



SAP BusinessObjects BI Pattern Books

Pattern Book on Updating BusinessObjects BI 4.0 system to BI 4.1

ABSTRACT

This pattern book covers the workflow required to UPDATE the SAP BusinessObjects BI 4.0 system to BI 4.1 Release.



Disclaimer

- This pattern book is for informational purpose only and may not be copied / reproduced without the permission of SAP
- The information provided in this book are based on the SAP BI Pattern Books project for a specific set of patterns / use cases applied within SAP lab environment. Hence, make sure to review and apply the steps / workflows that are applicable to your use cases / patterns, based on your SAP BusinessObjects BI landscape
- Contents of this, or any related document and SAP's strategy and possible future developments, products and or platforms directions and functionality that are discussed in this book all subject to change and may be changed by SAP at any time for any reason without notice. Therefore, read the latest official product guides, release notes to understand the differences and act accordingly

For further comments and questions, email to SAPEnableBI@sap.com



Contents

| | |
|--|----|
| What is SAP BI Pattern Book? | 3 |
| Update project scope..... | 3 |
| BI system landscape overview | 5 |
| BI4 system landscape and components..... | 6 |
| Proposed update scenario | 8 |
| Pattern pre-requisites checklist | 10 |
| Preparing for updates | 10 |
| Update workflow | 33 |
| Updating the CMS Hosts | 34 |
| Updating the Non-CMS Hosts | 44 |
| Updating the Web-tier Hosts | 49 |
| Post-update workflows | 61 |
| Enabling BI 4.1 SP04 new components..... | 61 |
| Web application server configuration | 68 |
| Post update tools and processes | 87 |
| Known issues and challenges..... | 89 |
| References | 90 |



What is SAP BI Pattern Book?

Deploying/upgrading SAP BusinessObjects BI Platform is often a challenging task. SAP BI Pattern Book initiative is intended to address deploying/upgrading challenges and provide guidelines and best practices with intuitive step-by-step instructions on how to deploy/upgrade SAP BusinessObjects BI system and its components based on a real-world system landscape (use case / pattern).

Goals

The main goals of the SAP BI Pattern Book initiative are:

Develop an instruction manual for customers, partners, and SAP internal teams to deploy/upgrade SAP BusinessObjects BI software, and achieve quicker time to value

Help our customers, partners, and internal colleagues with step-by-step instructions on how to deploy/upgrade SAP BusinessObjects BI Platform on Microsoft Windows operating system for a particular pattern of a real world deployment scenario

Provide guidelines, highlight the best practices and challenges for deploying/upgrading SAP BusinessObjects BI system

This pattern is for updating SAP BusinessObjects BI 4.0 SP4 environment to SAP BI4.1 SP04. If you are interested in other Pattern Books, follow these links:

- [XI 3.1 Windows](#)
- [XI R2 for AIX](#)
- [XI R2 for Red Hat](#)
- [XI R2 Windows](#)
- For more information on available patterns, refer to **SAP Business Intelligence Platform Pattern Books** home page.

Update project scope

The story behind the Phase 3 of SAP BI Pattern Books...

Hi !, my name is Larry and I am the CIO of NoTech Inc. Today my company has two BI systems in place.

System 1 - the largest and most used, is running SAP BusinessObjects XI3.1 SP07. This system is already there running for a long time and being used by the company in mostly any department. The system is



getting outdated and is at it's point to be replaced with a new set of hardware to keep facilitating the number of users that has been growing.

System 2 - While our second system is running an SAP BusinessObjects BI 4.0 release. Reasons for this system is a choice made 2.5 years ago for a special project that required features provided by BI 4.0 and hence a second system had to be build up for the specific project. Over a period, a few additional projects have been added to the BI 4.0 system, but as we had some large systems available during the roll out, the system even doesn't have a clue what's working. However, the management of two systems is too bothersome.

The cost of maintaining the systems are raising beyond acceptable and the XI 3.1 starts to become unstable due to overload, while expensive hardware is used for a small deployment. Additionally, more and more users of the XI 3.1 system are confronted with two separate systems for their daily BI requirements. Plus, various departments are requesting features that are available in the latest BI 4.1 release.

After a meeting with an expert from SAP, the decision has been made to upgrade our complete BI solution into a single new BI 4.1 SP04 system. BI4.1 SP04 was chosen as it happened to be latest SP on BI4.1. The proposed approach by the SAP Expert had been as follows:

Update the existing BI 4.0 system to BI 4.1 SP04. This would provide the users of the system to start leveraging all new features added in the latest release.

Once the BI 4.1 SP04 system is up & running and fully validated, the content of the XI 3.1 system can be upgraded into the BI 4.1 system.

This approach would solve all the challenges we are facing today with our deployment as:

Single system to maintain / leverage

Hardware utilized as it should be

Provide latest innovations by SAP BI4.1 for all users

For your reference, we have documented all the steps we have gone through for this process and are happy to share our steps with you to help you in delivering the same and be as successful as we have. In the following section, you will start reading our first step of the process, the [update](#) of our [BI 4.0](#) system into [BI 4.1 SP04](#).

If you would like to have a look at the second step of the process – Refer to **“The story behind the Phase 3 of SAP BI Pattern Books”** ... section under **Upgrade project scope topic**.

Warm Regards,

Larry.



BI system landscape overview

The plan for Phase 3 of SAP BI Pattern Books is to use the SAP BusinessObjects BI 4.0 SP04 landscape deployed in Phase 2 (SAP BusinessObjects BI Platform in a clustered environment on Windows operating system) and update it to SAP BusinessObjects BI 4.1 SP04.

Refer the SAP BI Pattern Book on Deploying BIP on Windows with Mobile and Explorer under **BIP on Windows with Mobile and Explorer Pattern Book** topic for complete information on how the landscape was deployed and configured.

Architecture highlights

Here are the main highlights of the SAP BusinessObjects BI system landscape:

- Clustered
- Load Balanced
- Reverse Proxy Supported
- SSL Secured
- Windows AD (with SSO) and SAP Authentication Supported



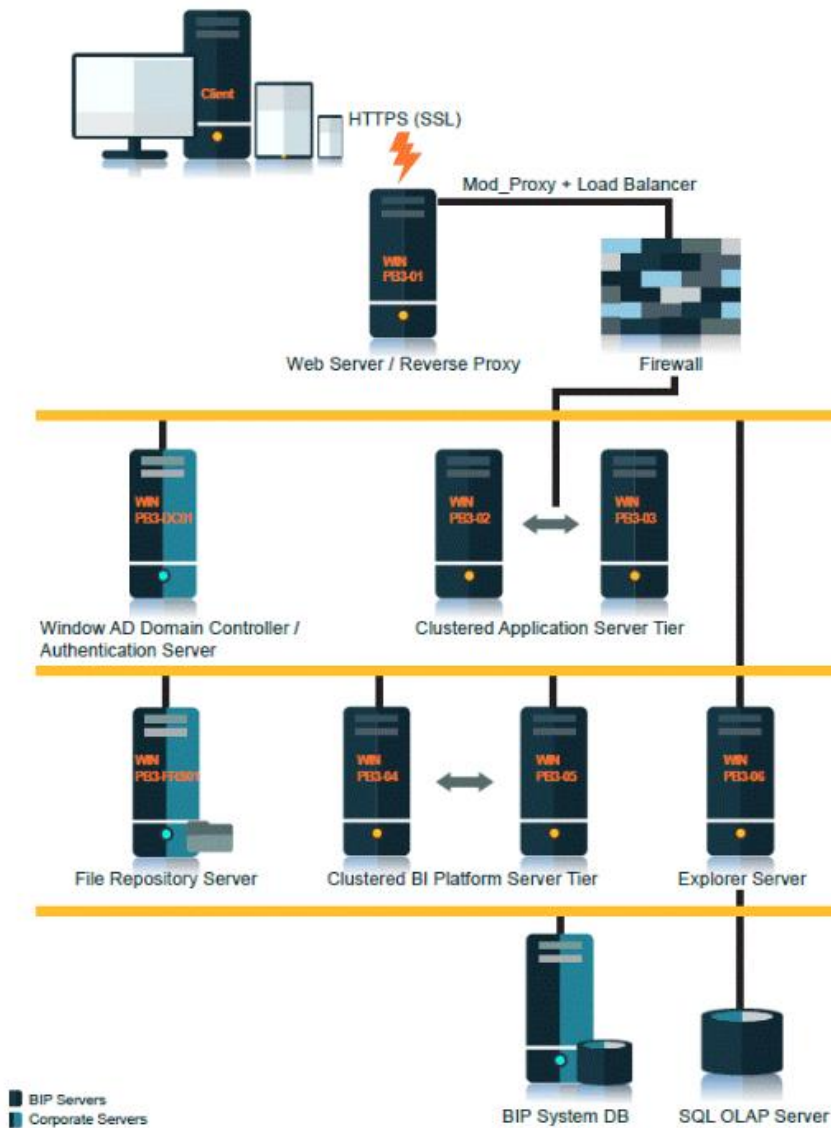
Software components and their versions

The following table summarizes the software components used, with their version information:

| Software | Type/Scope | Versions |
|---------------------------------|--|--|
| Apache | Web server / Reverse Proxy / Load Balancer | 2.4 |
| Microsoft Windows | Operating system | 2008 R2 |
| MS SQL Server | Database server for CMS and Audit data | 2008 R2 |
| SAP BusinessObjects BI Platform | Server | BI 4.0 SP04 (source/existing) BI 4.1 SP04 (target/updated to) |
| Tomcat | Web Application Server | 6.0 |

BI4 system landscape and components

The following illustration shows the technical architecture of the 'demilitarized zone' (DMZ) environment used in this pattern. Each server node is identified with the logical name corresponding to the architecture components it hosts:



Windows AD Domain Controller – Authentication Server

SAP BusinessObjects BI 4 supports variety of authentication modes. Based on the existing infrastructure or requirements, customers can choose the required authentication mode. For this pattern, we chose Windows Active Directory (with SSO) and SAP authentication modes.

Web Server and Reverse Proxy

Apache is the web server used in this pattern. We chose Apache because it is one of the most commonly used web servers. We used Apache as 'Load Balancer' and 'Reverse Proxy' as well.



Clustered Web Application Servers

Tomcat is used as web application server for this pattern, which is one of the most commonly used web application server types.

Clustered BI Platform Application Servers

In this pattern, there are two Server Intelligence Agent (SIA) nodes dedicated to the BI platform services. These two machines are clustered pointing to the same Central Management Server (CMS) database and these two SIAs host all the BI Platform services.

BI Explorer Server

SAP BusinessObjects BI Explorer is deployed on a dedicated machine for this pattern.

BI File Repository Server

In this pattern, the file repository is hosted on a dedicated Windows machine.

BI System and Audit Database Server

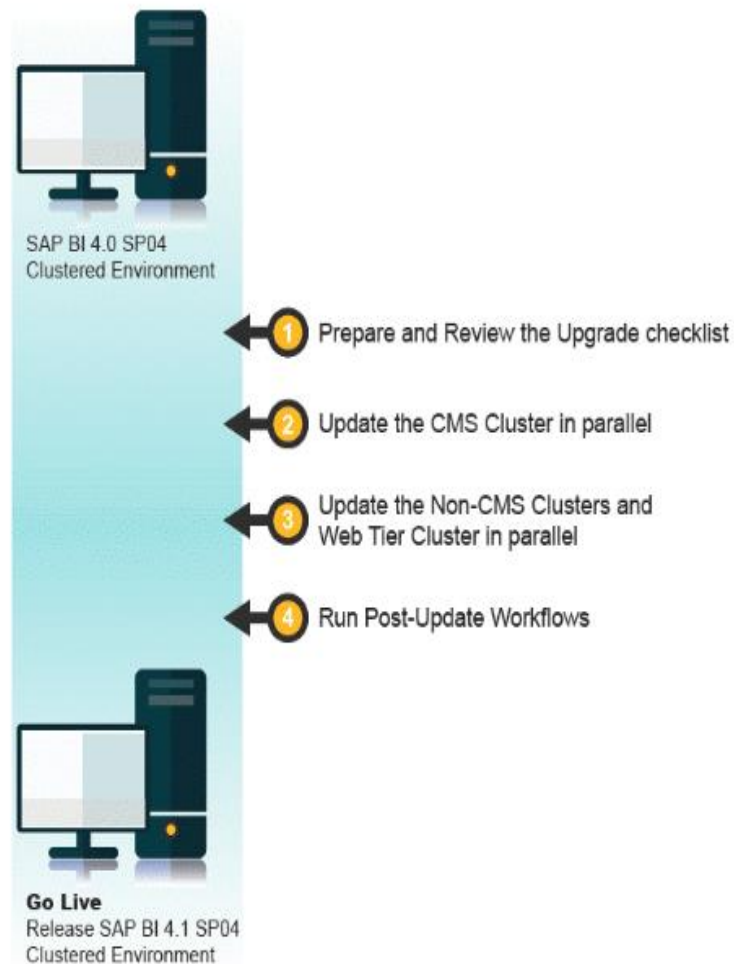
In this pattern, we chose to use MS SQL Server for BI System (CMS) and Audit databases.

SQL OLAP Reporting Database Server

MS SQL OLAP server is used as one of the reporting databases in this pattern.

[Proposed update scenario](#)

The following diagram summarizes the high-level workflow required to update your SAP BusinessObjects [BI 4.0 SP04](#) environment to SAP BusinessObjects [BI 4.1 SP04](#):



Here is the workflow for updating the BI 4.1 system:

Note: It's recommended that you perform the following tasks in the order mentioned below conforming to '[Parallel Patching](#)' practice:

| Task | Objective |
|--|---|
| Review Pattern prerequisites checklist | Review the items in the pattern prerequisites before updating the BI 4.0 system. |
| Prepare for updates | Before updating the BI 4.0 system, stop all document schedules, take a backup of CMS/audit database, file repository (FRS), and Tomcat server configuration files. Run the repository diagnostic tool (reposcan), BI Platform Support Tool, and download the required software. |

| | |
|---|--|
| Update the CMS hosts | To run the BI 4.1 SP4 Update Package Installer on the 'Central Management Server' / 'Server Intelligent Agent' machines. |
| Update the Non-CMS hosts | To run the BI 4.1 SP4 Explorer Update Package Installer on BI Explorer machines. |
| Update the Web-Tier hosts | To run the BI 4.1 SP4 Update Package Installer to update the Web-Tier (Tomcat) machines. |
| Post-update workflows | To check the inconsistencies between Central Management server repository and file repository. |

Pattern pre-requisites checklist

The following checklist describes prerequisite skills, system rights, and tools required to update this pattern.

| Ensure that you have... | Status |
|--|--------|
| Network connectivity and access to BI 4.0 machines. | ✓ |
| Downloaded BI 4.1 Update software packages from the SAP Service Market Place (SMP) (BI Enterprise Platform & Explorer) and placed the packages on the server machines. | ✓ |
| Downloaded the required third party software component installers. For example, Tomcat 7.0, JRE, Connectivity drivers, add-ons etc. | ✓ |
| Administrator privileges for the user who runs installers on Windows operating system. | ✓ |
| Read Product Availability Matrix (PAM) document for supported platforms and technologies. | ✓ |
| Read the patching strategies: <ul style="list-style-type: none"> • SBOP BI 4.X Cluster Patching guide • Parallel Update Validation | ✓ |
| Read the content in references section | ✓ |

Preparing for updates

Before installing SAP BI 4.1 SP04 updates, it is recommended to perform the following steps in the below order:



- [Communicate to all the BI users about the BI platform Update downtime](#)
- [Pause all pending and recurring document schedules](#)
- [Back up the Central Management Server \(CMS\)/Auditing databases](#)
- [Back up the file repositories - Input File Repository Server \(IFRS\) and Output File Repository Server \(OFRS\)](#)
- [Back up Tomcat configuration files from Web Application Server machines](#)
- [Back up the server settings in CCM](#)
- [Back up the registry entries in CMS and Explorer machines](#)
- [Run the repository diagnostic tool \(RDT\)](#)
- [Run the SAP BusinessObjects BI Platform Support tool](#)
- [Check the health of Windows in all machines using Windows event viewer](#)
- [Disable the update for Windows and stop anti-virus process in all machines](#)
- [Downloading BI Platform 4.1 SP04 Server Update and Explorer 4.1 SP04 update installers](#)

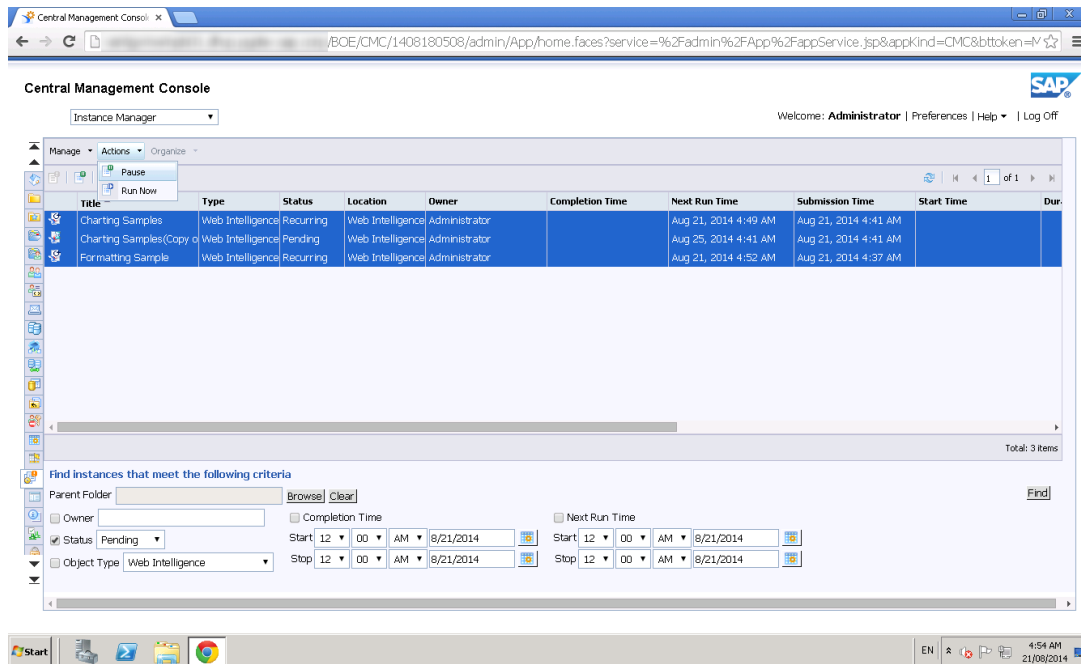
Communicate to all the BI users about the BI platform Update downtime

Make sure to communicate to all end users about the upcoming downtime.

Pause all pending and recurring document schedules

Before performing the updates, you need to pause all the pending and recurring document schedules to reduce the overhead on the CMS.

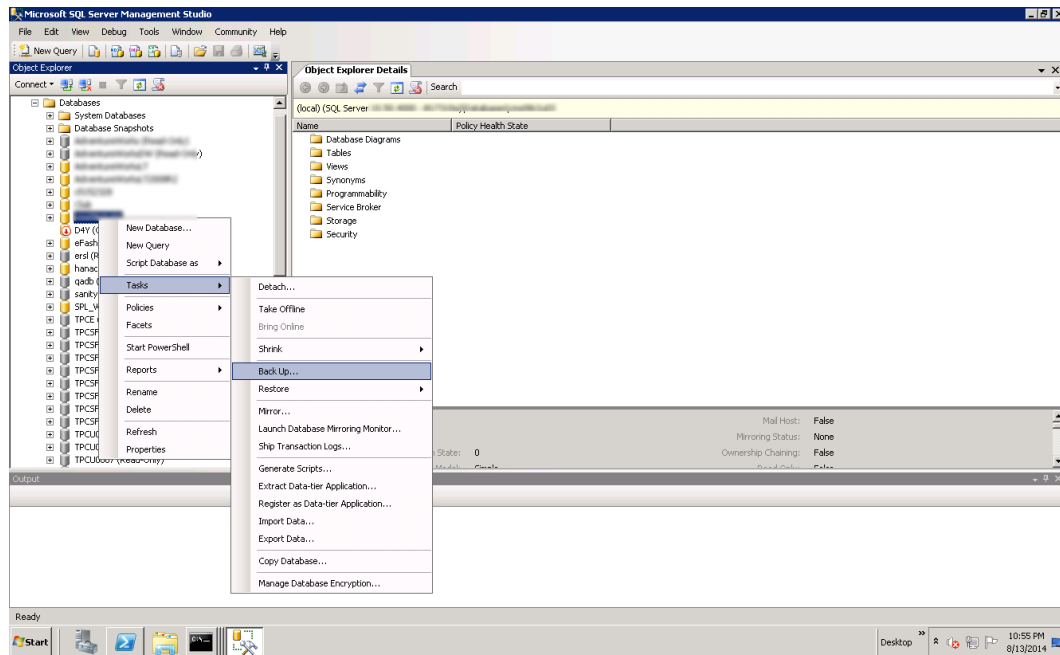
1. Log on to Central Management Console (CMC) as administrator.
2. In the CMC Home, select Instance Manager from the drop-down list.
3. Select the Status option and select Pending to filter all the instances that are either in pending or recurring status.
4. Select all the instances and choose Pause from the menu bar.



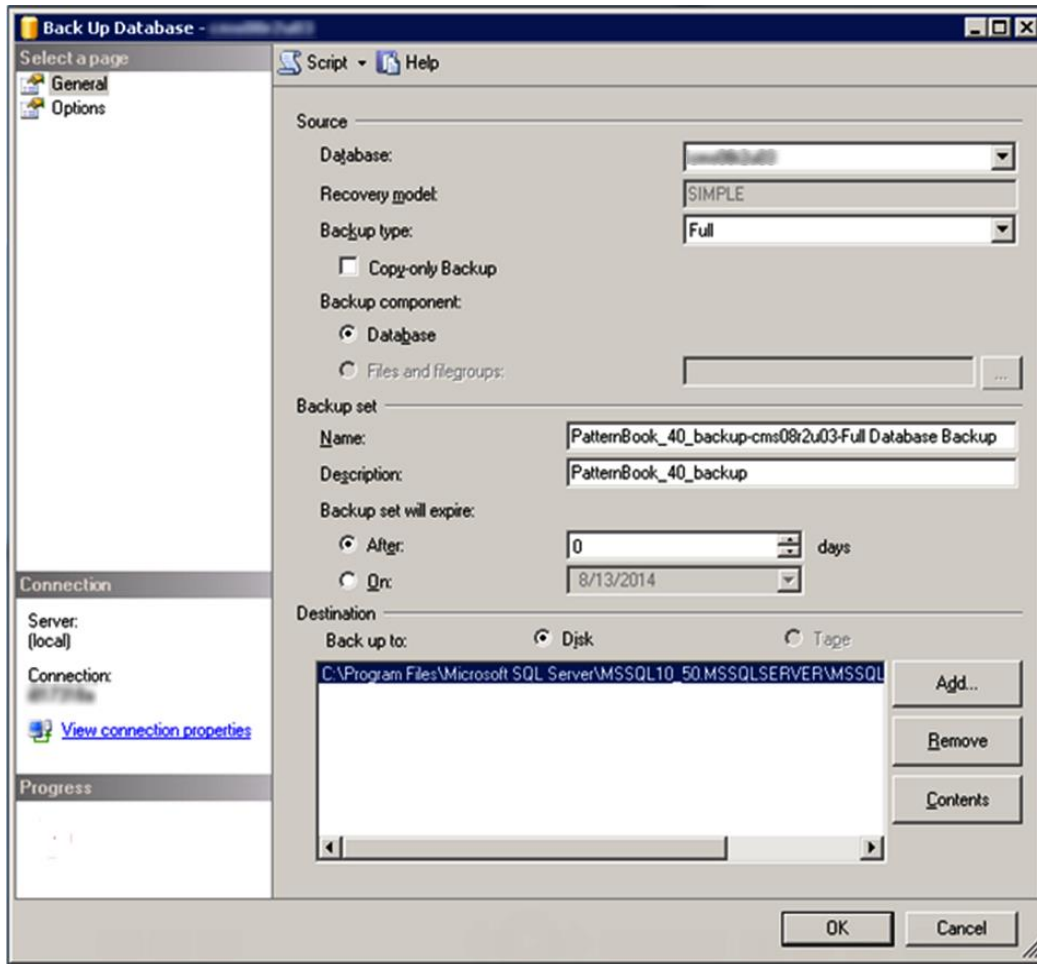
All the document schedules will be paused.

