, **Reports**, **SSL Support** and more. You will find topics on these configurations in the **Administrator's Guide** section of Polarion's Help.

Once you have your Polarion system running, and any global customizations done, you are ready to begin setting up your own projects and user accounts. Look up the following topics in the **Administrator's Guide: Creating and Managing Projects** and **Managing Users and Permissions** section in Polarion's Help.

> Polarion supports Single Sign On (SSO) authentication using Security assertion markup language 2.0 (SAML), Kerberos tokens and Teamcenter security services. See *Single Sign On (SSO) with Polarion* on Polarion's Doc Center portal for details.

Chapter 16: Manually updating third party software

Manually Update the bundled third party software

Polarion bundles the following versions of third party components:

- Apache 2.4.29 (Updated automatically when using binaries compiled by Polarion.)

- Subversion 1.9.7 (Updated automatically when using binaries compiled by Polarion.)

- PostgreSQL 9.4.1

> **Apache and Subversion Binaries**
>
> The Apache and Subversion Binaries are now compiled in-house.
>
> The Apache Haus compiled binaries are still compatible if required by any additional 3rd-party customizations.

Due to licensing issues, Java is no longer bundled with Polarion.

It must be installed before running the Polarion installation Wizard.

See the *Install Java* or *Update Java* sections for details.

All are 64-bit versions. If you are running the bundled version and you would like to update to a newer service release of Subversion and Apache, see the *Update Subversion* and *Update Apache* sections.

Update Subversion

After you update Subversion you must also update Apache (see the next section). Be sure you plan enough time to do both updates.

1. Visit http://www.apachehaus.com/cgi-bin/download.plx and download

    Mod Subversion 1.9.7 for Apache 2.4.x x64.

2. Unpack the ZIP archive to some temporary folder.

3. Stop the Polarion and Apache servers.

4. Stop the existing **Svnserve** windows service if it is running.

    (**Ctrl +Alt +Delete → Task Manager → Services tab →** Right click on Svnserve and click **Stop Service**.)

5. Back up folders **$POLARION_HOME$\bundled\apache** and **$POLARION_HOME$\bundled\svn**

6. Delete the following files:

    a. All files within the **$POLARION_HOME$\bundled\svn** folder.

        (But do not delete the folder itself.)

    b. From folder **$POLARION_HOME$\bundled\apache\bin\ …**

        intl3_svn.dll

        libdb48.dll

        libsvn_*.dll

    c. From folder **$POLARION_HOME$\bundled\apache\modules\ …**

        mod_authz_svn.so

        mod_dav_svn.so

7. Copy content of the folder within the unpacked temp folder from step two to **$POLARION_HOME$\bundled\svn**, so that there is a folder **$POLARION_HOME$\bundled\svn\bin**.

8. Copy the following files in the **$POLARION_HOME$\bundled\svn\bin\ …** folder...

    mod_authz_svn.so

    mod_dav_svn.so

    …to the **$POLARION_HOME$\bundled\apache\modules** folder.

9. Copy the following files…

    $POLARION_HOME$\bundled\svn\bin\libsvn_*.dll

    …to the **$POLARION_HOME$\bundled\apache\bin** folder.

10. (Optional). Update Apache.

Update Apache

You should update Apache after updating Subversion. The Polarion server, PostgreSQL and Apache should already be stopped for that update.

1. You can download the appropriate Apache binaries at:

    http://www.apachehaus.com/cgi-bin/download.plx.

    Installation Help for Apache HTTP server is available from Apache at:

    http://httpd.apache.org/docs/2.4/install.html.

2. Install the downloaded Apache on any machine to get the content of the installation folder.

3. Back up the folder **$POLARION_HOME$\bundled\apache**

4. If you use Apache installed as a service, then uninstall Apache service by running:

    $POLARION_HOME$\bundled\apache\bin\httpd.exe -k uninstall -n

    Apache2Polarion

5. Delete content of **$POLARION_HOME$\bundled\apache** except the following:

    a. Folder **$POLARION_HOME$\bundled\apache\conf**

    b. Files in folder **$POLARION_HOME$\bundled\apache\bin:**

      msvcr*.dll

      stopApache.js

      libsvn_*.dll

    c. Files in folder **$POLARION_HOME$\bundled\apache\modules:**

      mod_authz_svn.so

      mod_dav_svn.so

      You may have trouble deleting **rotatelogs.exe**. If so, you can kill the rotatelogs.exe process using Windows Task Manager.

6. Copy the content of the Apache installation folder from **Step 2**, except for the **conf** folder,

    to **$POLARION_HOME$\bundled\apache**.

7. Remove or disable the following lines in the **httpd.conf** file.

    (To disable, insert the # character at the start of the lines, as shown below.)