Back up the Central Management Server (CMS)/Auditing databases

1. Log on to the machine (Win PB07) on which the Microsoft SQL Server is running.
2. Go to Start > All Programs > Microsoft SQL Server 2008 R2 > SQL Server Management Studio.
3. Log on to Microsoft SQL Server with the SQL server credentials.
4. Under Databases, right-click the CMS database, and select Tasks > Back Up...



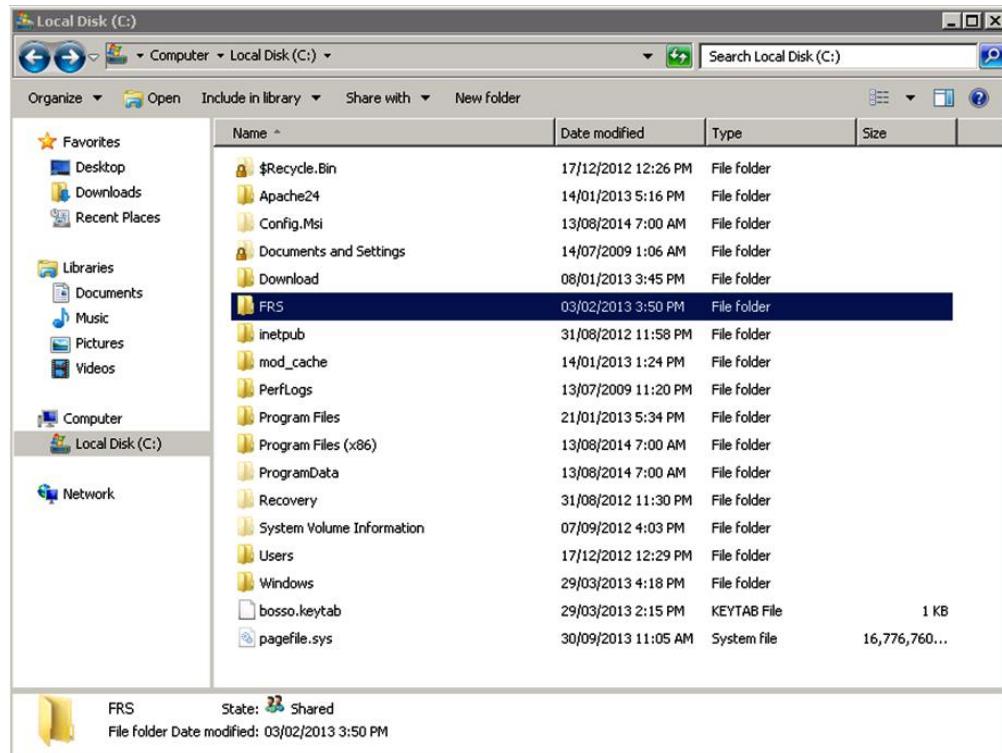
5. Enter a name, description, and destination for the backup set.



6. Select **OK**.

Back up the file repositories - Input File Repository Server (IFRS) and Output File Repository Server (OFRS)

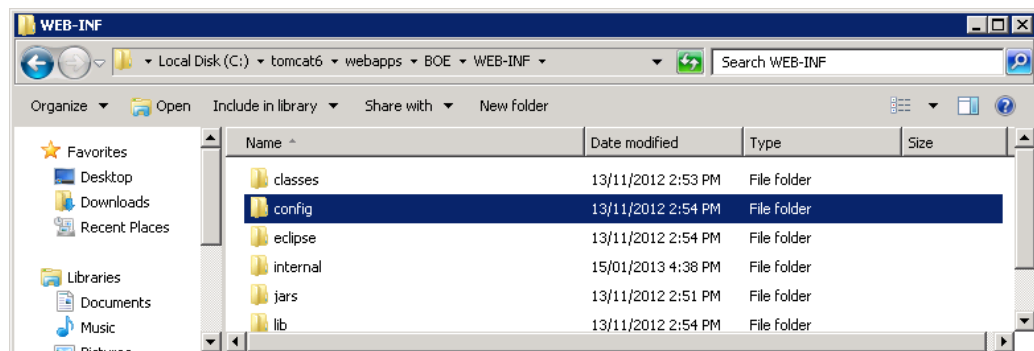
1. Log on to the machine (WINPB3-FRS01), which contains the file repositories.
2. Take a backup of the FRS folder.



Back up Tomcat configuration files from Web Application Server machines

Take a backup of the following Tomcat folders and files:

1. **Config folder:** This contains all the default and custom configurations specified for different BI 4.0 web applications like CMC, BI Launch Pad, OpenDocument, and so on.

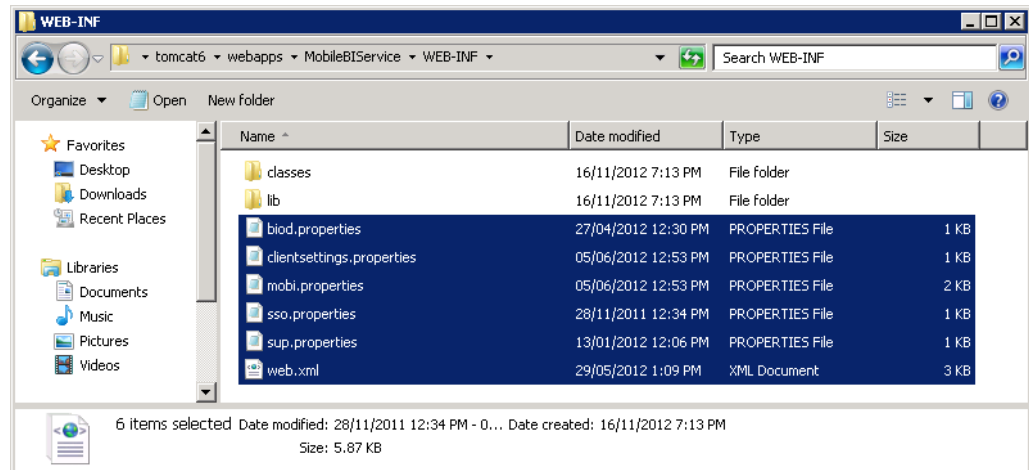


Copy the above folder and paste it in your backup folder. For example:
C:\Backup\Tomcat_configuration.

2. Mobile add-on application deployment configuration files

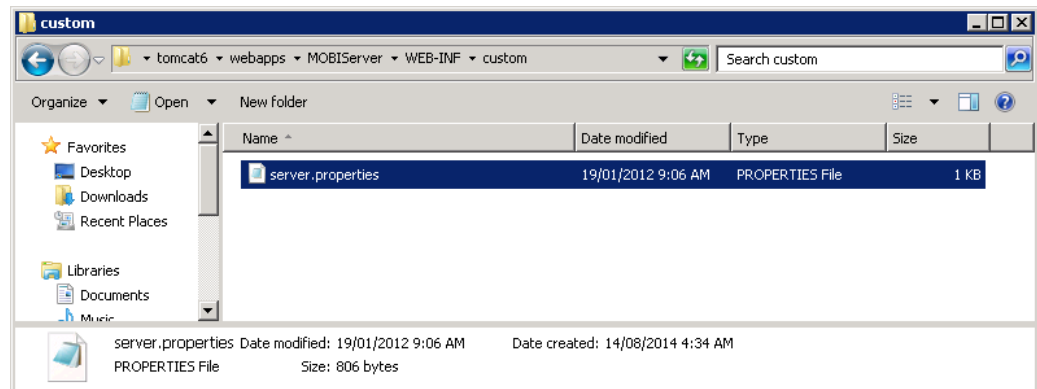
- a. Mobile application services property files are located at:

<TOMCAT_INSTALL_DIR>\tomcat6\webapps\MobileBIService\WEB-INF



Copy the above properties files and paste it in your backup folder. For example: *C:\Backup\Tomcat_configuration\MobileBIService*.

- b. Custom configuration files – If you have done any custom configuration for MOBIServer, then the corresponding configuration files are located at: <TOMCAT_INSTALL_DIR>\tomcat6\webapps\MOBIServer\WEB-INF\custom

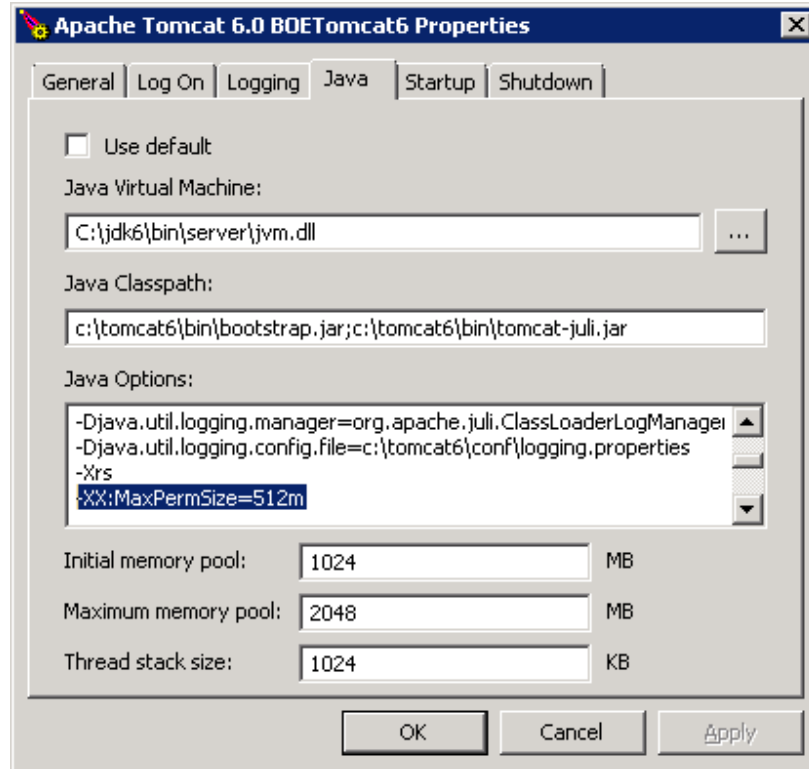


Copy the above properties file and paste it in your backup folder. For example: *C:\Backup\Tomcat_configuration\MOBIServer*.

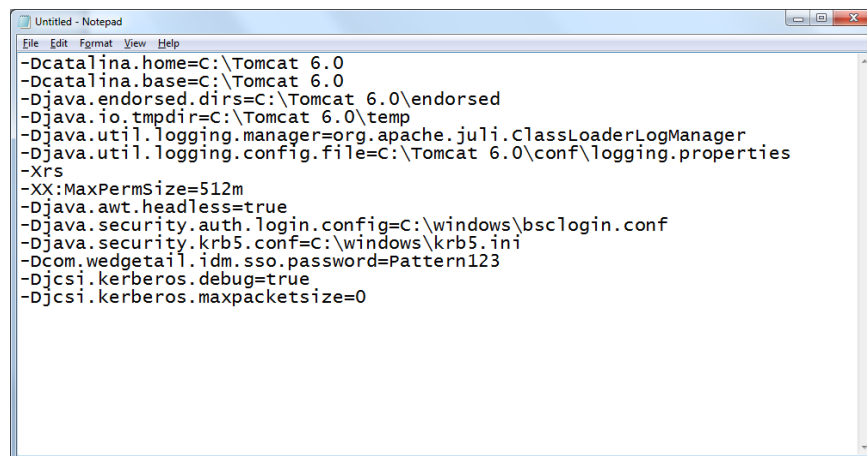
3. Make a note of additional configuration you have done for the Tomcat application server.

- a. Java virtual machine path which is currently used by Tomcat
- b. Java options you have customized

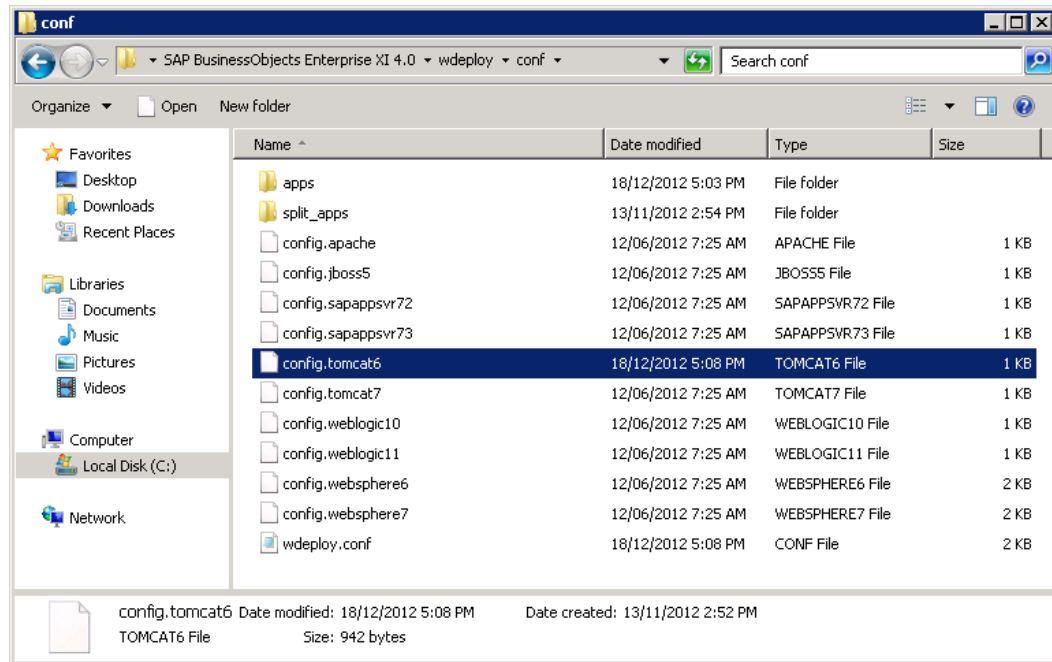
In our deployment, we have added **-XX:MaxPermSize=512m** under Tomcat configuration after installation.



- c. Make a note of AD SSO options parameters.



- d. Tomcat administrator username, password, and role provided.
4. Wdeploy configuration file: This file is located at C:\bi4webtier\SAP BusinessObjects Enterprise XI 4.0\wdeploy\conf.



Copy config.tomcat6 into your backup location
- C:\Backup\Tomcat_configuration\wdeploy_config

5. Tomcat cluster configuration files: The server.xml file is located at C:\tomcat6\conf
- Copy this file into your backup location - C:\Backup\Tomcat_configuration

Note:

Ensure that the Tomcat is up and running as expected after taking backups to be sure that you have not removed any configuration files accidentally during the backup process.

Repeat the same process of taking backup on other Tomcat machine (WINPB3-03) where BI platform is deployed.

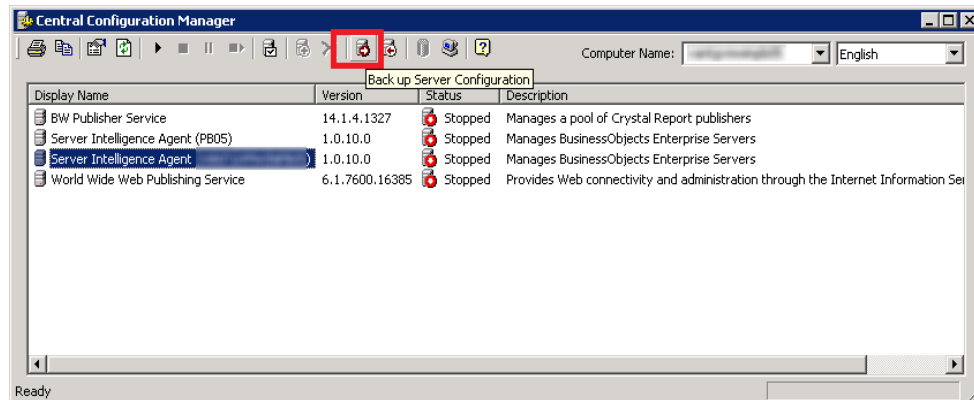
Back up the server settings in CCM

You need to back up the server settings for the entire cluster as you cannot back up the settings for individual servers. This would help in case if the server settings are impacted by the update installation by any chance. It is also recommended that this procedure is done on a

regular basis to keep the backup of the server settings and can be imported back if they are lost, by any chance.

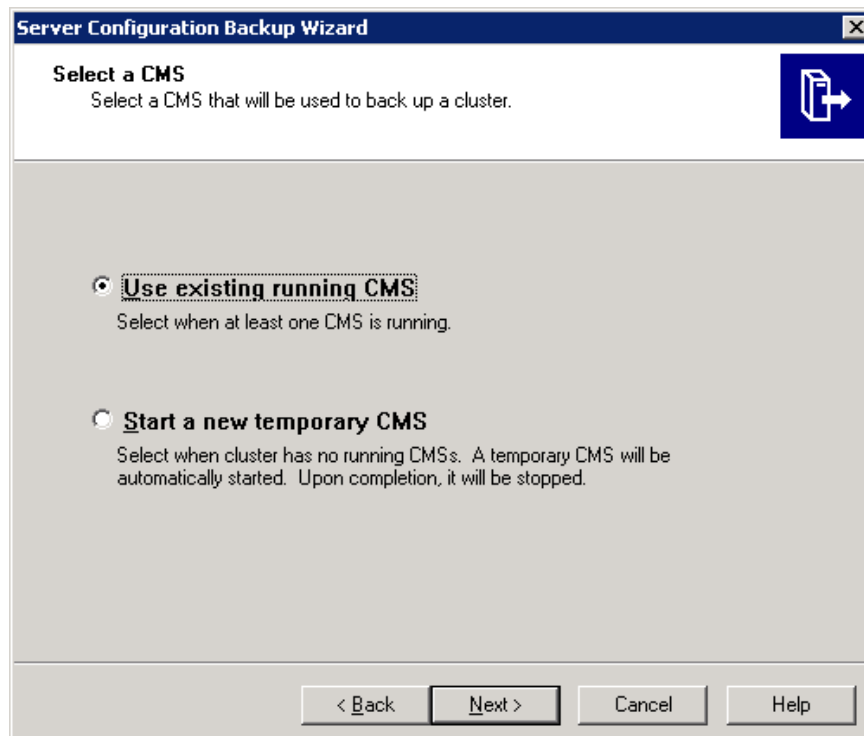
For information on how to take a backup of server settings, see the “To back up server settings in the CCM on Windows” section in the BIP Administrator’s Guide on SAP Help Portal.

1. Log on to any of the CMS machines (WINPB3-04 or WINPB3-05), start the Central Configuration Manager (CCM), and on the toolbar, click **Back up Server Configuration**

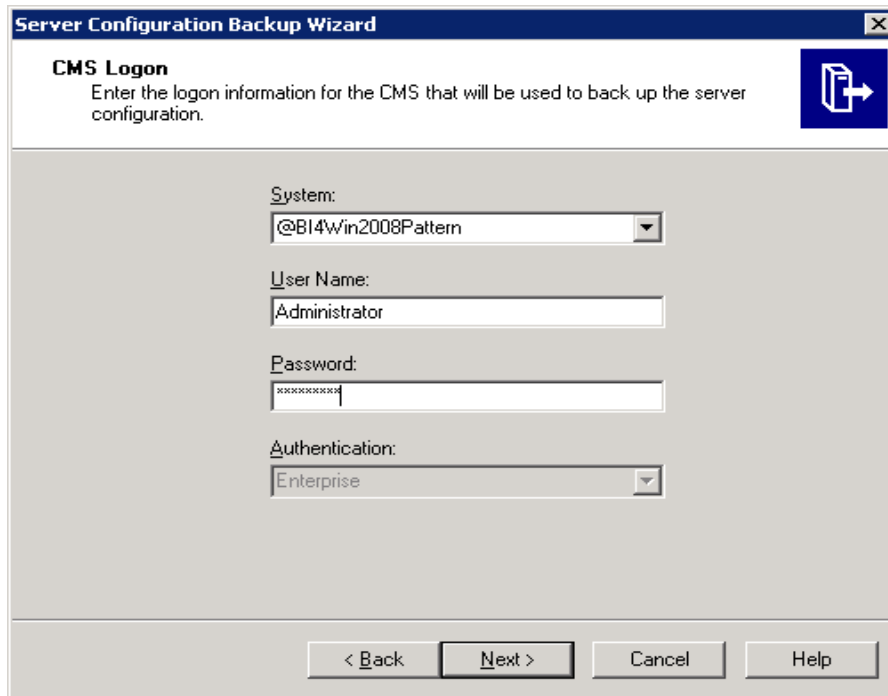


The Server Configuration Backup Wizard appears.

2. Click Next to start the wizard.
3. Select Use existing running CMS, and click Next.

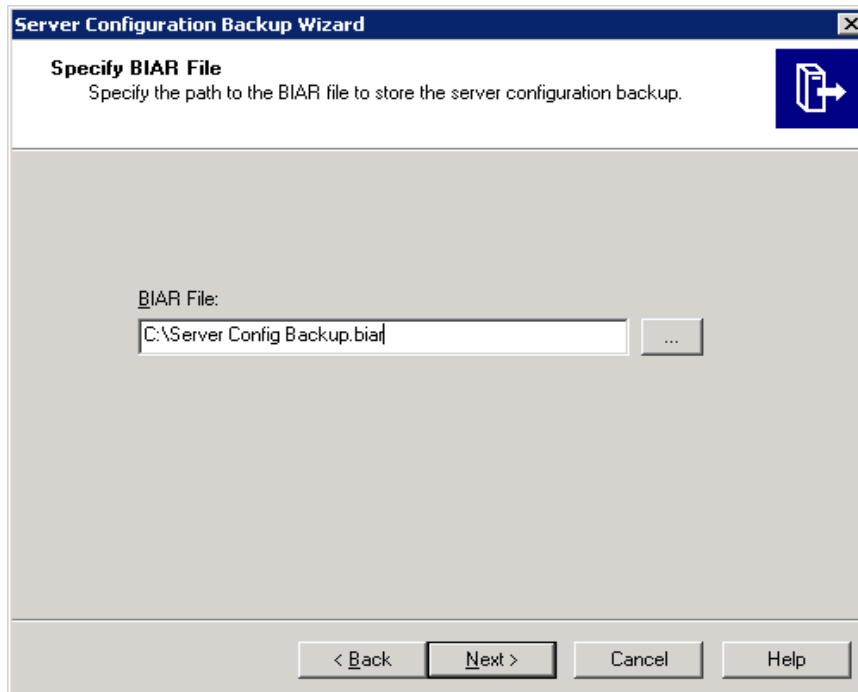


4. Provide the cluster name, Username and password for Administrator.



The screenshot shows the 'Server Configuration Backup Wizard' window, specifically the 'CMS Login' step. The window has a title bar with the text 'Server Configuration Backup Wizard' and a close button. Below the title bar, the text 'CMS Login' is displayed, followed by the instruction 'Enter the logon information for the CMS that will be used to back up the server configuration.' To the right of this text is a blue icon of a folder with a right-pointing arrow. The main area of the window contains four input fields: 'System:' with a dropdown menu showing '@BI4Win2008Pattern', 'User Name:' with a text box containing 'Administrator', 'Password:' with a text box containing 'xxxxxxxxxx', and 'Authentication:' with a dropdown menu showing 'Enterprise'. At the bottom of the window are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

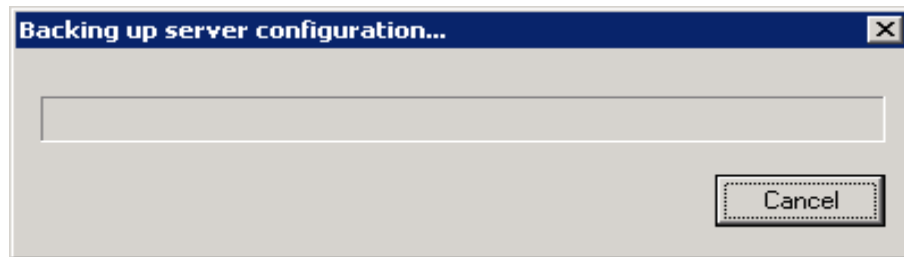
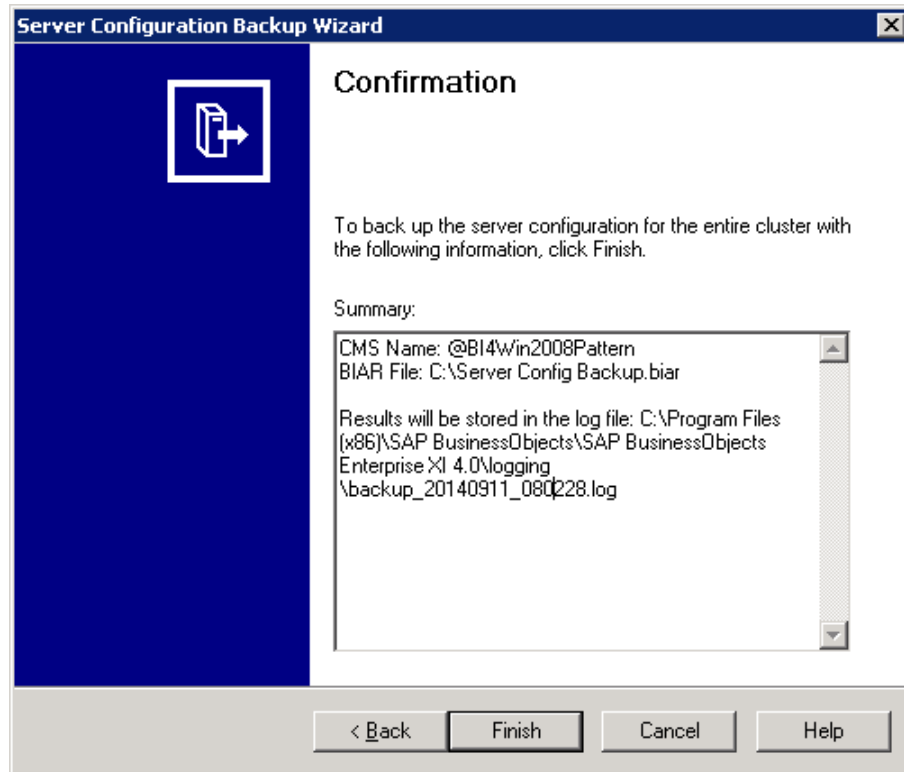
5. Specify the location and name of a BIAR file that you want to back up the server configuration settings to, and click **Next** to continue.



The screenshot shows the 'Server Configuration Backup Wizard' window, specifically the 'Specify BIAR File' step. The window has a title bar with the text 'Server Configuration Backup Wizard' and a close button. Below the title bar, the text 'Specify BIAR File' is displayed, followed by the instruction 'Specify the path to the BIAR file to store the server configuration backup.' To the right of this text is a blue icon of a folder with a right-pointing arrow. The main area of the window contains a single input field labeled 'BIAR File:' with the text 'C:\Server Config Backup.biar' and a browse button '...' to its right. At the bottom of the window are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

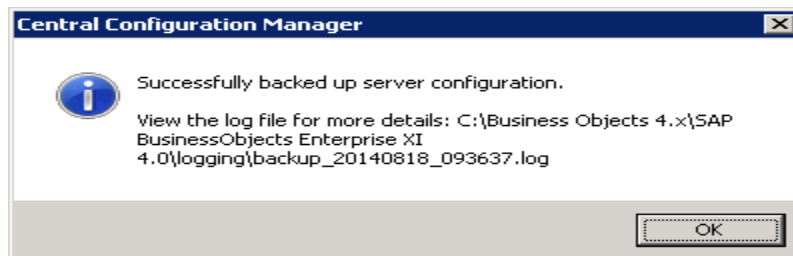
The Confirmation page displays the information that you have provided.

6. Verify that the information displayed on the Confirmation page is correct, and click Finish to continue.



The CCM backs up the server configuration settings for the entire cluster to the BIAR file that you specify.

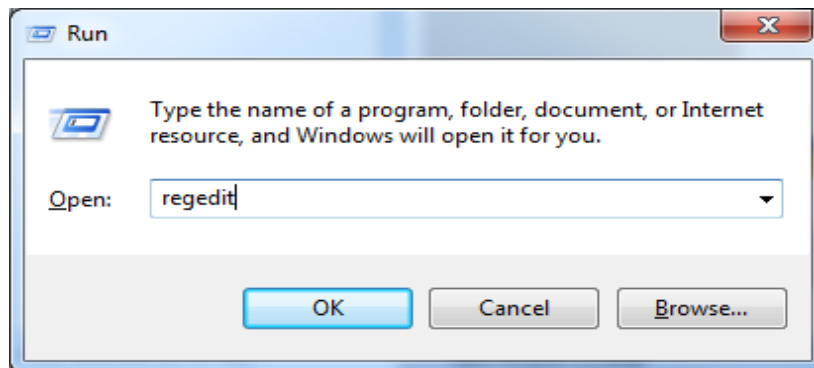
7. Details of the backup procedure are written to a log file. The name and path of the log file are displayed in a dialog box.



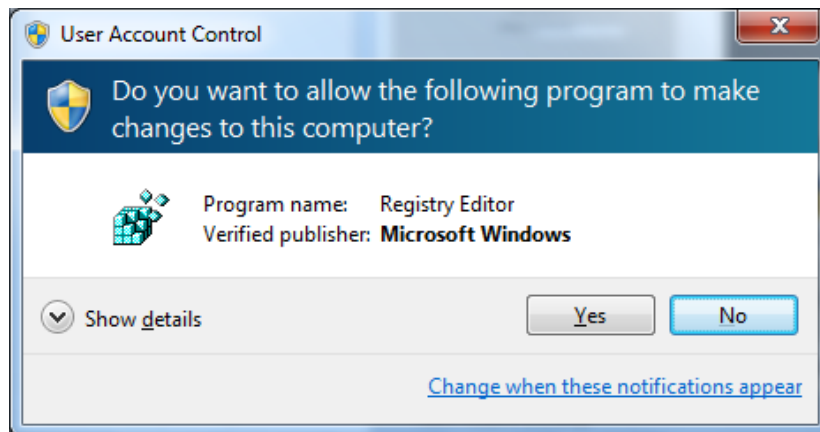
8. If the backup operation failed, check the log file to determine the reason.
9. Click OK to close the wizard.

Back up the registry entries in CMS and Explorer machines

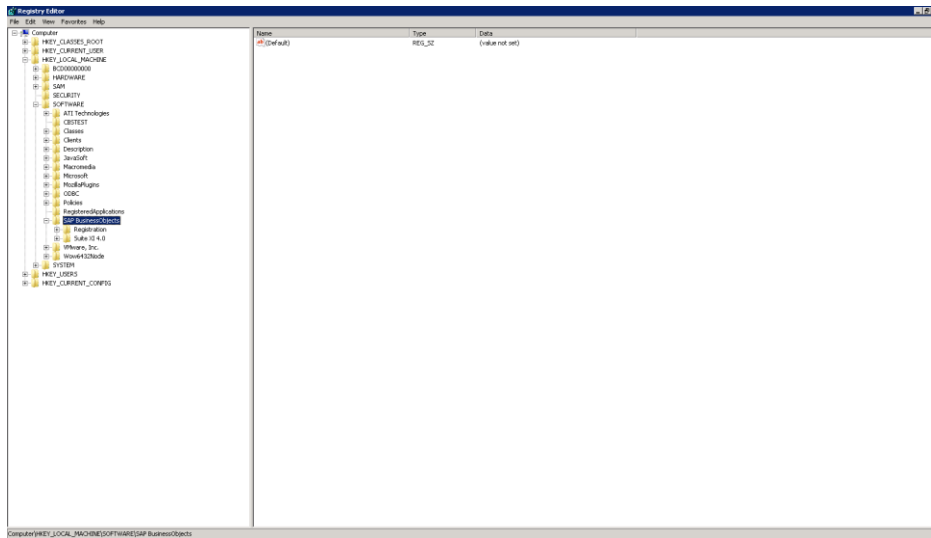
1. Log on to the CMS machine (WINPB3-04)
2. Go to Start > Run and enter "regedit".



3. Click **Yes**.



4. In the Registry Editor window, go to HKEY_LOCAL_MACHINE > SOFTWARE > SAP BusinessObjects.



5. Right-click SAP BusinessObjects and select Export.
6. Specify a name and the path for the registry file.

Information: Repeat the same steps in the CMS machine (WINPB3-05) as well.

Run the repository diagnostic tool (RDT)

You need to run the repository diagnostic tool (RDT/reposcan) to remove any inconsistencies between CMS and FRS. For more information on how to use RDT, see the [Repository Diagnostic Tool guide](#).

We recommend that you read the following reference KBA article for information on how to run [RDT: 1689163 - How to use the Repository Diagnostic Tool \(aka reposcan\) in BI 4.0 - for WINDOWS](#)

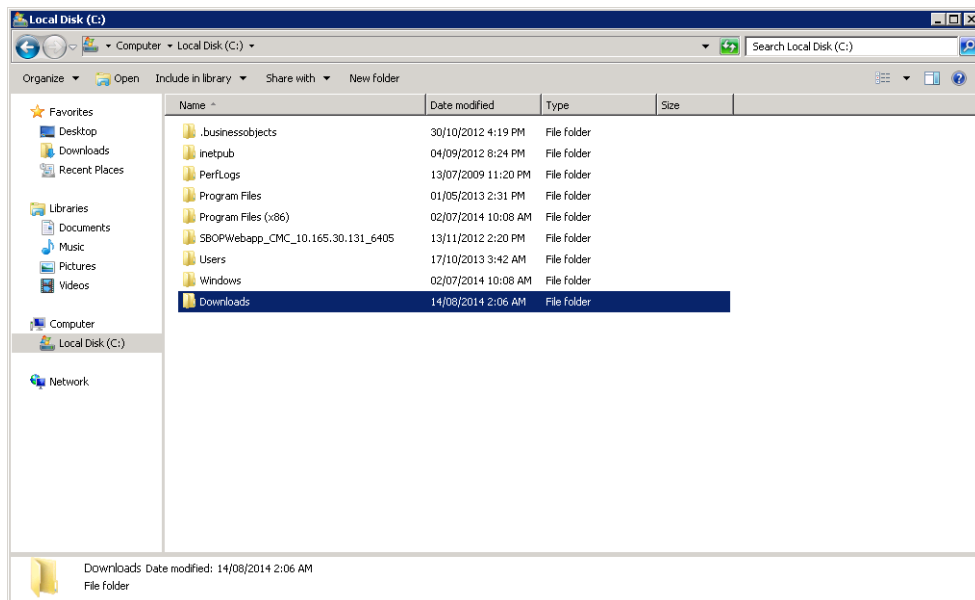
1. Log on to the CMS machine and create a .ini file. For example, create reposcan40_options.ini with the below parameters in order to run the reposcan.exe.


```

reposcan40_options.ini - Notepad
File Edit Format View Help
-dbdriver sqlserverdatabasesubsystem
-connect "UID=i817318a;PWD=bobobo;DSN=CMSDB"
-dbkey "BI4Pattern"
-inputfrsdir "\\WINFRS01\FRS\Input"
-outputfrsdir "\\WINFRS01\FRS\Output"
-scanfrs
-scancms
-repair on
-outputdir "C:\Downloads"

```

2. Create a folder '**Downloads**' in the C:\ directory and save the *reposcan40_options.ini* file



3. Open the command prompt and navigate to *C:\Program Files <x86>\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\win64_x64*.
4. Run *reposcan.exe* by using the configuration file.

```
C:\Windows\system32\cmd.exe
C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0
win64_x64>reposcan.exe -optionsfile C:\Downloads\reposcan40_options.ini
```

```
Command Prompt - reposcan.exe -optionsfile C:\Downloads\reposcan40_options.ini
C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0>win64_x64>reposcan.exe -optionsfile C:\Downloads\reposcan40_options.ini
Initiating...
Scanning 139766 repository objects and 4873 files...
```

```
Select Command Prompt
C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0>win64_x64>reposcan.exe -optionsfile C:\Downloads\reposcan40_options.ini
Initiating...
Scanning 139766 repository objects and 4873 files...
Found 160 application repairable items and 0 manually repairable items.
Write results to file C:\Downloads\Repo_Scan_2014_08_14_05_20_49.xml.
Repairing 160 inconsistent items...
160 repair successful.
Write results to file C:\Downloads\Repo_Repair_2014_08_14_05_20_49.xml.
C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0>win64_x64>
```

The following xml files are generated at C:\Downloads:

- Repo_Repair_YYYY_MM_DD_hh_mm_ss.xml
- Repo_Scan_YYYY_MM_DD_hh_mm_ss.xml

5. Refer the xml files for the details of the scan and repair operation (if any).



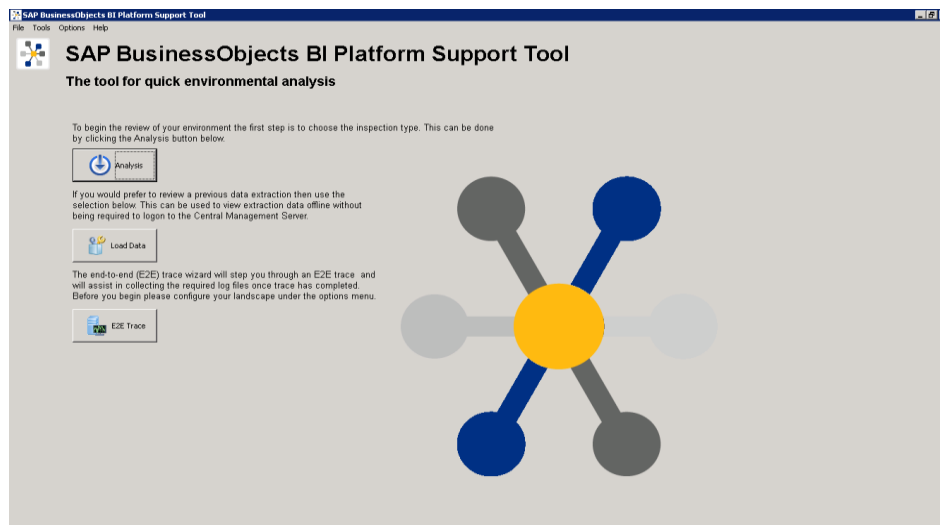
Run the SAP BusinessObjects BI Platform Support tool

The BI Platform Support Tool is a new Java based utility. This tool is used by support engineers, consultants, and BI administrators to inspect the BI Enterprise system configurations, perform root cause analysis, and deliver performance optimization and go-live services.

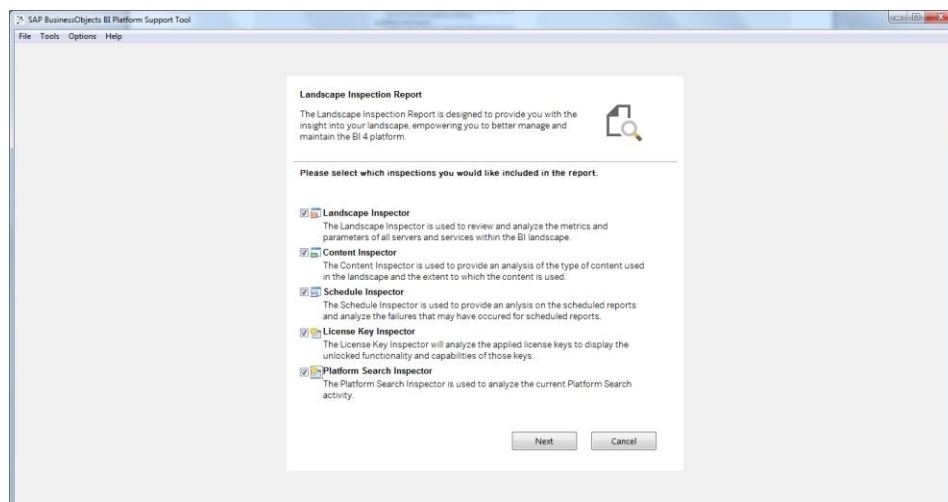
For more information on how to download, install, and run the platform support tool, see <https://wiki.scn.sap.com/wiki/display/BOBJ/SAP+BI+Platform+Support+Tool>.

You need to run the platform support tool to get the report of the existing system landscape of BI 4.0 system before update.

1. Launch the SAP BI platform support tool.
2. Select **Analysis**.



3. Select all the options to generate the consolidated report before patch upgrade





4. Click **Next**.
5. Enter the CMS machine name (for which you want to generate the landscape report), user name, password, and authentication type.

Note: Cluster name is not accepted here. But the tool will capture the details for the entire clustered landscape.

SAP BI Logon

SAP BusinessObjects

Enter your user information and click "Log On".
If you are unsure of your account information, contact your system administrator.

Central Management Server:

Username:

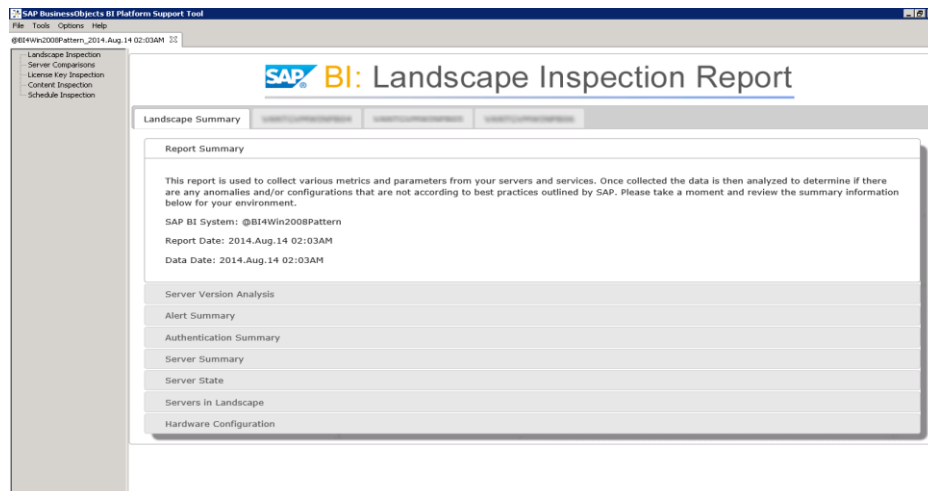
Password:

Authentication Type:

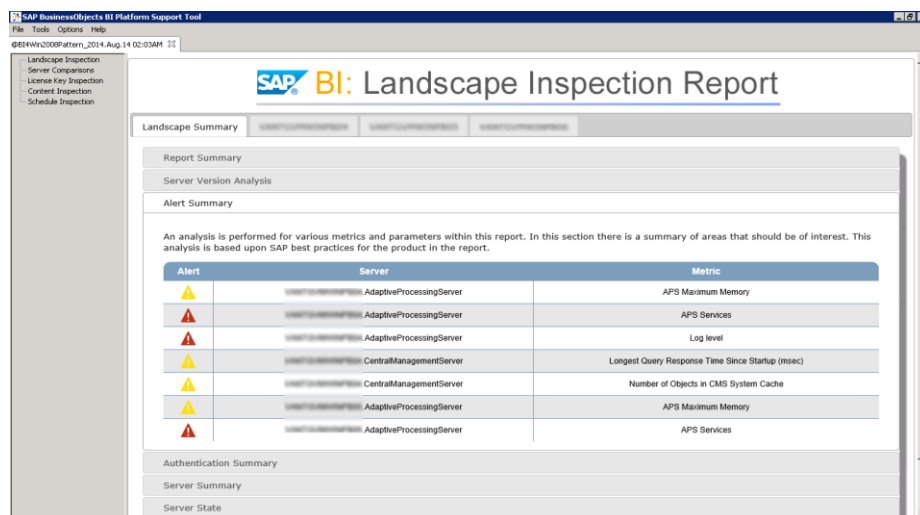
☒ Save Logon Information

6. Click Log On.

After authentication, BI landscape inspection report is generated. This report contains landscape, server comparison, license key, content, and schedule inspection details.



7. Go to the **Alert Summary** section to check if there are any anomalies.



In this pattern, we have hosted all the APS services on a single SIA, therefore, the metric APS service is showing an alert. For information on how to split APS server using System Configuration Wizard under the section "[Restart SIA](#)".

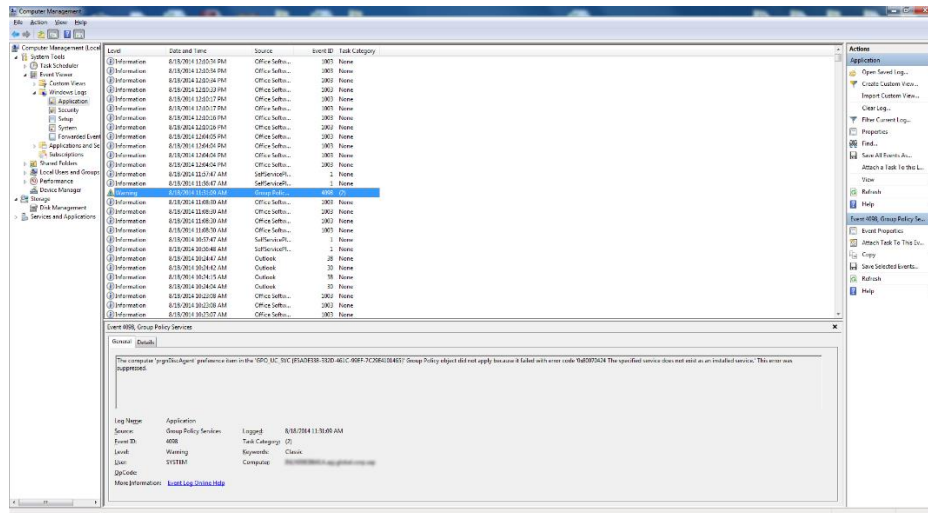
8. Check if there are any anomalies in the other areas.

9. From the File menu, select Save Landscape Analysis to save the inspection report in a folder. For example, landscape_report_4.0_before_update.zip.

Check the health of Windows in all machines using Windows event viewer

You need to check the health of Windows to ensure that there are no BI platform servers and Windows OS related issues.

1. Go to **Start > Run**.
2. Type **Eventvwr**.
3. In **Application**, check if there are any issues related to BI platform servers and Windows OS.

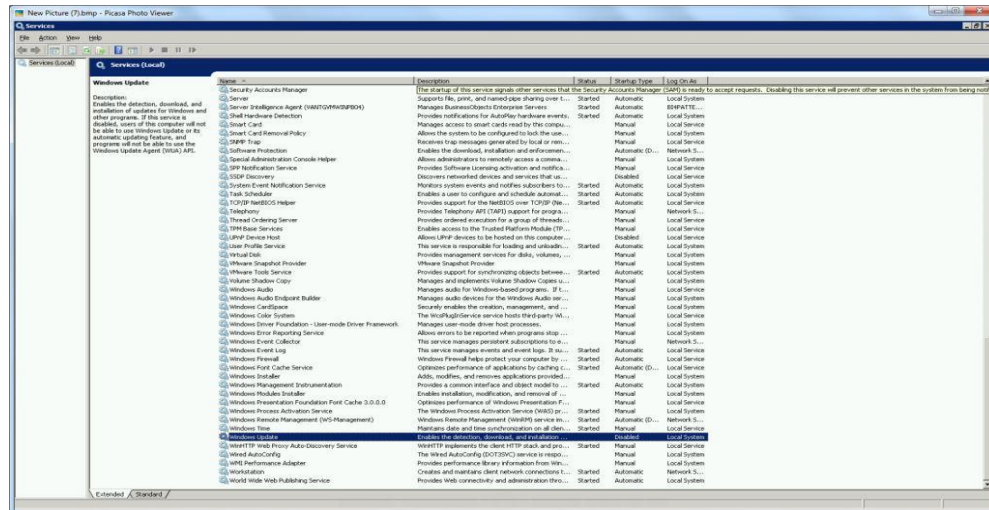


4. Take appropriate actions if there are any errors or warnings.

Disable the update for Windows and stop anti-virus process in all machines

Information: You need to disable 'Automatic updates' for Windows, Java etc.. to avoid any adhoc updates that may force restart the machine affecting/disrupting the BI platform 4.1 update process.