    # LoadModule authn_default_module modules/mod_authn_default.so

    # LoadModule authz_default_module modules/mod_authz_default.so

    # DefaultType text/plain

8. Add the following lines to the **httpd.conf** file:

    LoadModule access_compat_module modules/mod_access_compat.so

LoadModule authz_core_module modules/mod_authz_core.so

LoadModule authn_core_module modules/mod_authn_core.so

9. Not mandatory, but recommended: in

    $POLARION_HOME$\bundled\apache\conf\extra\httpd-default.conf

    Increase the value of **MaxKeepAliveRequests** to 10000.

10. If you use Apache installed as a service, install Apache service. Use the following command in a single line:

    $POLARION_HOME$\bundled\apache\bin\httpd.exe -k install -n Apache2Polarion

11. Start Apache, PostgreSQL and the Polarion server.

Update Java

It's good to update Java regularly for security reasons, but check the README.html file section to make sure that major Java version updates are officially supported by Polarion before updating to them.

(Polarion currently supports JDK 1.8.0 64 bit. 32 bit Java is no longer supported.)

Chapter 17:   Uninstall Polarion

Polarion comes with its own uninstaller that can either be launched via the ⬚ **Uninstall** shortcut in the Polarion shortcuts folder or through ⬚ *Programs and Features* in ⬚ *Windows Control Panel*.

> ⚠️ Polarion's subversion repository is stored in the **[POLARION]\polarion** folder. Be sure this repository does not contain production data that must be preserved. If it does, make a backup before uninstalling Polarion.

1.   Click on the ⬚ **Polarion** icon.

2.   Click on the ⬚ **Uninstall** in the Polarion shortcuts folder.
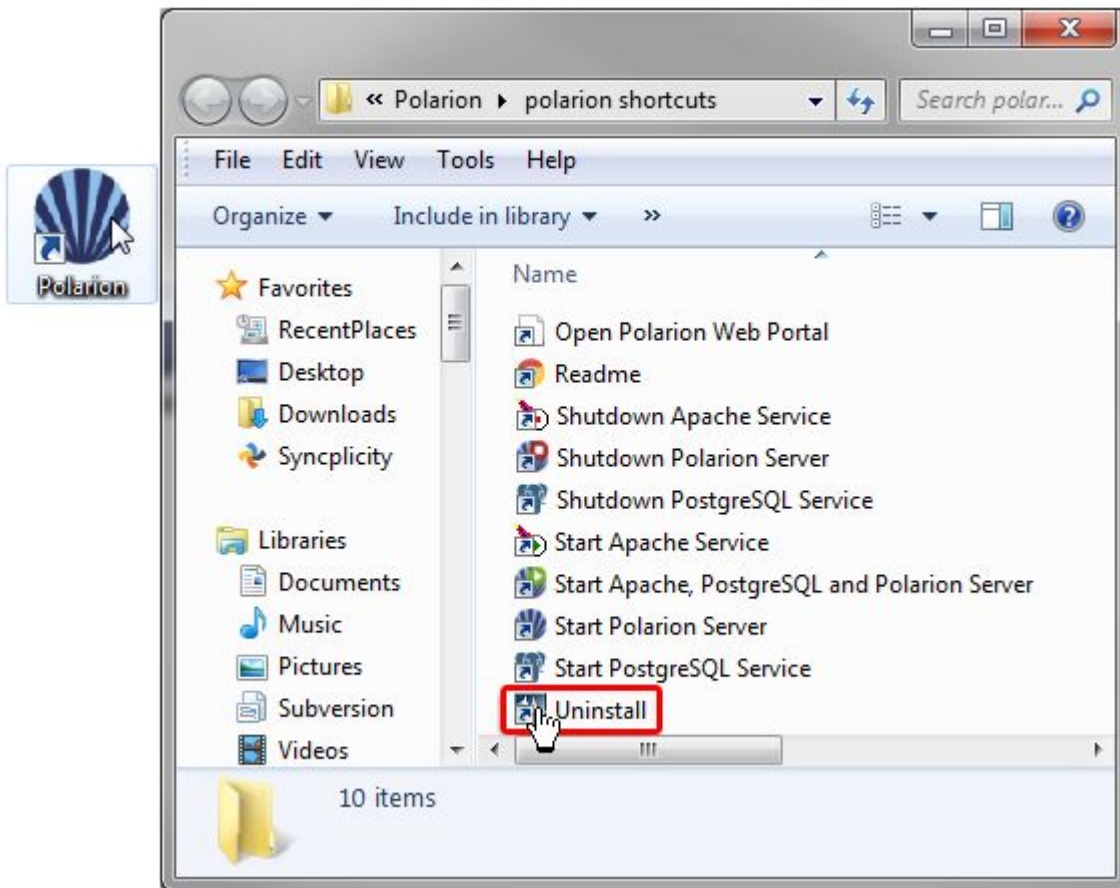
OR

1. Go to the 🖥 *Windows Control Panel*.

2. Select 📇 *Programs and Features*.

3. Select Polarion from the list of Programs and click **Uninstall**.

4. Click **Yes** to confirm the uninstallation when the warning screen appears.

5. The uninstall process begins.

> Polarion and bundled components were successfully uninstalled.
> The Subversion repository and files created during Polarion operation were not deleted.
> Please select one of the options below:
>
> ⦿ Do not delete any remaining files
> ⦿ Keep the data folder but delete the configurations and program files changed after installation
> ◉ Delete ALL files including project builds, generated reports and Subversion repository

6. Select what files, if any, to keep and click **Next**.

> **Uninstallation Complete**
>
> InstallShield Wizard has finished performing maintenance operations on Polarion.