1. Go to Start > Run.
2. Type **services.msc**.
3. Right-click Windows Update and select Properties.



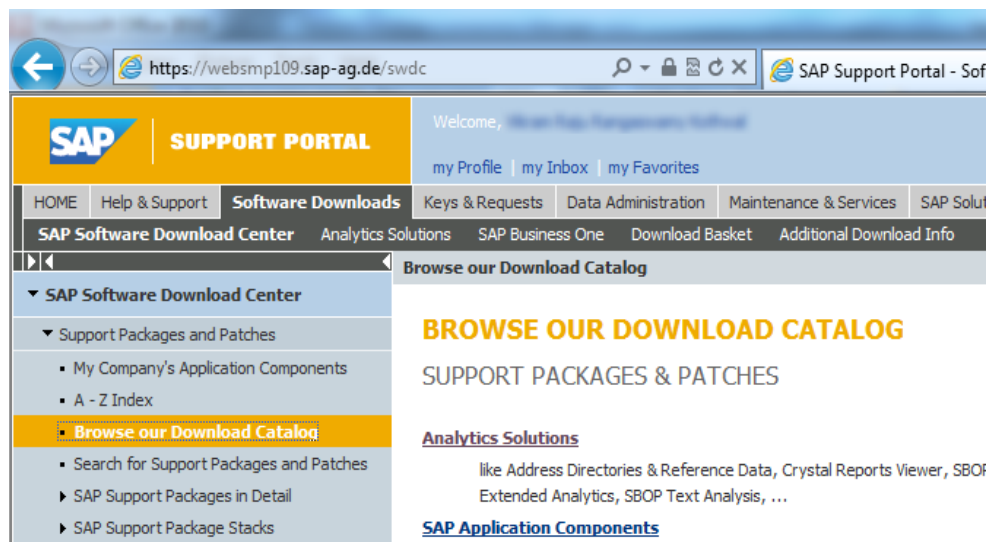
4. Click Stop.
5. From the Startup Type drop down list, select Disabled.

Similarly do this for any automatic/scheduled updates for software installed on your windows machine.

Note: It's recommended that you terminate Java (**jusched.exe** and **java.exe**) and anti-virus processes running on all the machines using the Windows Task Manager.

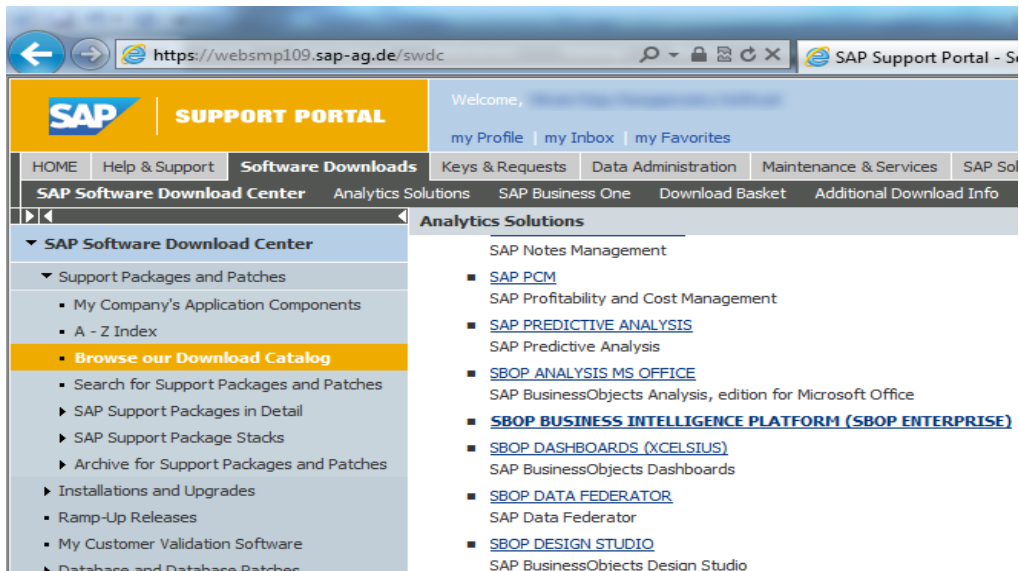
Downloading BI Platform 4.1 SP04 Server Update and Explorer 4.1 SP04 update installers

1. Download 'BI4.1SP04 Platform Servers Update Patch' and 'BI4.1SP04 Explorer Update Patch' installers from SAP Service Marketplace: <http://service.sap.com/swdc>.

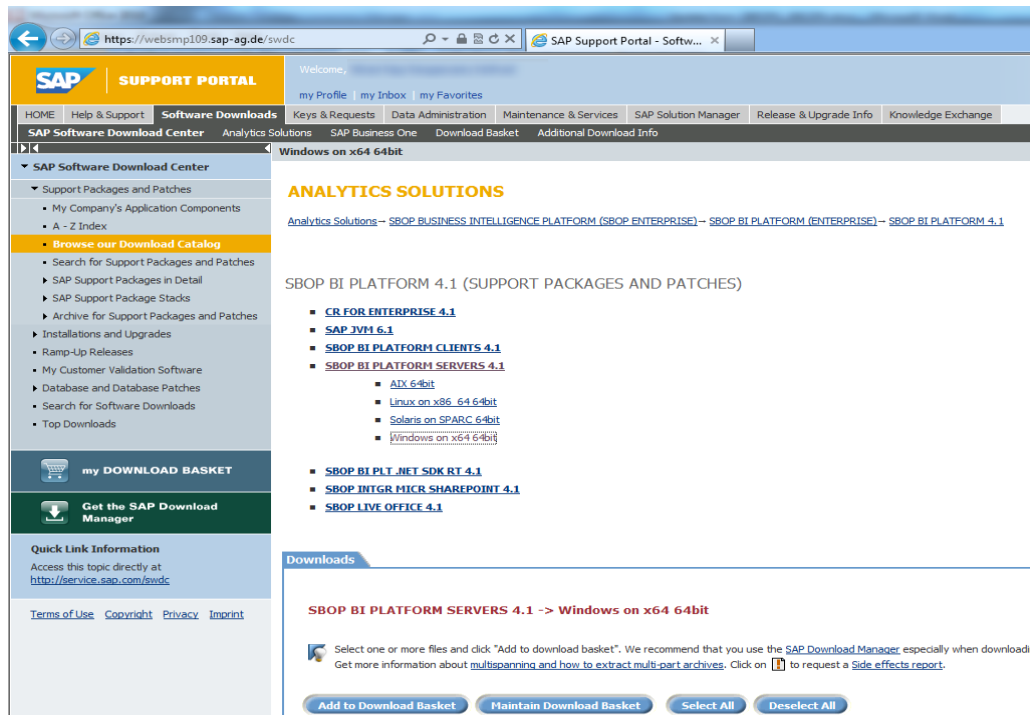




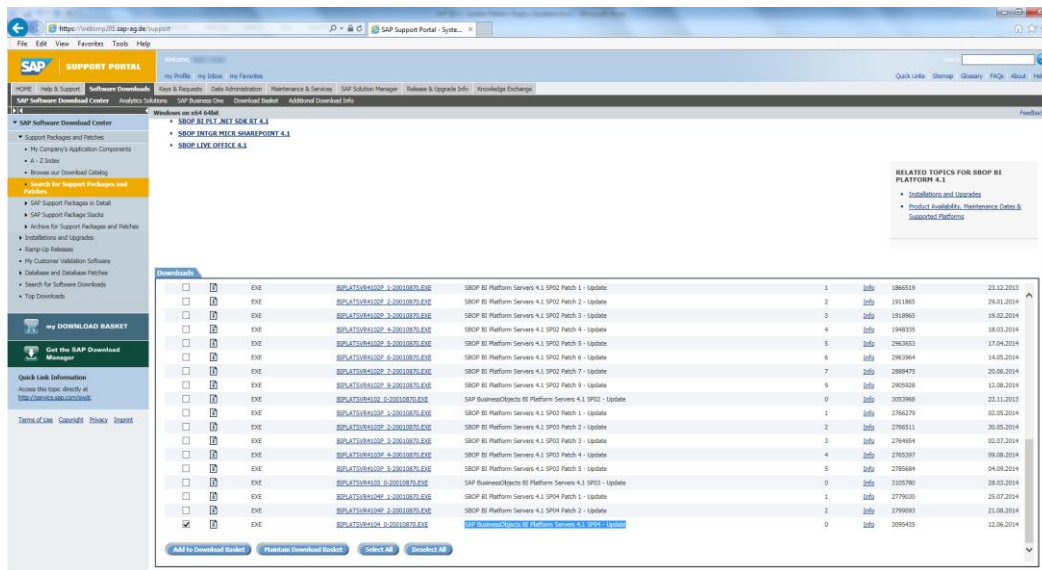
2. Click Analytics Solutions.
3. Click 'SBOP BUSINESS INTELLIGENCE PLATFORM (SBOP ENTERPRISE)'



4. Navigate to SBOP BI PLATFORM SERVERS 4.1 > Windows on x64 64bit.



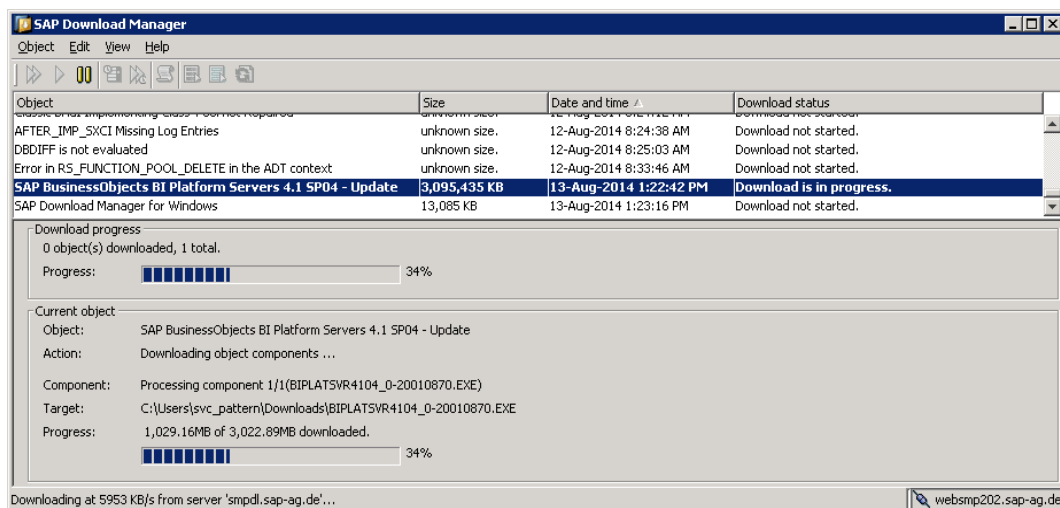
5. Click Windows on x64 64bit.



6. Select SAP BusinessObjects BI Platform Servers 4.1 SP04 – Update and click Add to Download Basket.

Note: Get the SAP Download Manager as SAP recommends using the Download Manager to the download software from SMP.

7. In SAP Download Manager, select **SAP BusinessObjects BI Platform Servers 4.1 SP04 – Update** and click **Download selected objects**.



Note: Follow the above steps to download Explorer 4.1 SP04 Update installer from SMP.



SUPPORT PACKAGES AND PATCHES - E

Support Packages and Patches - E - SBO EXPLORER - SBO EXPLORER 4.1

SBO EXPLORER 4.1 (SUPPORT PACKAGES AND PATCHES)

- SBO EXPLORER 4.1
 - ASL 4.04
 - Setup on SP02 4.04
 - Setup on SP02 4.04
 - Windows on x64 4.04

Downloads

| File Name | Version | Size | Download Count | Release Date |
|--|---------|--------|----------------|--------------|
| SBO EXPLORER 4.1 SP02 Patch 1 - Update | 1 | 385801 | 23.12.2013 | |
| SBO EXPLORER 4.1 SP02 Patch 2 - Update | 2 | 385767 | 29.01.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 3 - Update | 3 | 385397 | 19.02.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 4 - Update | 4 | 386305 | 19.03.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 5 - Update | 5 | 612637 | 17.04.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 6 - Update | 6 | 612660 | 14.05.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 7 - Update | 7 | 611790 | 20.06.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 8 - Update | 8 | 611776 | 12.08.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 9 - Update | 9 | 612624 | 22.11.2013 | |
| SBO EXPLORER 4.1 SP02 Patch 1 - Update | 1 | 607883 | 02.05.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 2 - Update | 2 | 608000 | 30.05.2014 | |

RELATED TOPICS FOR SBO EXPLORER 4.1

- Installations and Upgrades
- Product Availability, Maintenance Dates & Supported Platforms

SUPPORT PACKAGES AND PATCHES - E

Support Packages and Patches - E - SBO EXPLORER - SBO EXPLORER 4.1

SBO EXPLORER 4.1 (SUPPORT PACKAGES AND PATCHES)

- SBO EXPLORER 4.1
 - ASL 4.04
 - Setup on SP02 4.04
 - Windows on x64 4.04

Downloads

| File Name | Version | Size | Download Count | Release Date |
|--|---------|--------|----------------|--------------|
| SBO EXPLORER 4.1 SP02 Patch 1 - Update | 1 | 385801 | 23.12.2013 | |
| SBO EXPLORER 4.1 SP02 Patch 2 - Update | 2 | 385767 | 29.01.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 3 - Update | 3 | 385397 | 19.02.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 4 - Update | 4 | 386305 | 19.03.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 5 - Update | 5 | 612637 | 17.04.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 6 - Update | 6 | 612660 | 14.05.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 7 - Update | 7 | 611790 | 20.06.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 8 - Update | 8 | 611776 | 12.08.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 9 - Update | 9 | 612624 | 22.11.2013 | |
| SBO EXPLORER 4.1 SP02 Patch 1 - Update | 1 | 607883 | 02.05.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 2 - Update | 2 | 608000 | 30.05.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 3 - Update | 3 | 608027 | 02.07.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 4 - Update | 4 | 607778 | 08.08.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 5 - Update | 5 | 607962 | 04.09.2014 | |
| SBO EXPLORER 4.1 SP02 Patch 6 - Update | 6 | 613109 | 26.03.2014 | |
| SBO EXPLORER 4.1 SP04 Patch 1 - Update | 1 | 613018 | 25.07.2014 | |
| SBO EXPLORER 4.1 SP04 Patch 2 - Update | 2 | 613042 | 21.08.2014 | |
| SBO EXPLORER 4.1 SP04 Patch 3 - Update | 3 | 613042 | 12.08.2014 | |

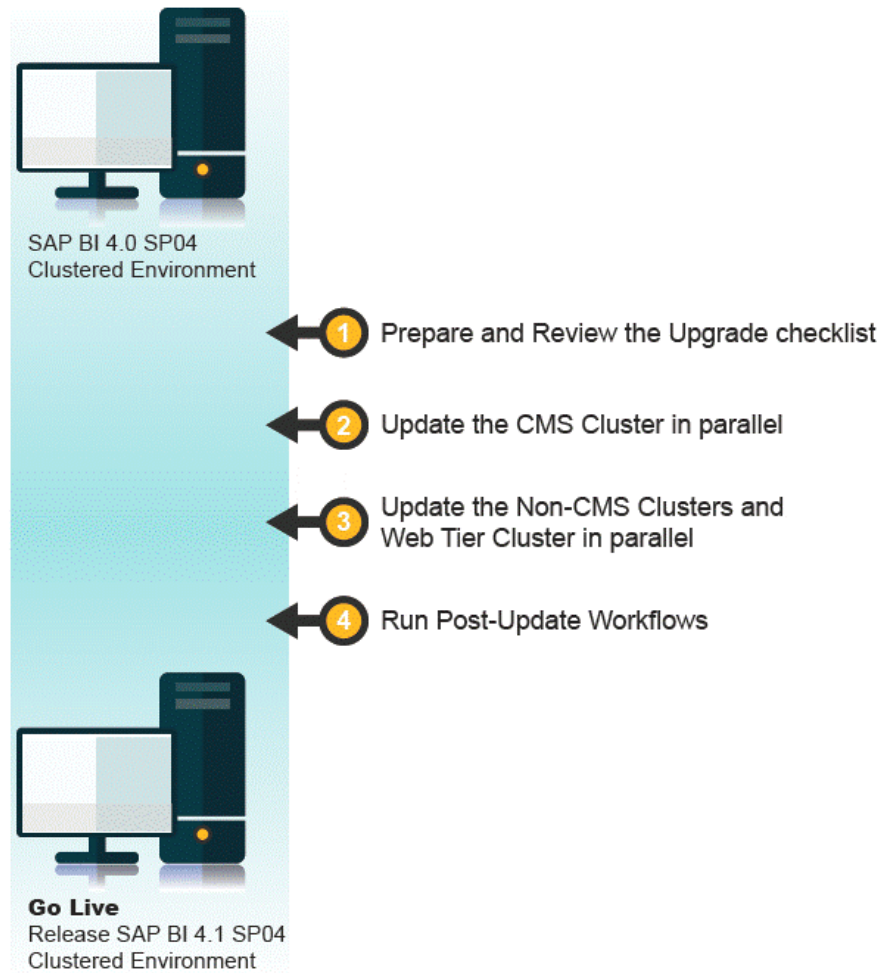
RELATED TOPICS FOR SBO EXPLORER 4.1

- Installations and Upgrades
- Product Availability, Maintenance Dates & Supported Platforms

Information: Copy and unzip the downloaded software to the respective server machines in a temporary folder.

Update workflow

The following diagram summarizes the high-level workflow required to update your SAP BusinessObjects BI 4.0 SP04 environment into SAP BusinessObjects BI 4.1 SP04:



Updating the CMS Hosts

- [SAP BI 4.1 SP04 Platform Servers Update on both CMS machines \(WINPB3-04 and WINPB3-05\) in parallel](#)
- [BI 4.1 SP04 Explorer Update on both CMS machines \(WINPB3-04 and WINPB3-05\) in parallel](#)

SAP BI 4.1 SP04 Platform Servers Update on both CMS machines (WINPB3-04 and WINPB3-05) in parallel

We have applied the following the Parallel Patching Strategy for all the SAP BI 4.1 SP04 updates in this Pattern.



Here is a small description about Parallel Patching:

Information:

Parallel Patching

Before 4.0 SP5, patching has always been one of the most time consuming efforts in maintaining and upgrading a BI Enterprise system as servers must be updated one after the other, and therefore the downtime was lengthy and expensive.

From BI 4.0 SP5 and BI 4.1 release onwards, deployment order has changed for distributed systems. It is now possible to start deployments in some areas in parallel to avoid long runtime because of sequential update of CMS, Central Services, etc.

Follow the below order to perform parallel patching:

- Update all CMS host machines in parallel.
- Update all non-CMS host machines in parallel.

Rules for updating a clustered deployment in parallel

- You need to wait until parallel updates are complete on all machines before proceeding to the next step.
- Do not restart a host machine until all machines updating in parallel have finished updating, even if the update installation program requests a restart.
- There must be at least one CMS machine available to the non-CMS host machines that are updating.
- While updating BI Platform servers ensure that at least one CMS and FRS services are running in a clustered environment. The rest of the servers can be either up or down. However, we recommend to shutdown other servers as it consumes resources of the operating system.
- The CMS hosts that are running when you begin update, and any additional CMS hosts that starts during the update, must be available for the entire duration of the update.
- Do not run any additional installation, maintenance, or server administration workflows that could cause the CMS machines to restart while the update is taking place.
- Once all the updates are completed, restart all CMS servers in your cluster.
- The process needs to be repeated for every product that is installed on the machines in the cluster (e.g. BI platform, Explorer, BI platform Client Tools).

Note: If you do not want to run installer in parallel and want to perform sequential update, run installer on one CMS server at a time. But, ensure that you update one CMS at a time, and then move on to other tiers. Install BI Server Patch update on all



servers before installing add on components like Explorer etc. Updating Clients should be the last step.

For information on best practices for parallel patching, see:

<http://www.sdn.sap.com/irj/scn/go/portal/prtroot/docs/library/uuid/6083da26-2542-3110-60b2-e767b3606f5f?QuickLink=index&overridelayout=true&58965606034720>

Note: Do not restart any SIA or servers until the patching is complete on all servers even if the installer prompts for a restart.

Refer to the below KBAs before starting an installation:

[1952120 - SAP BusinessObjects \(XI 3.1 and BI 4.0\) Installation pre-requisites & best practices:](#)

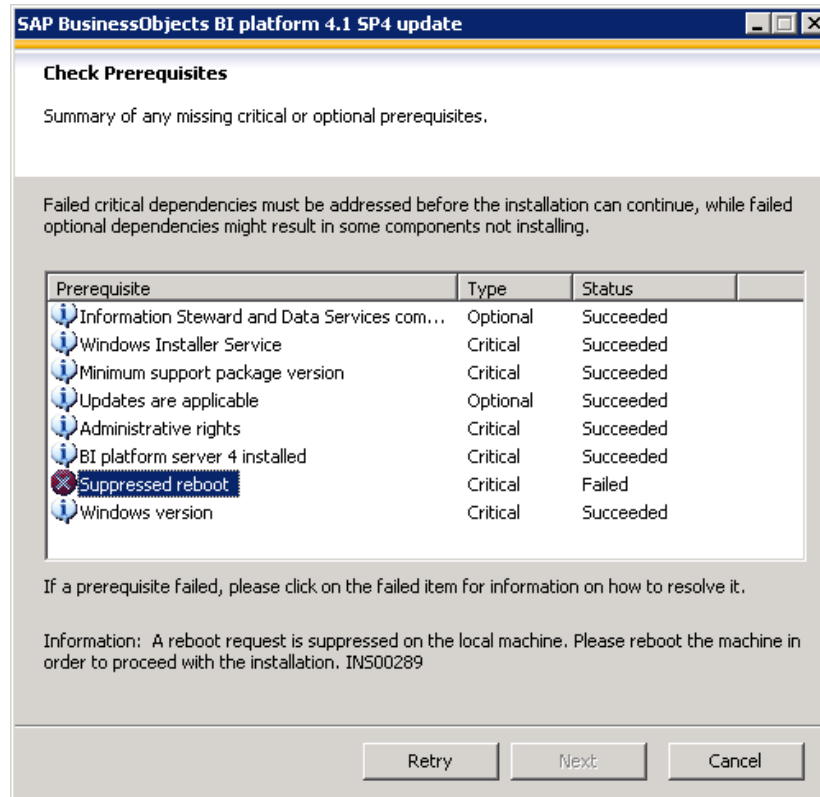
This SAP KBA provides a list of things to check before running any operation concerning the msi installer.

[1757132 - BI4 Support Pack Upgrade and Patch Install Best Practice Guide:](#) This SAP KBA discusses best practices specific to BI 4.x installs. Please note the option to update in parallel for distributed environments.

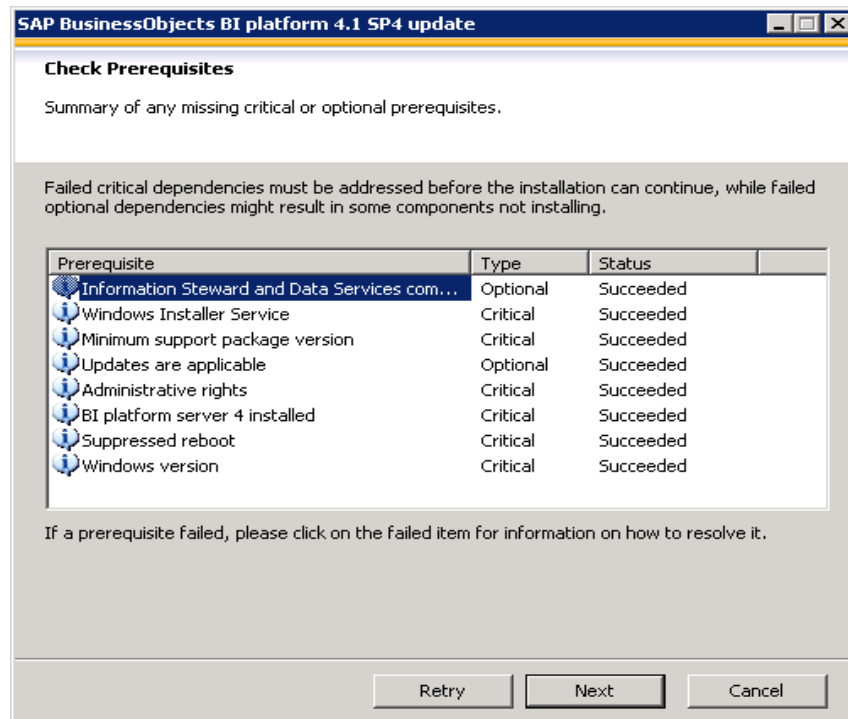
1. Log on to both CMS machines (WINPB3-04 and WINPB3-05) using the AD domain account SVC_PATTERN and navigate to the temporary folder where you have stored the SAP BI 4.1 SP04 Platform Servers Update installer.
2. Run the SAP BI 4.1 SP04 Platform Servers Update installer by double-clicking on Setup.exe.
3. When the prerequisite system check completes successfully, click **Next**.

Information:

In some cases the prerequisite may fail for one of the critical check – 'Suppressed reboot'. This is because the system may not have been rebooted since last update.

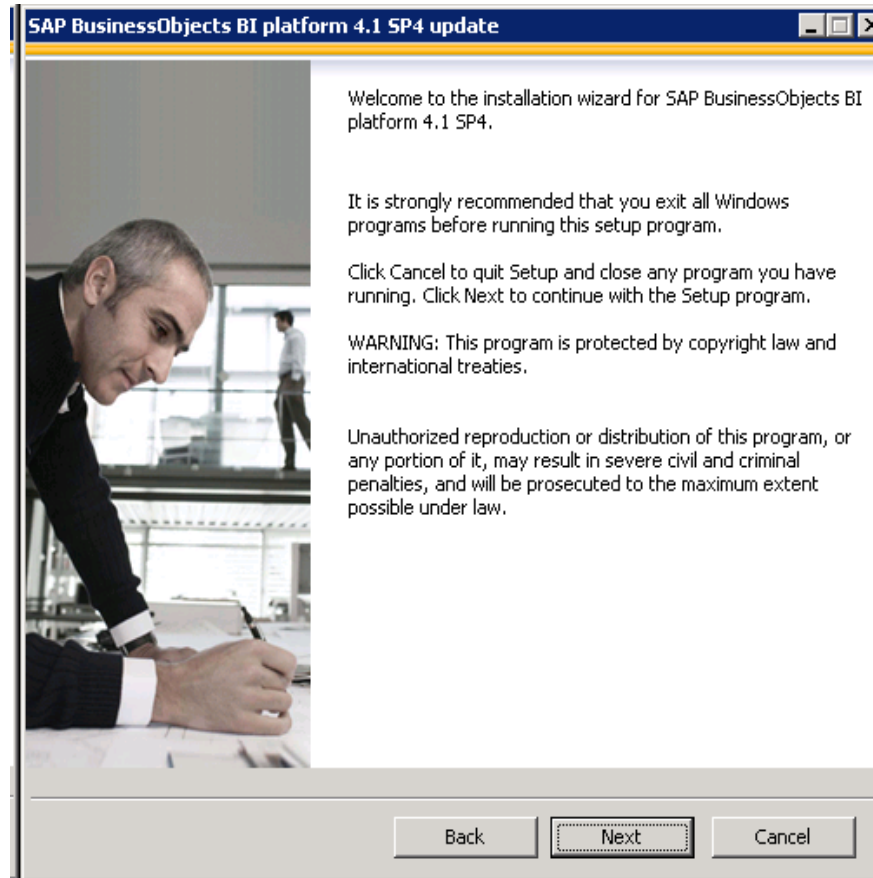


4. Reboot the system and run the installer again to get the following screen.



Note: In case, the installer still shows the above error, see KBA 1544104 on how to resolve it.

5. Click **Next**.



6. Read the license agreement and select I accept the License Agreement.

SAP BusinessObjects BI platform 4.1 SP4 update

License Agreement

You must agree to the licensing conditions to proceed.

SOFTWARE LICENSE AGREEMENT

IMPORTANT-READ CAREFULLY: THIS IS A LEGAL AGREEMENT BETWEEN YOU AND SAP FOR THE SAP SOFTWARE ACCOMPANYING THIS AGREEMENT, WHICH MAY INCLUDE COMPUTER SOFTWARE, ASSOCIATED MEDIA, PRINTED MATERIALS AND ONLINE OR ELECTRONIC DOCUMENTATION ("SOFTWARE"). BEFORE CONTINUING WITH THE INSTALLATION OF THE SOFTWARE, YOU MUST READ, ACKNOWLEDGE AND ACCEPT THE TERMS AND CONDITIONS OF THE SOFTWARE LICENSE AGREEMENT THAT FOLLOWS ("AGREEMENT"). IF YOU DO NOT ACCEPT THE TERMS AND CONDITIONS OF THE AGREEMENT, YOU MAY RETURN, WITHIN THIRTY (30) DAYS OF PURCHASE, THE SOFTWARE TO THE PLACE YOU OBTAINED IT FOR A FULL REFUND.

GRANT OF LICENSE. SAP grants you a nonexclusive and limited license to use the Software products and functionalities for which you have paid the applicable fees solely for your internal business purposes and in accordance with the terms and conditions of this Agreement. The Software is licensed, not sold, to you. If you acquired this product as a special offer, as a promotional license included with another SAP product, or bundled or in combination with a third party product, additional restrictions apply as set forth in the

☒ I accept the License Agreement

☐ I do not accept the License Agreement

Back Next Cancel

7. Enter the CMS details and click **Next**.

SAP BusinessObjects BI platform 4.1 SP4 update

Existing CMS Deployment Information

Specify the CMS and Administrator logon information of your existing CMS deployment.

Connection Information for Existing CMS

CMS Name

CMS Port

CMS Administrator Logon Information

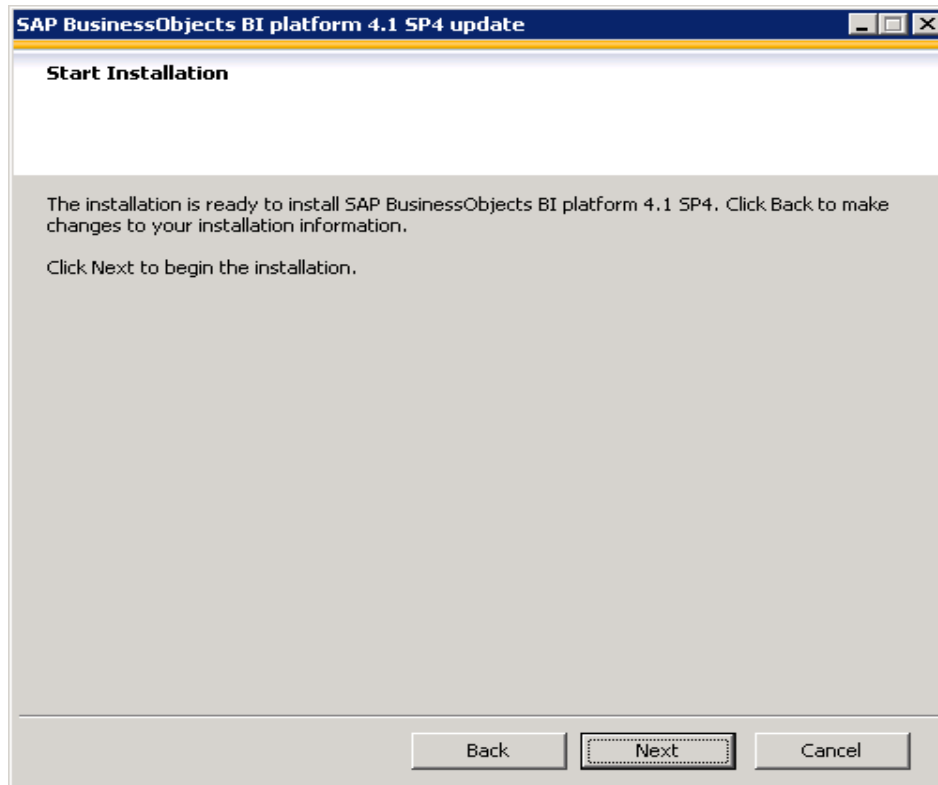
User

Password

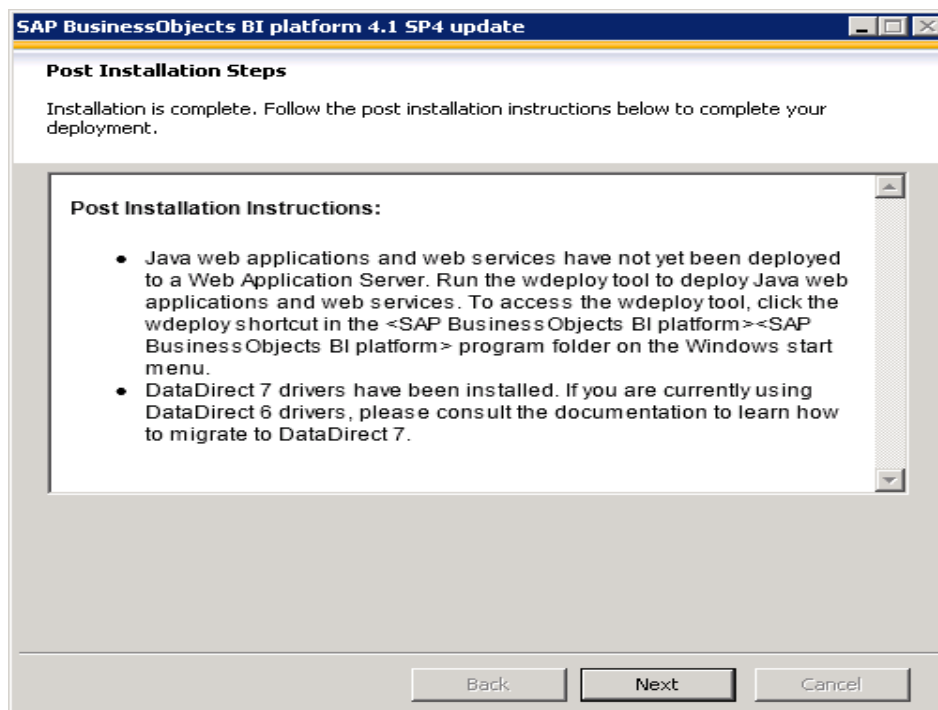
Back Next Cancel



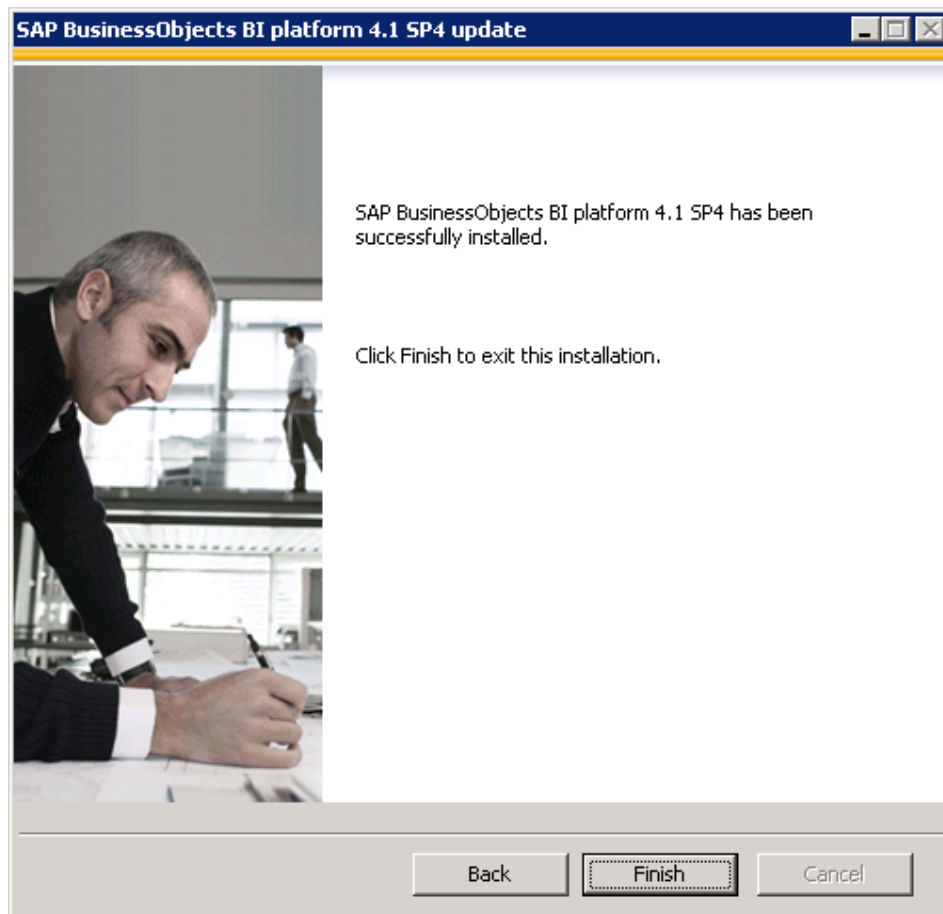
8. Click **Next** to begin the installation.



9. Once the Installation is complete, you will see the below screen.



10. Click **Finish** to exit the installation.



11. Follow the same procedure on the other CMS systems too.

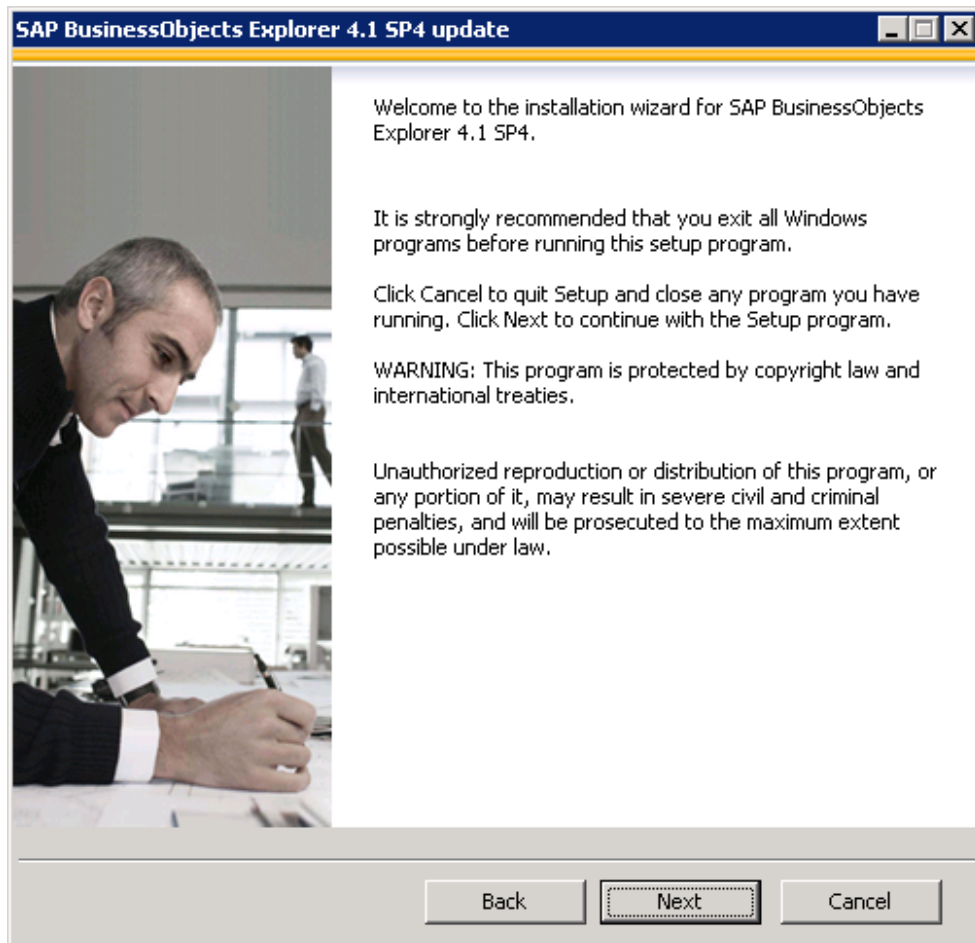
This completes the SAP BI 4.1 SP04 Platform Servers Update on both CMS machines.

Note: Refer the install logs for any errors located at: C:\Program Files (x86)\SAP BusinessObjects\InstallData\logs\<Date and Timestamp folder

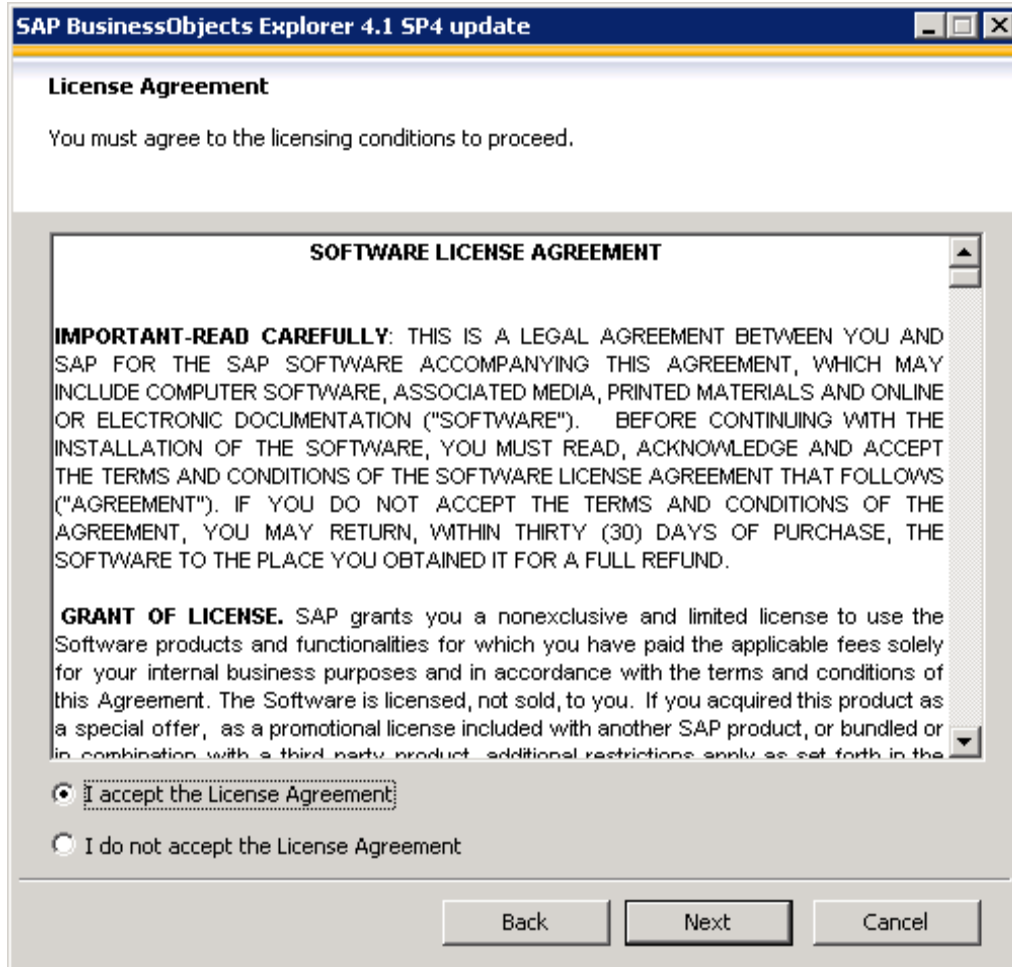
BI 4.1 SP04 Explorer Update on both CMS machines (WINPB3-04 and WINPB3-05) in parallel

Information: Explorer update is done on CMS machines for updating add-ons for explorer and explorer-search on CMS.

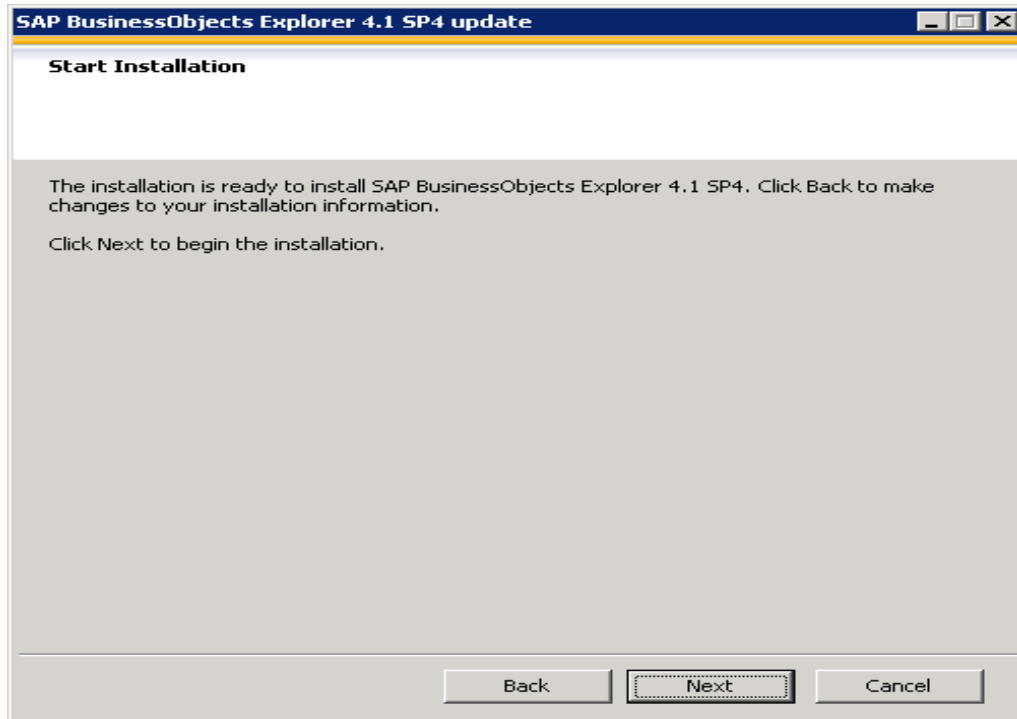
1. Log on to the both CMS machines (WINPB3-04 and WINPB3-05) using the Domain account SVC_PATTERN and navigate to the temporary folder where you have stored the SAP BI 4.1 SP04 Explorer Update installer.
2. Run the SAP BI 4.1 SP04 Explorer Update installer by double-clicking on Setup.exe. When the prerequisite system check completes successfully, click Next.
3. Click **Next**.