7. Click **Finish**.

8. Polarion is successfully removed from your system.

> 📝 Java will not be uninstalled along with Polarion

Chapter 18: Technical support

Polarion is problem-free for most people... at least that's been our experience. However, it's impossible to anticipate all the conditions and environments where Polarion may be used. If an arises, Polarion's Technical Support team maintains the Customer Self-service Portal which includes an extensive knowledge base of common problems and solutions and troubleshooting information, as well as the possibility to submit, manage, and review your own specific support cases.

For information about the portal and technical support options, please visit: https://polarion.plm.automation.siemens.com/techsupport/resources

Chapter 19:   Appendix

Enabling email notifications

If you did not configure email notification settings in the installation program, you can do this after installation by setting the host name in the **announcer.smtp.host** property in the **polarion.properties** file located in **[POLARION_HOME]\polarion\configuration**. There you should also set the **announcer.smtp.user** and **announcer.smtp.password** properties to a valid email account on the SMTP host specified in **announcer.smtp.host**. You may want to create a dedicated email address on your SMTP host for use by the Polarion notifications system.

When this configuration is correctly set up, the system will send notification emails about various events according to the notification targets configuration. For information on configuring email notifications, see the **Administrator's Guide: Configuring Notifications** in Polarion's Help.

Default parameters and settings

This section contains reference information about default Polarion parameters used by the Polarion installer for Windows.

1. Polarion installation root folder: **C:\Polarion**.

2. Polarion components (default folder is: **C:\Polarion\bundled**):

    a. Apache2 HTTPD-server (**C:\Polarion\bundled\apache**)

    b. Java Runtime Environment (**C:\Polarion\bundled\java**)

    c. Subversion (**C:\Polarion\bundled\svn**)

    d. PostgreSQL (**C:\Polarion\bundled\PostgreSQL**)

3. Default settings for Apache:

    a. Install type: for an**Evaluation** installation as a service, otherwise user-specified (service or console application, default: Service)

    b. HTTP port: 81 for an **Evaluation** installation, otherwise port user-specified (default: 80)

    c. Shutdown port: 8887

    d. SMTP host: localhost for an **Evaluation** installation, otherwise the value is generated by adding mail. to the domain name taken from the registry. Remember that this is just the documentation of default values. You would specify the actual value for your system during the installation.

4. Default settings for Polarion:

     a.   Install type: for an **Evaluation** installation, as a console application, otherwise user specified (default: as Windows service).

5.   Default system property setting for PostgreSQL database connection:

com.polarion.platform.internalPG=polarion:polarion@localhost:5433

Parameters: *<connecting user name>:<password>@<hostname>:<port>*

Chapter 20: Supported Microsoft Office® versions

Users of a Polarion® ALM™ product supporting current or legacy Microsoft Office data interchange features for Microsoft Word™ and/or Excel®, please note the following table which outlines compatible versions of Microsoft Office applications.

Feature	Action	Extension	Format	Microsoft Office Version				
				2003	2007	2010	2013	2016
Polarion LiveDocs (2011)	Word Import & round-trip	DOCX	DOCX	✗ 2	✗ 1	✓	✓	✓
	Excel Import & round-trip	XLSX	XLSX	✗ 2	✗ 1	✓	✓	✓
Polarion LiveDocs (2010) ²	Excel export	XLS	XML	✗ 3	✗ 3	✗ 3	✗ 3	✗ 3
	Word export	DOC	XML	✗ 3	✗ 3	✗ 3	✗ 3	✗ 3

Supported = ✓ / Unsupported = ✗

NOTES:

1. Beginning with Polarion 18, Microsoft Office 2007 is no longer supported in Polarion LiveDocs™.

   ⚠ (The only exception is Polarion's internal templates. If updated in Microsoft Word, they should still be saved in the 2007 .docx format to ensure that content like shapes import/export as expected.)

2. Beginning with Polarion version 2014-SR1, Microsoft Office 2003 is no longer supported in Polarion LiveDocs™.

3. Prior to Polarion version 2011, **Live Documents** referred to Microsoft Office Word and Excel documents based on special document templates developed by Polarion, which could define and store Polarion **Work Items**. Beginning with version 2011, Polarion re-factored the technology completely but maintained backward compatibility. Beginning with Polarion version 2014-SR1 support for this legacy format is dropped completely.