4. Click **Next**.
5. Read the license agreement and select **I accept the License Agreement**.



6. Click **Next**.
7. Click **Next** to begin the installation.



8. Click **Next**.
9. Click **Finish** to exit the installation.

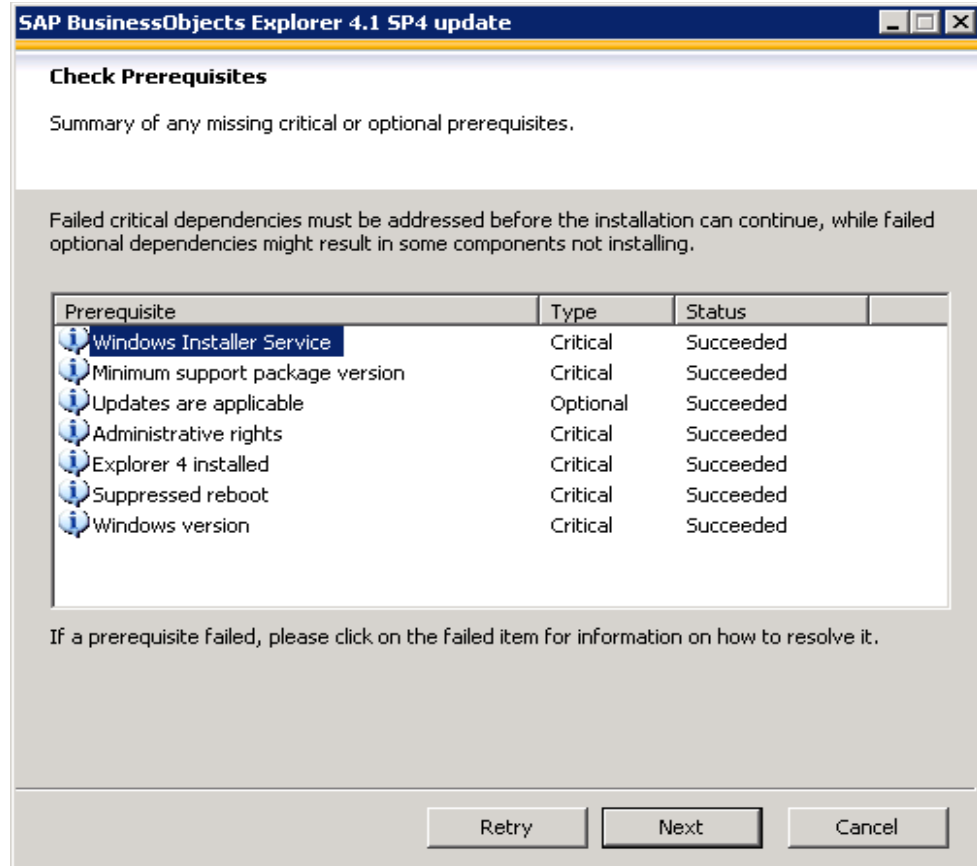
This completes the SAP BI 4.1 SP04 Explorer Update on both CMS machines.

Note: Refer the install logs for any errors located at: C:\Program Files (x86)\SAP BusinessObjects\InstallData\logs\<Date and Timestamp folder

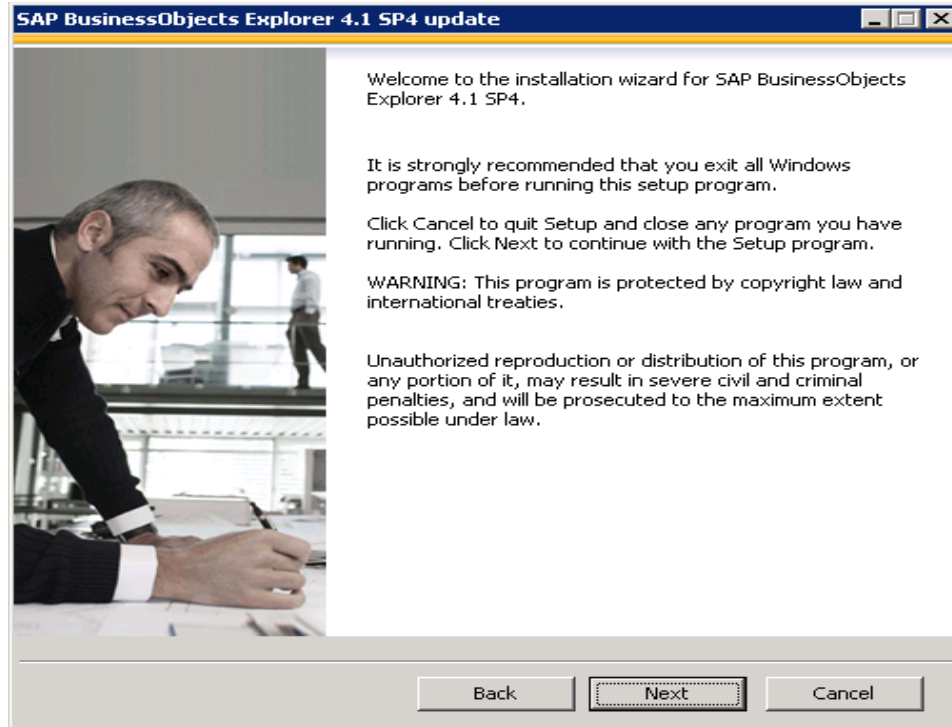
Updating the Non-CMS Hosts

BI 4.1 SP04 Explorer Update on Explorer Server machine (WINPB3-06)

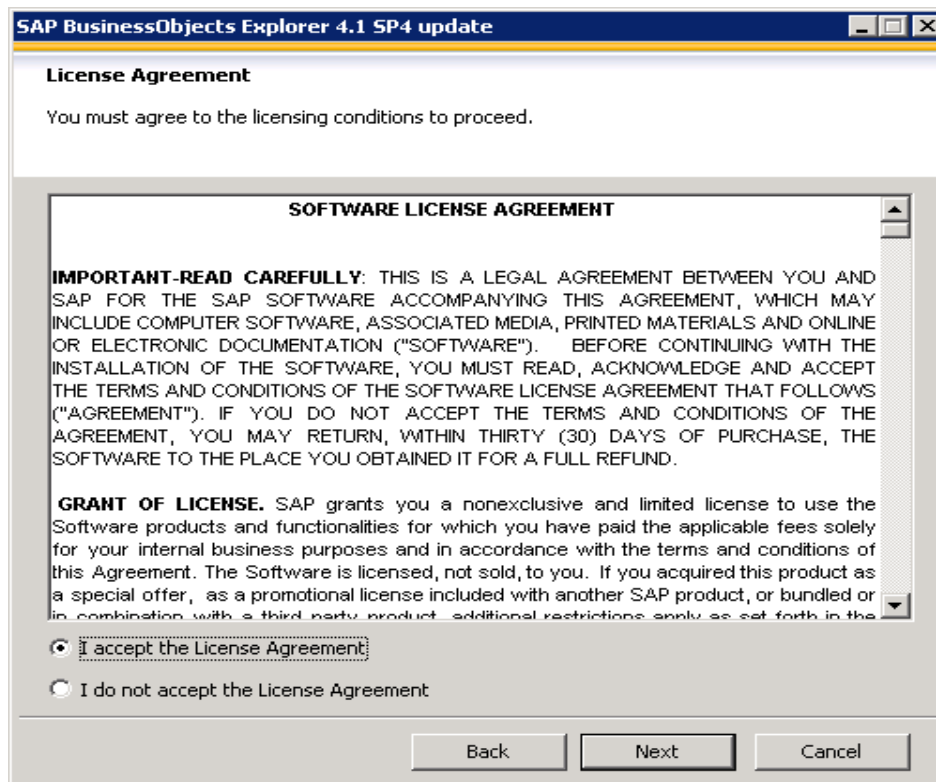
1. Log on to Explorer Server machine (WINPB3-06) using the Windows Domain account SVC_PATTERN and navigate to the temporary folder where you have stored the SAP BI 4.1 SP04 Explorer Update installer.
2. Run the SAP BI 4.1 SP04 Explorer Update installer by double-clicking on Setup.exe. When the prerequisite system check completes successfully, click Next.
3. Run the Explorer 4.1 SP04 update installer that you have downloaded from SMP.



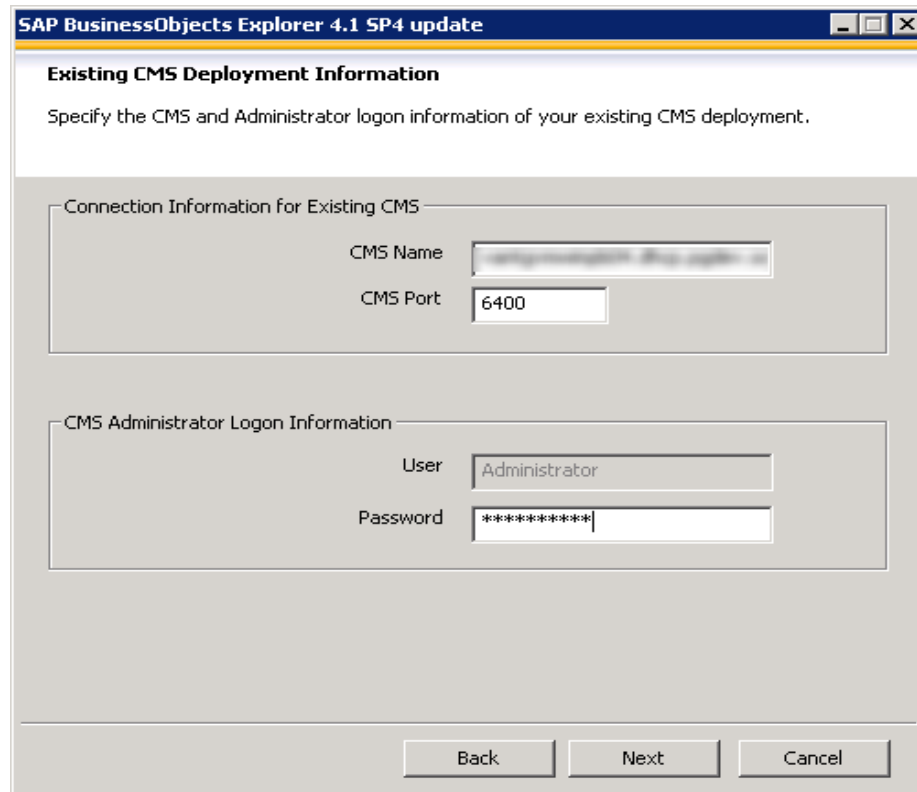
4. Click **Next**.



5. Click **Next**.
6. Read the license agreement and select **I accept the License Agreement**.



7. Click **Next**.
8. Enter the CMS details and click **Next**.



SAP BusinessObjects Explorer 4.1 SP4 update

Existing CMS Deployment Information

Specify the CMS and Administrator logon information of your existing CMS deployment.

Connection Information for Existing CMS

CMS Name

CMS Port

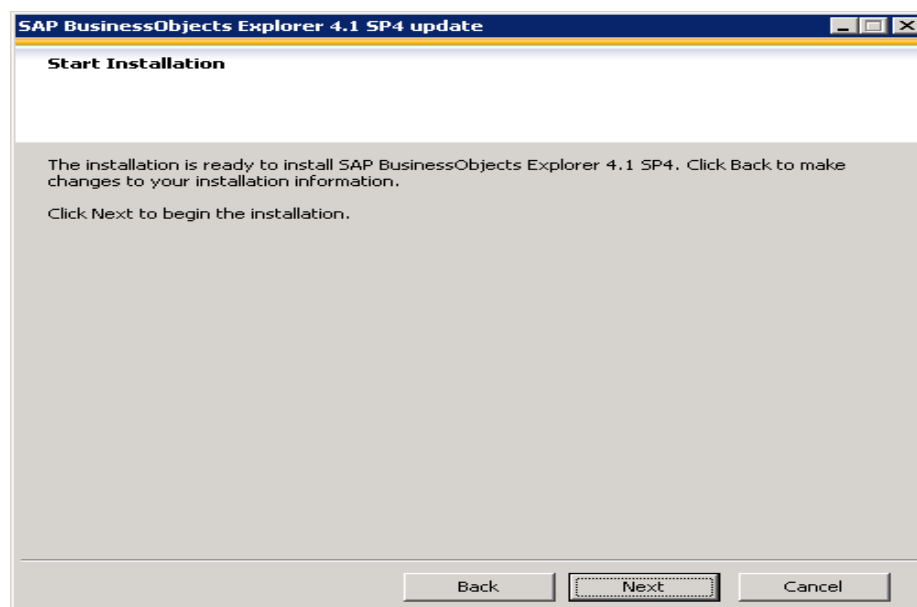
CMS Administrator Logon Information

User

Password

Back Next Cancel

9. Click **Next** to begin the installation.



SAP BusinessObjects Explorer 4.1 SP4 update

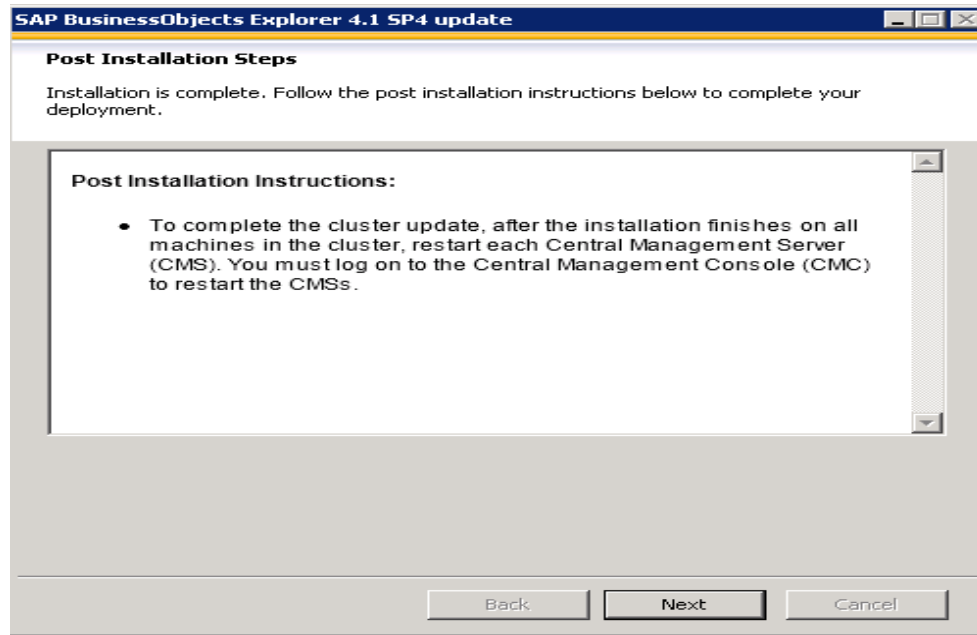
Start Installation

The installation is ready to install SAP BusinessObjects Explorer 4.1 SP4. Click Back to make changes to your installation information.

Click Next to begin the installation.

Back Next Cancel

10. Click **Next** and make sure that you do not restart any SIA until the update is completed in the entire landscape.



11. Click **Finish** to exit the installation. Please make sure the **Automatically launch WDeploy tool** is unchecked as we will deploy all the war files after finishing UPDATE installations in the landscape.





This completes the SAP BI 4.1 SP04 Explorer Update on Explorer Server machine.

Note: Refer the install logs for any errors located at: C:\Program Files (x86)\SAP BusinessObjects\InstallData\logs\<Date and Timestamp folder>

Updating the Web-tier Hosts

- [BI 4.1 SP04 Web-tier Update on both Tomcat machines \(WINPB3-02 & WINPB3-03\) in parallel](#)
- [BI 4.1 SP04 Explorer Web-tier Update on both Tomcat machines \(WINPB3-02 & WINPB3-03\) in parallel](#)
- [Restart all SIAs](#)
- [Splitting the Adaptive Processing Server \(APS\)](#)
- [Run W-deploy on Tomcat machines](#)

BI 4.1 SP04 Web-tier Update on both Tomcat machines (WINPB3-02 & WINPB3-03) in parallel

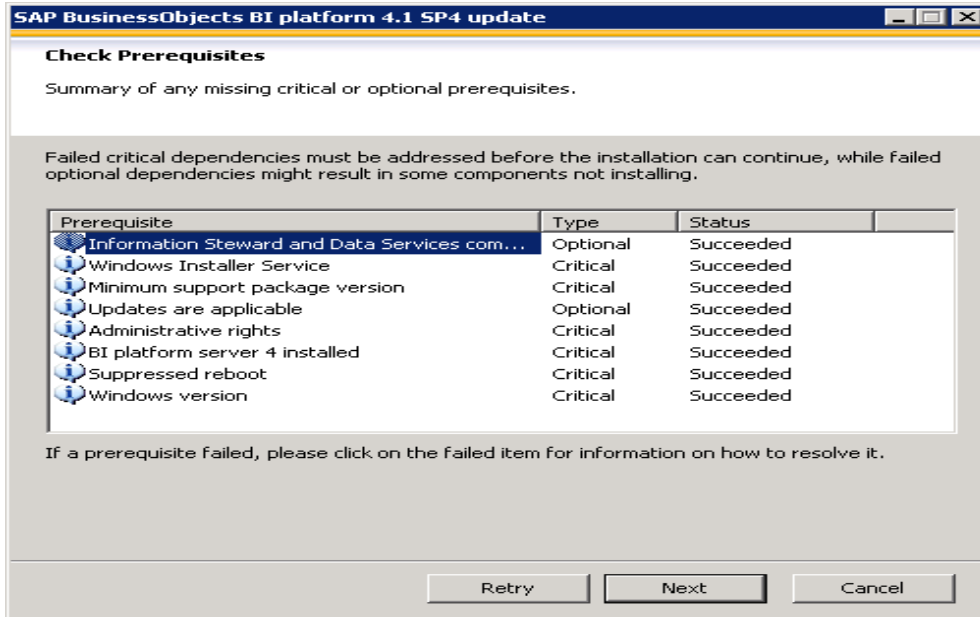
Information:

Run BI 4.1 Update on Tomcat machines (Web-tier components only) and processing tier machines (if any) in parallel. In our pattern, we have only web-tier components and no separate processing tier machines. Therefore, we will run web-tier update on tomcat machines in parallel.

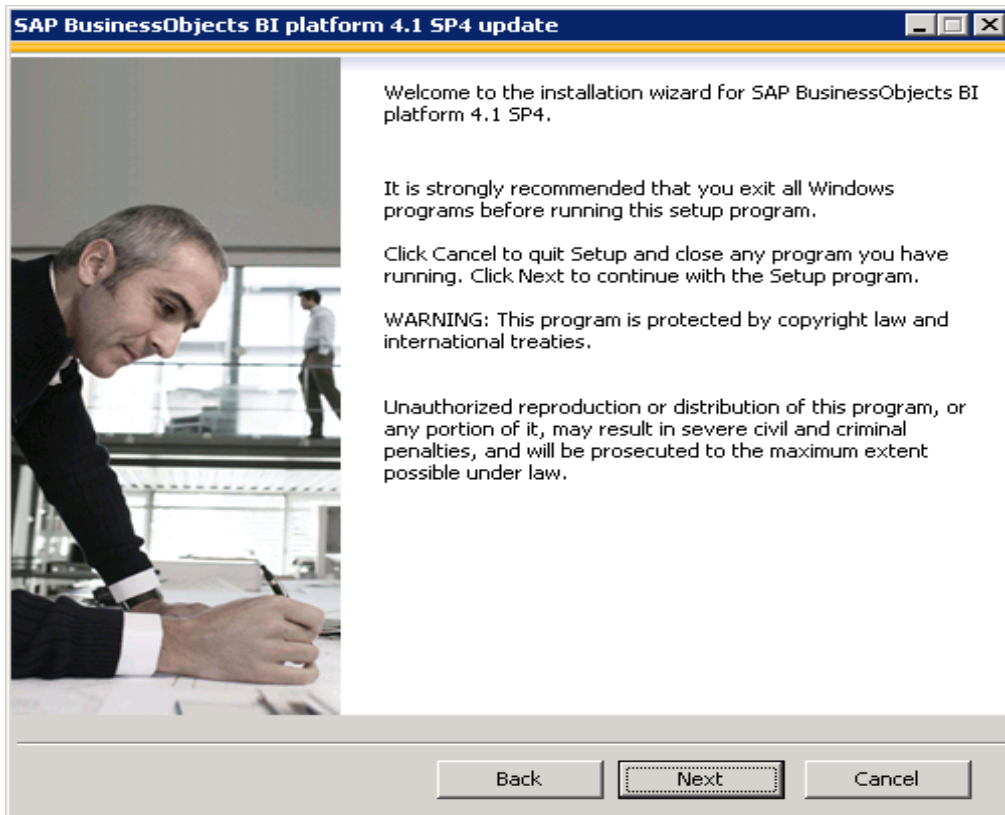
1. Log on to Tomcat machines (WINPB3-02 & WINPB3-03) using the Windows domain account SVC_WEBTIER and navigate the temporary folder where the SAP BI 4.1 SP04 Platform Servers Update installer is stored.
2. Run the SAP BI 4.1 SP04 Platform Servers Update installer by double-clicking on Setup.exe.

Note: The installer is the same for all updates (CMS and Web-tier)

3. When the prerequisite system check completes successfully, click **Next**.



4. Click **Next**.





5. Click **Next**.
6. Read the license agreement and select **I accept the License Agreement**.

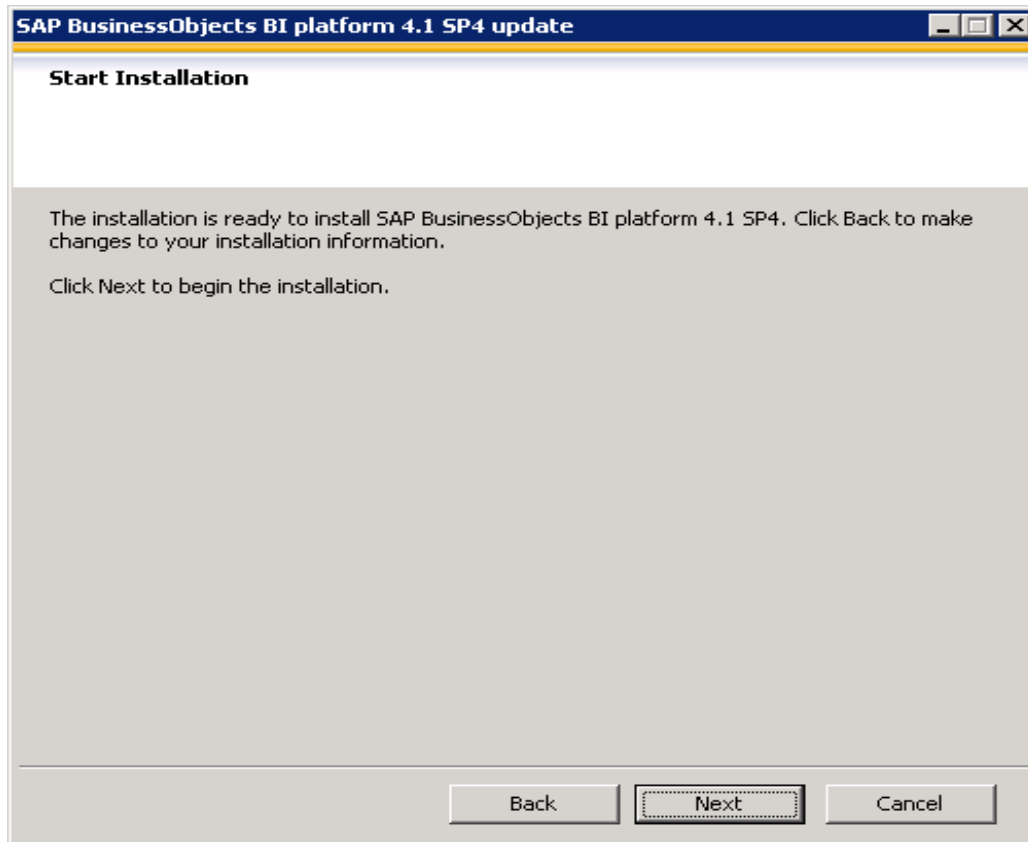
The screenshot shows a window titled "SAP BusinessObjects BI platform 4.1 SP4 update". The main heading is "License Agreement". Below it, a message states: "You must agree to the licensing conditions to proceed." The central part of the window contains a scrollable text area titled "SOFTWARE LICENSE AGREEMENT". The text in this area includes an "IMPORTANT-READ CAREFULLY" section stating that this is a legal agreement between the user and SAP, and a "GRANT OF LICENSE" section stating that SAP grants a nonexclusive and limited license. At the bottom of the text area, there are two radio buttons: "I accept the License Agreement" (which is selected) and "I do not accept the License Agreement". At the very bottom of the window are three buttons: "Back", "Next", and "Cancel".

7. Click **Next**.
8. Enter the CMS details, which is up and running in the cluster and click **Next**.

The screenshot shows a window titled "SAP BusinessObjects BI platform 4.1 SP4 update". The main heading is "Existing CMS Deployment Information". Below it, a message states: "Specify the CMS and Administrator login information of your existing CMS deployment." The window is divided into two sections. The first section, "Connection Information for Existing CMS", contains two text boxes: "CMS Name" and "CMS Port" (with the value "6400" entered). The second section, "CMS Administrator Login Information", contains two text boxes: "User" (with the value "Administrator" entered) and "Password" (with masked characters "*****" entered). At the bottom of the window are three buttons: "Back", "Next", and "Cancel".



9. Click **Next** to begin the installation.

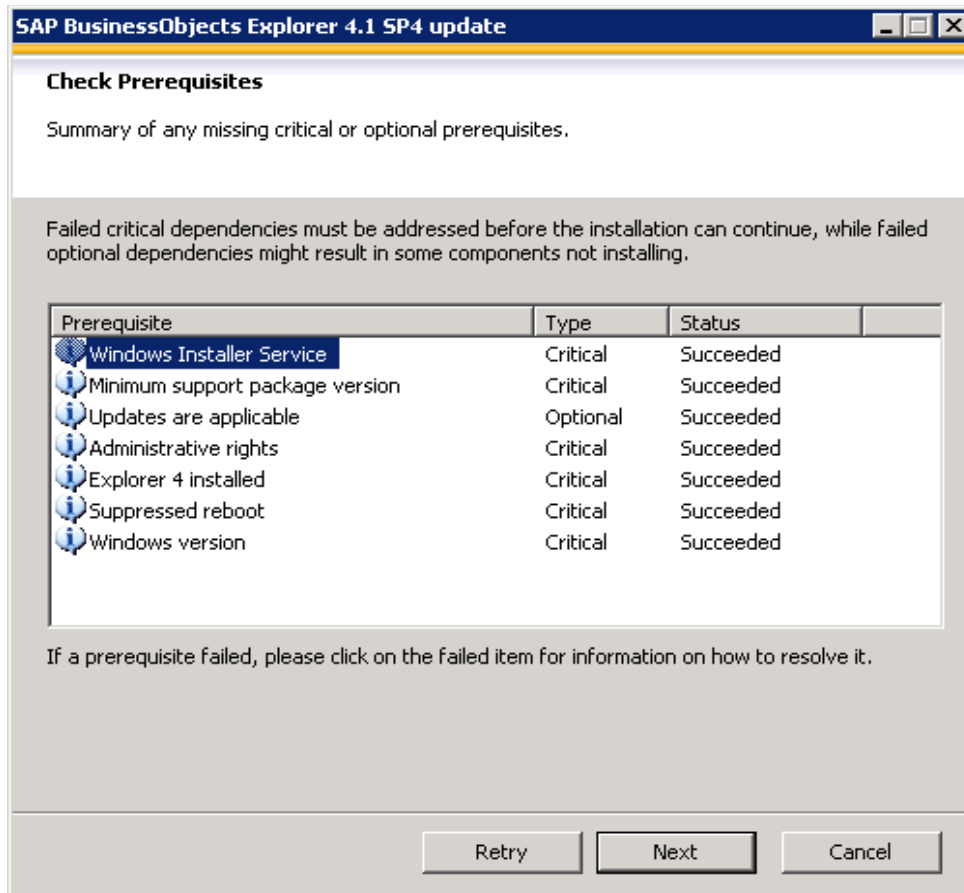


10. Click **Next**.
11. Click **Finish** to exit the installation.
12. This completes the SAP BI 4.1 SP04 web-tier update on both Tomcat machines.

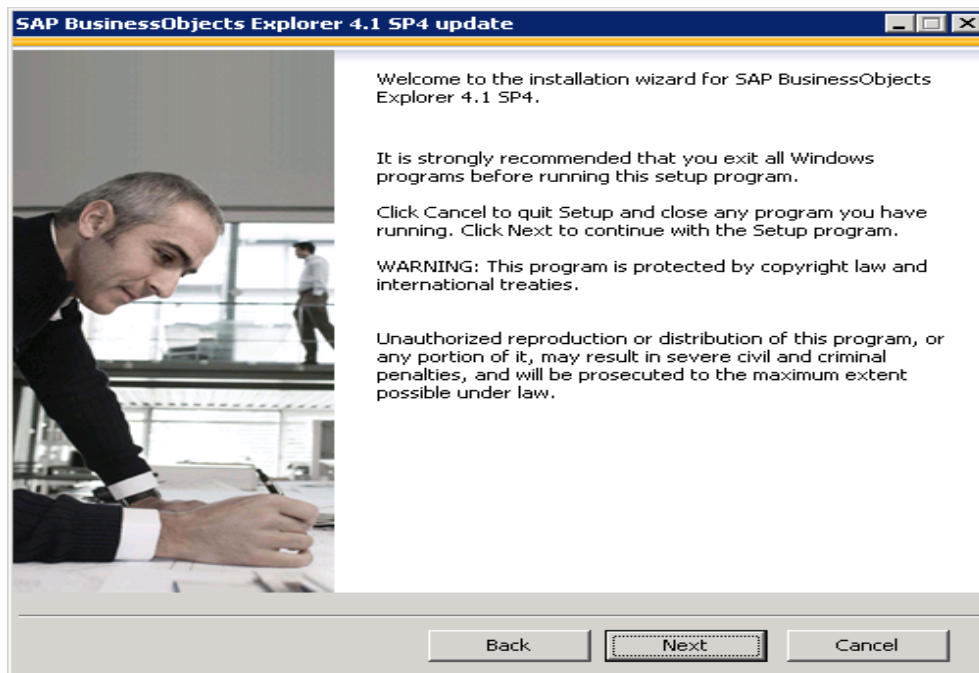
Note: Refer the install logs for any errors located at: C:\Program Files (x86)\SAP BusinessObjects\InstallData\logs\<Date and Timestamp folder>

BI 4.1 SP04 Explorer Web-tier Update on both Tomcat machines (WINPB3-02 & WINPB3-03) in parallel

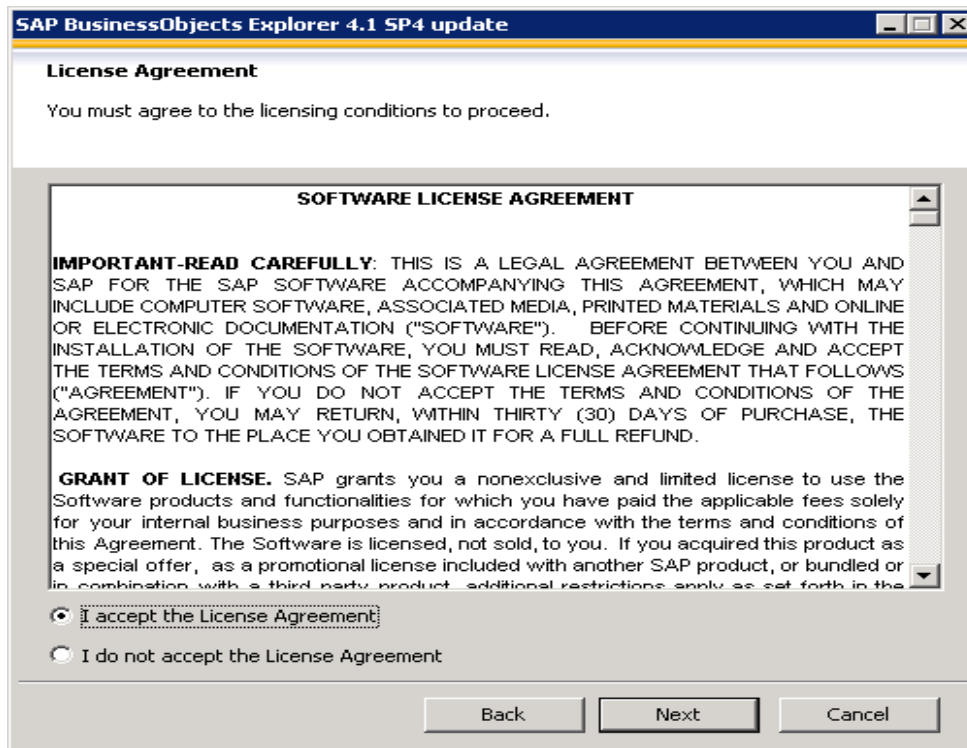
1. Log on to Tomcat machines (WINPB3-02 & WINPB3-03) using the Windows domain account SVC_PATTERN and navigate the temporary folder where the SAP BI 4.1 SP04 Explorer Update installer is stored.
2. Run the SAP BI 4.1 SP04 Explorer Update installer by double-clicking on Setup.exe.
3. When the prerequisite system check completes successfully, click **Next**.
Note: As these machines have only web-tier installation, running Explorer installation will install only web-tier part of Explorer.



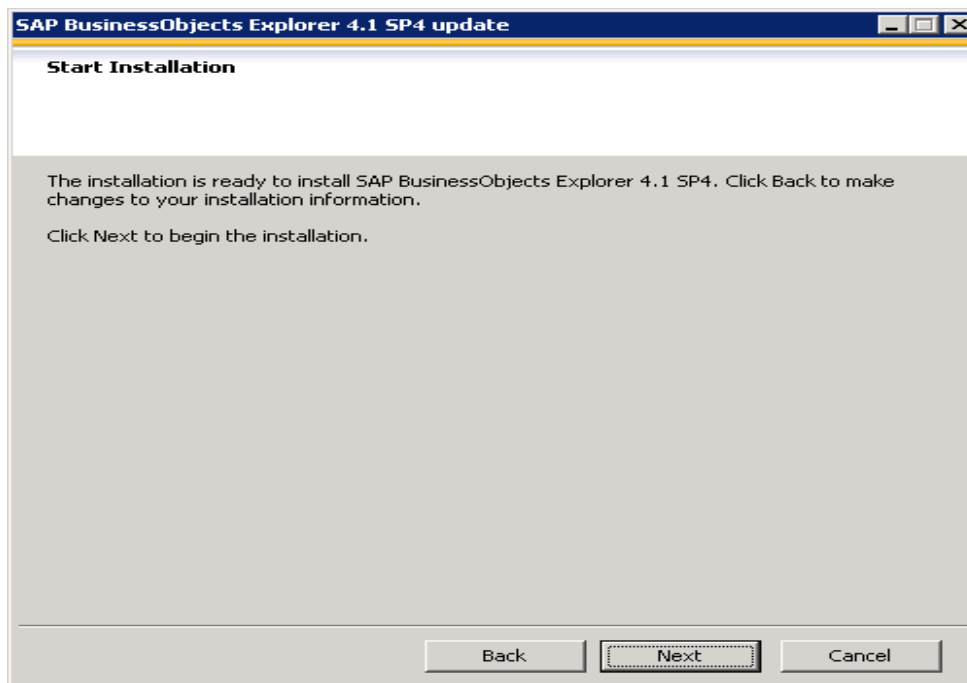
4. Click **Next**.



5. Click **Next**.
6. Read the license agreement and select **I accept the License Agreement**.

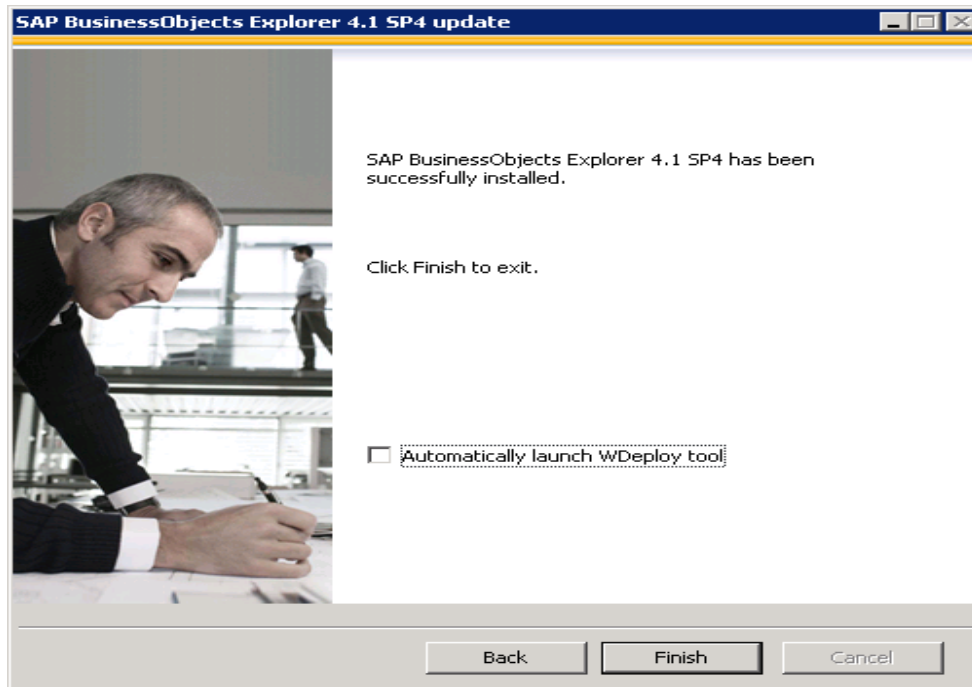


7. Click **Next**.
8. Click **Next** to begin the installation.





9. Click **Next**.
10. Click **Finish** to exit the installation. Do not check 'Automatically launch WDeploy tool' as we don't want to deploy an application as of now.



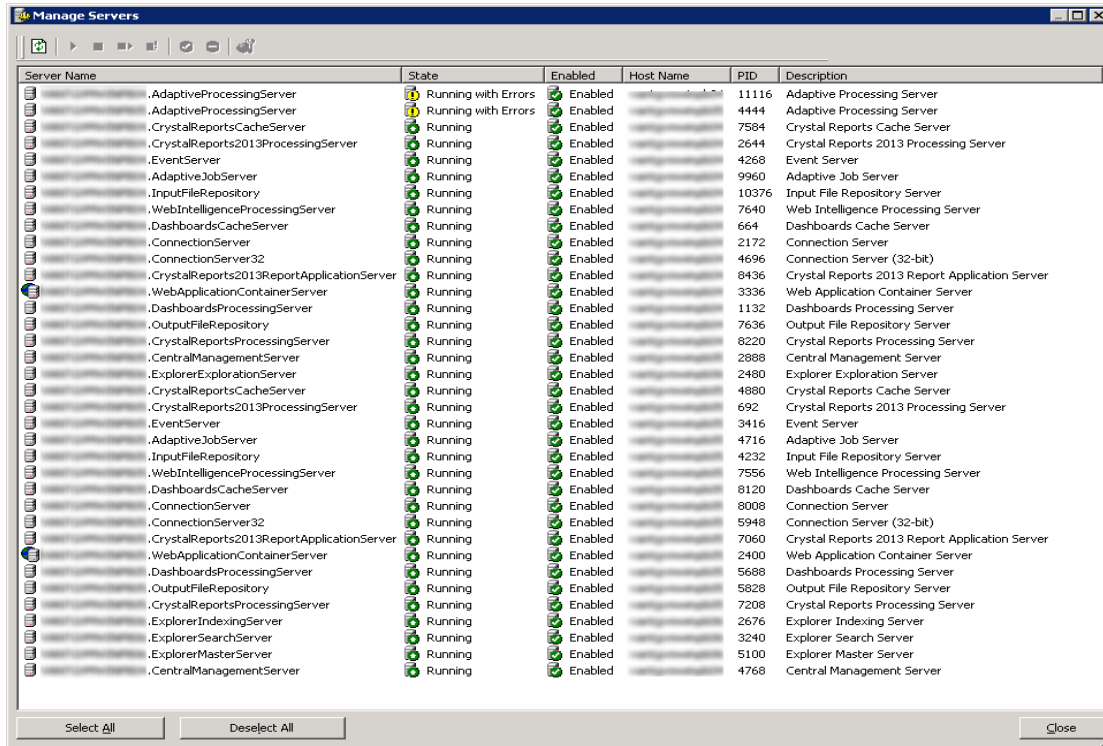
This completes the SAP BI 4.1 SP04 Explorer web-tier update on both Tomcat machines.

Note: Refer the install logs for any errors located at: C:\Program Files (x86)\SAP BusinessObjects\InstallData\logs\<Date and Timestamp folder>

Restart all SIAs

After updating CMS, non-CMS, and web-tier clusters, restart all SIAs (WINPB3-06>Explorer, WINPB3-04>SIA1 and WINPB3-05> SIA2).

Note: In this pattern, after restarting all servers, it is observed that APS server was running with an error as shown below.



| Server Name | State | Enabled | Host Name | PID | Description |
|--|---------------------|---------|-----------|-------|--|
| .AdaptiveProcessingServer | Running with Errors | Enabled | | 11116 | Adaptive Processing Server |
| .AdaptiveProcessingServer | Running with Errors | Enabled | | 4444 | Adaptive Processing Server |
| .CrystalReportsCacheServer | Running | Enabled | | 7584 | Crystal Reports Cache Server |
| .CrystalReports2013ProcessingServer | Running | Enabled | | 2644 | Crystal Reports 2013 Processing Server |
| .EventServer | Running | Enabled | | 4268 | Event Server |
| .AdaptiveJobServer | Running | Enabled | | 9960 | Adaptive Job Server |
| .InputFileRepository | Running | Enabled | | 10376 | Input File Repository Server |
| .WebIntelligenceProcessingServer | Running | Enabled | | 7640 | Web Intelligence Processing Server |
| .DashboardsCacheServer | Running | Enabled | | 664 | Dashboards Cache Server |
| .ConnectionServer | Running | Enabled | | 2172 | Connection Server |
| .ConnectionServer32 | Running | Enabled | | 4696 | Connection Server (32-bit) |
| .CrystalReports2013ReportApplicationServer | Running | Enabled | | 8436 | Crystal Reports 2013 Report Application Server |
| .WebApplicationContainerServer | Running | Enabled | | 3336 | Web Application Container Server |
| .DashboardsProcessingServer | Running | Enabled | | 1132 | Dashboards Processing Server |
| .OutputFileRepository | Running | Enabled | | 7636 | Output File Repository Server |
| .CrystalReportsProcessingServer | Running | Enabled | | 8220 | Crystal Reports Processing Server |
| .CentralManagementServer | Running | Enabled | | 2888 | Central Management Server |
| .ExplorerExplorationServer | Running | Enabled | | 2480 | Explorer Exploration Server |
| .CrystalReportsCacheServer | Running | Enabled | | 4880 | Crystal Reports Cache Server |
| .CrystalReports2013ProcessingServer | Running | Enabled | | 692 | Crystal Reports 2013 Processing Server |
| .EventServer | Running | Enabled | | 3416 | Event Server |
| .AdaptiveJobServer | Running | Enabled | | 4716 | Adaptive Job Server |
| .InputFileRepository | Running | Enabled | | 4232 | Input File Repository Server |
| .WebIntelligenceProcessingServer | Running | Enabled | | 7556 | Web Intelligence Processing Server |
| .DashboardsCacheServer | Running | Enabled | | 8120 | Dashboards Cache Server |
| .ConnectionServer | Running | Enabled | | 8008 | Connection Server |
| .ConnectionServer32 | Running | Enabled | | 5948 | Connection Server (32-bit) |
| .CrystalReports2013ReportApplicationServer | Running | Enabled | | 7060 | Crystal Reports 2013 Report Application Server |
| .WebApplicationContainerServer | Running | Enabled | | 2400 | Web Application Container Server |
| .DashboardsProcessingServer | Running | Enabled | | 5688 | Dashboards Processing Server |
| .OutputFileRepository | Running | Enabled | | 5828 | Output File Repository Server |
| .CrystalReportsProcessingServer | Running | Enabled | | 7208 | Crystal Reports Processing Server |
| .ExplorerIndexingServer | Running | Enabled | | 2676 | Explorer Indexing Server |
| .ExplorerSearchServer | Running | Enabled | | 3240 | Explorer Search Server |
| .ExplorerMasterServer | Running | Enabled | | 5100 | Explorer Master Server |
| .CentralManagementServer | Running | Enabled | | 4768 | Central Management Server |

On further investigation from the logs, it is observed that Adaptive Connectivity Service is down due to which APS is running with the errors. Further, we referred some of the KBA's which mentioned having a single APS can be the reason for the errors and APS needs to be split.

- [1998678 - AdaptiveconnectivityService running with error after upgrade to BI 4.1](#)
- [1949693 - AdaptiveProcessingServer Running with errors after installing BI 4.1 or after upgrade to BI 4.1](#)
- [1987825 - The APS status is "Running with errors" after upgrading to BI 4.1 SP2](#)

Based on the above SAP KBAs, we will split APS services using System Configuration Wizard (SCW), which is a new 4.1 feature available within CMC.

Splitting the Adaptive Processing Server (APS)

The System Configuration Wizard is a tool that you can use to configure your BI platform deployment. The wizard guides you through the basic configuration options, resulting in a working deployment using common settings such as following:

- Servers you want to start automatically when SIA starts
- Option to optimize your deployment for better performance
- Option to change the file repository locations

Refer to [BI 4.1 SP04 Administrator Guide](#) for more detail on System configuration Wizard.

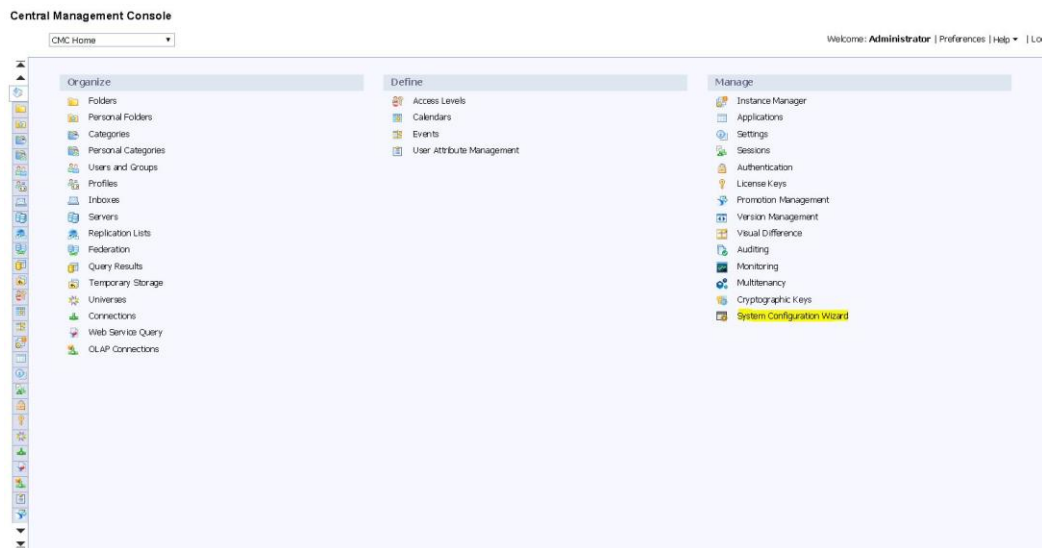


Refer the following white paper for the best practices on how to split APS:

<http://scn.sap.com/docs/DOC-31711>

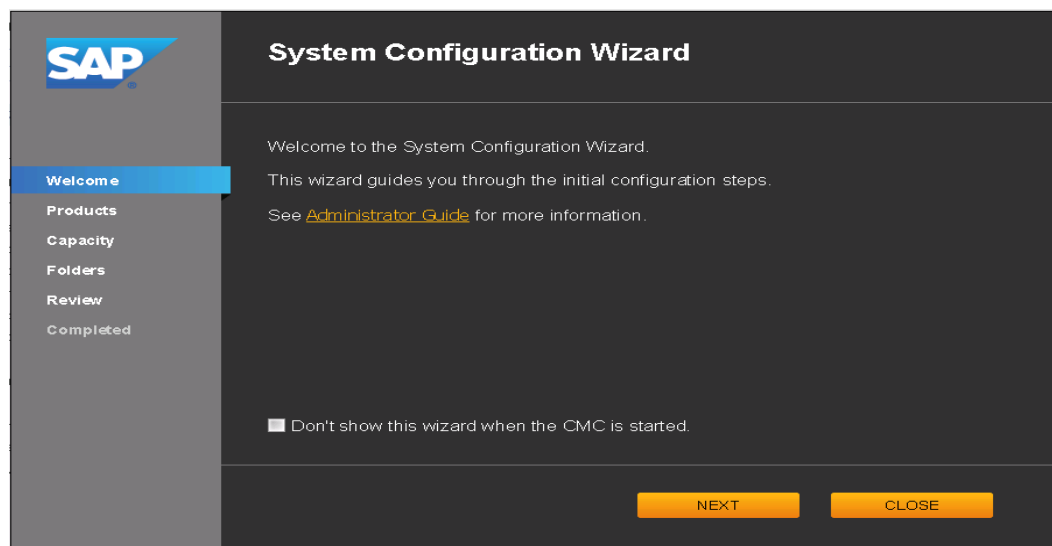
In this pattern, we chose the Small deployment template- 'S' option, to create new APS servers.

1. Log on to CMC and click **System Configuration Wizard** under the **Manage** section as highlighted below.

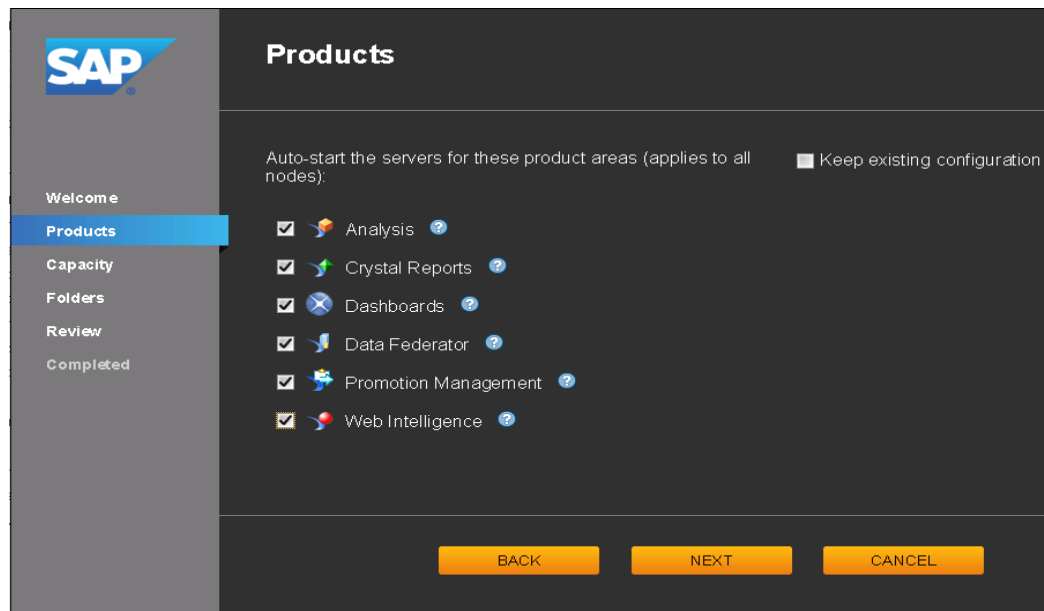


The System Configuration Wizard appears.

2. Click **Next**.



3. Select the products for which servers need to be auto-started and click **Next**.



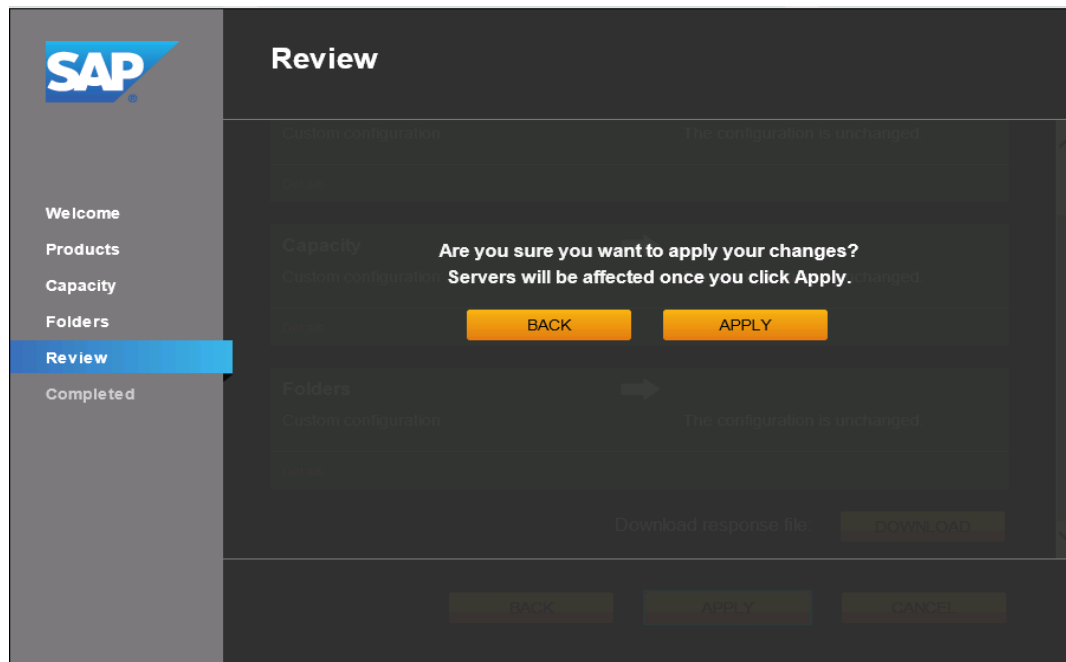
4. In the **Capacity** screen, select the small deployment by moving the slider to S and click **Next**.



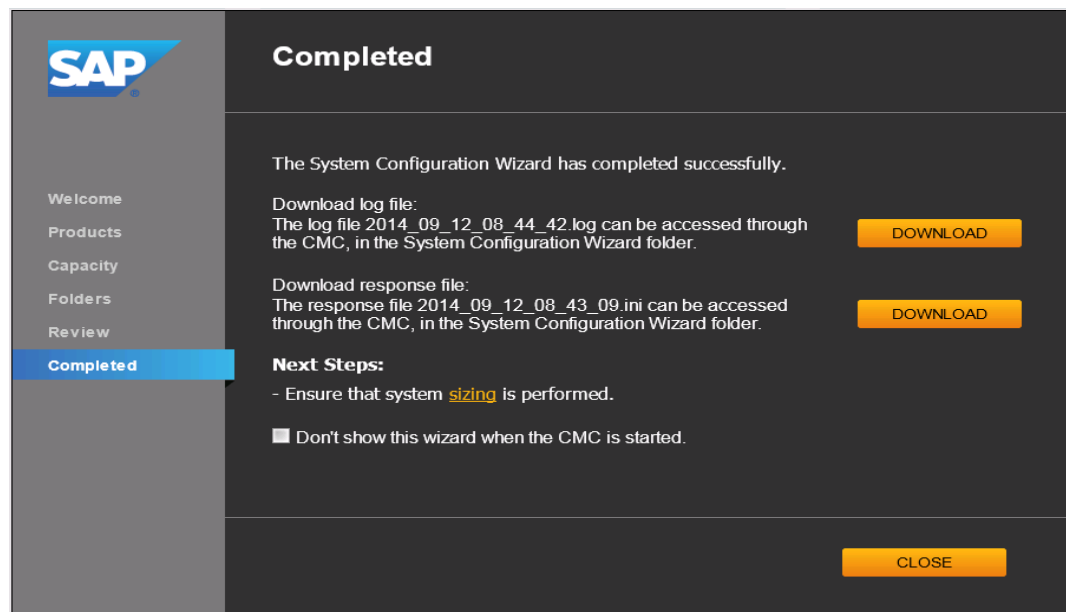
5. In the **Folders** screen, configure the FRS, Data, and Auditing folder locations and click **Next**.

The Review screen shows the summary of the options.

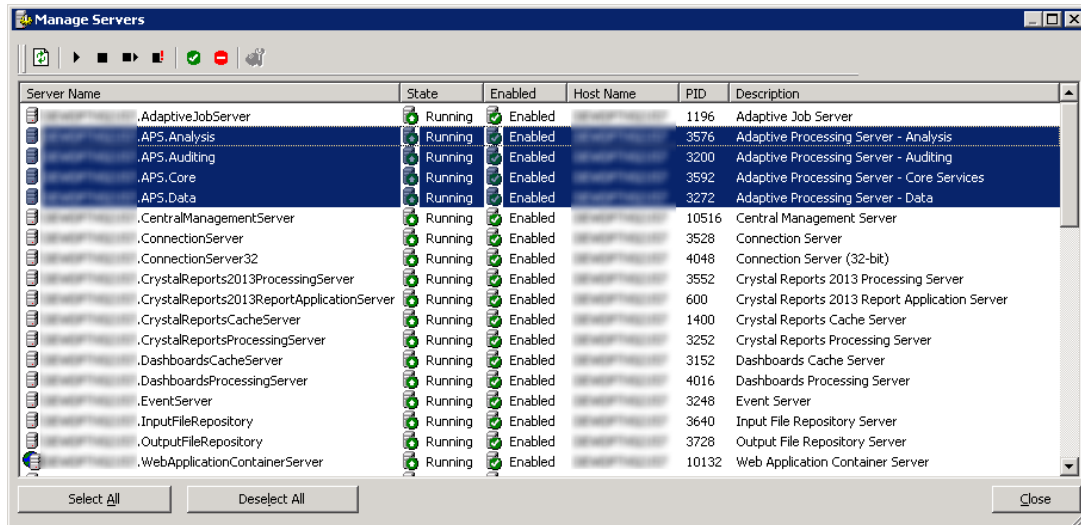
6. Click **Apply**.
The confirmation screen appears.
7. Click **Apply**.



Based on the options selected, all the server changes are applied. You can review the log and response files.



8. Click **Close**.
9. Launch CCM to confirm that the wizard created 4 new APS Servers (APS.Analysis, APS.Auditing, APS.Core and APS.DATA) and all APS are running without issues.



| Server Name | State | Enabled | Host Name | PID | Description |
|--|---------|---------|-----------|-------|--|
| .AdaptiveJobServer | Running | Enabled | | 1196 | Adaptive Job Server |
| .APS_Analysis | Running | Enabled | | 3576 | Adaptive Processing Server - Analysis |
| .APS_Auditing | Running | Enabled | | 3200 | Adaptive Processing Server - Auditing |
| .APS_Core | Running | Enabled | | 3592 | Adaptive Processing Server - Core Services |
| .APS_Data | Running | Enabled | | 3272 | Adaptive Processing Server - Data |
| .CentralManagementServer | Running | Enabled | | 10516 | Central Management Server |
| .ConnectionServer | Running | Enabled | | 3528 | Connection Server |
| .ConnectionServer32 | Running | Enabled | | 4048 | Connection Server (32-bit) |
| .CrystalReports2013ProcessingServer | Running | Enabled | | 3552 | Crystal Reports 2013 Processing Server |
| .CrystalReports2013ReportApplicationServer | Running | Enabled | | 600 | Crystal Reports 2013 Report Application Server |
| .CrystalReportsCacheServer | Running | Enabled | | 1400 | Crystal Reports Cache Server |
| .CrystalReportsProcessingServer | Running | Enabled | | 3252 | Crystal Reports Processing Server |
| .DashboardsCacheServer | Running | Enabled | | 3152 | Dashboards Cache Server |
| .DashboardsProcessingServer | Running | Enabled | | 4016 | Dashboards Processing Server |
| .EventServer | Running | Enabled | | 3248 | Event Server |
| .InputFileRepository | Running | Enabled | | 3640 | Input File Repository Server |
| .OutputFileRepository | Running | Enabled | | 3728 | Output File Repository Server |
| .WebApplicationContainerServer | Running | Enabled | | 10132 | Web Application Container Server |

Note: Stop and disable the APS Servers that were running with errors.

Information: Run W-deploy on Tomcat machines

If you prefer to use the existing Tomcat to deploy web applications, then follow the instructions starting from Step 17 in **BIP on Windows with Mobile and Explorer** Pattern Book under **Installing the BI platform web tier** topic.

If you prefer to download a newer version of Tomcat individually and deploy the web applications, Please check the [Web application server configuration](#) page.

Post-update workflows

Information:

When you are using SAP BusinessObjects BI 4.0 SPx and want to upgrade to the latest release - SAP BusinessObjects BI 4.1 SP1 or higher, it's recommended that you use the patch update that is available for existing deployments. When you install BI 4.1 SP04 updates, by default, not all new features will be added to the installation. To deploy the added features in your existing landscape, you need to run an expand installation of the most recent BI 4.0 SPx release.

Enabling BI 4.1 SP04 new components

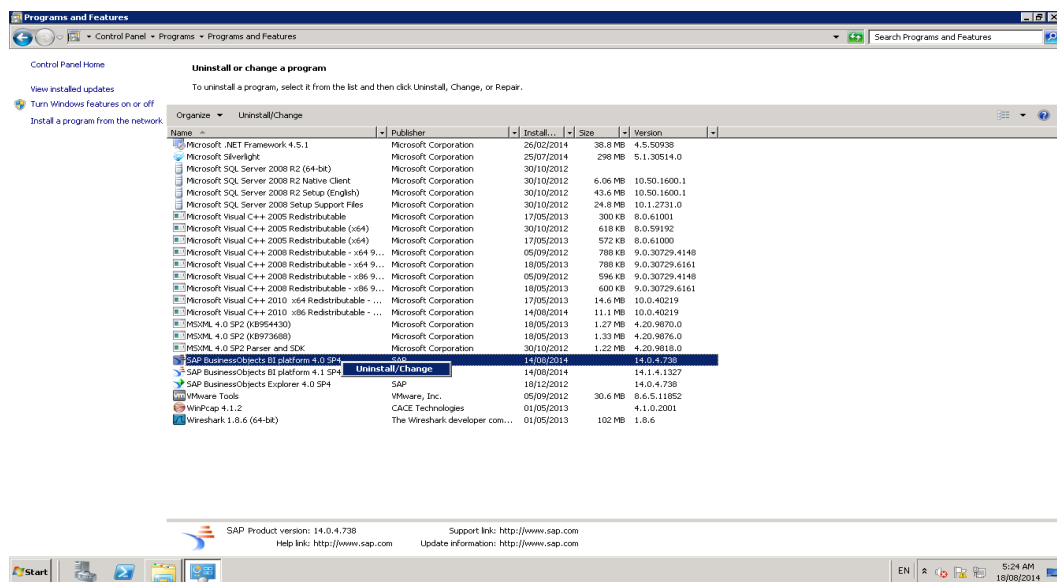
The following steps provide information on expanding the SAP BusinessObjects BI 4.1 SP04 system (assuming that the BI 4.1 SP04 patch has been applied).

Note: If you have a clustered environment, you need to execute the following steps on each system.

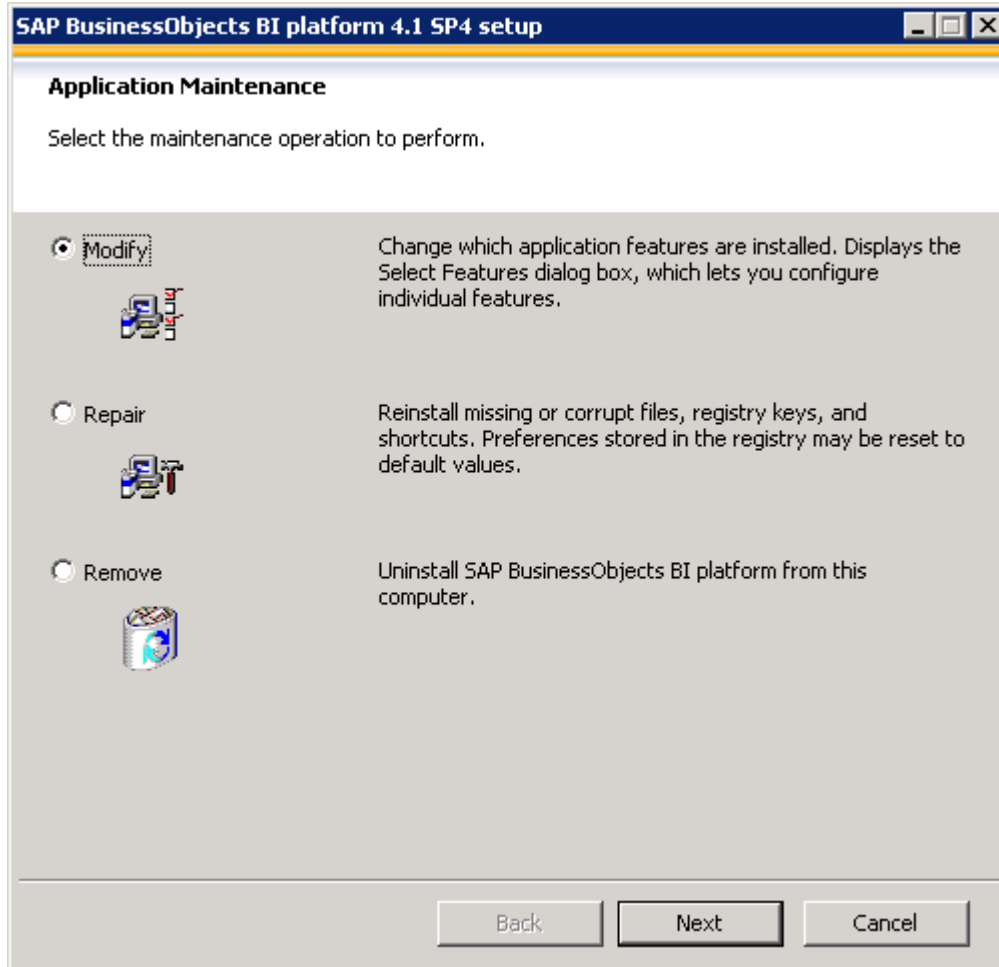
For information on adding new features after patching BI 4.0 SP04 system with BI 4.1 SP04, see <http://scn.sap.com/docs/DOC-48364>

1. Go to **Start > Control Panel> Programs > Programs and Features**.
2. Find the SAP BusinessObjects BI platform 4.0 base install program.

In this pattern, the version of the platform is **SAP BusinessObjects BI platform 4.0 SP04**.

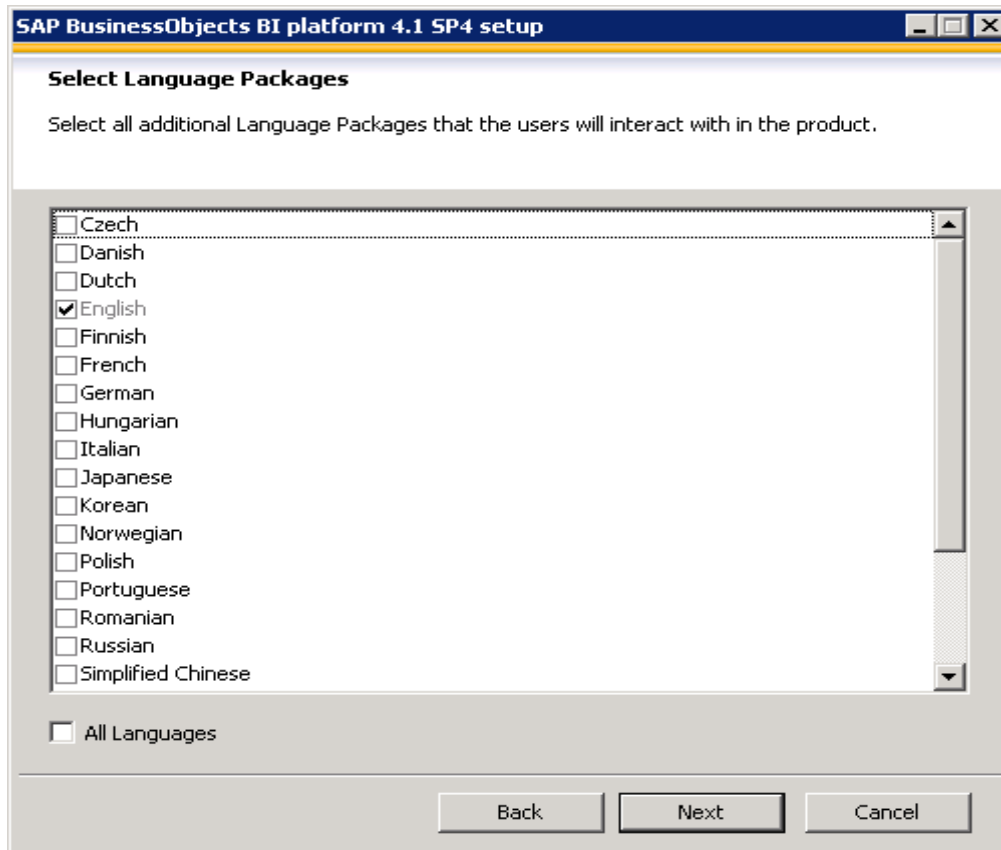


3. Double-click **SAP BusinessObjects BI platform 4.0 SP04**.
- The Application Maintenance screen appears.



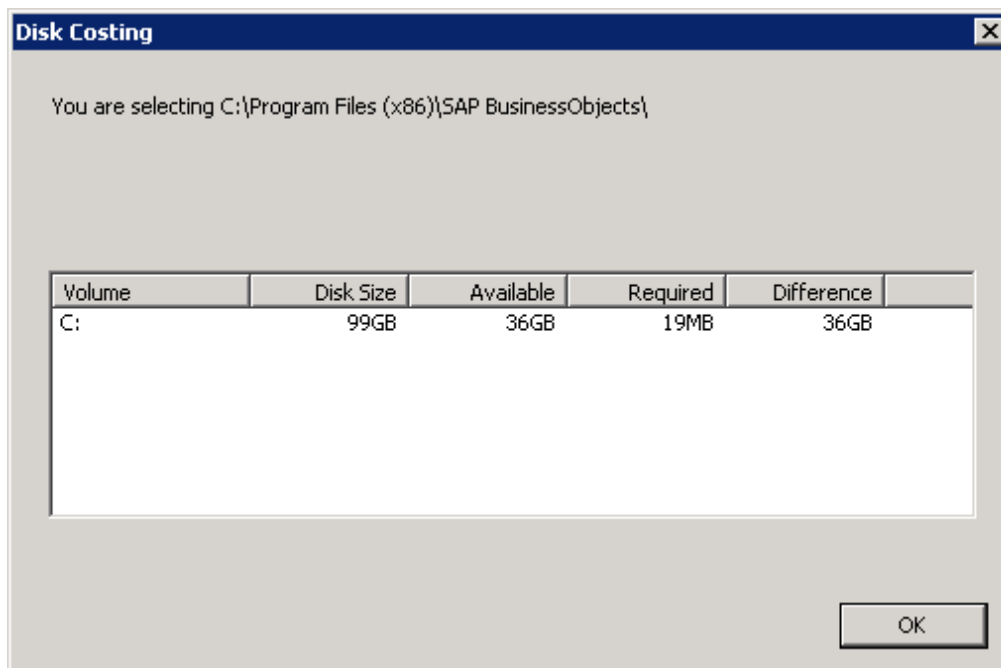
Note: Once the BI 4.1 SP04 patch is applied, the installer displays SAP BusinessObjects BI platform 4.1 SP04 Setup even if the BI 4.0 SP04 base installer has been selected. This is due to the fact that the BI 4.1 SP04 patch will update the install manifest used by all BI 4.x installers.

4. Click **Next**.
5. If you need additional language packages, select the required language packages, and click Next.



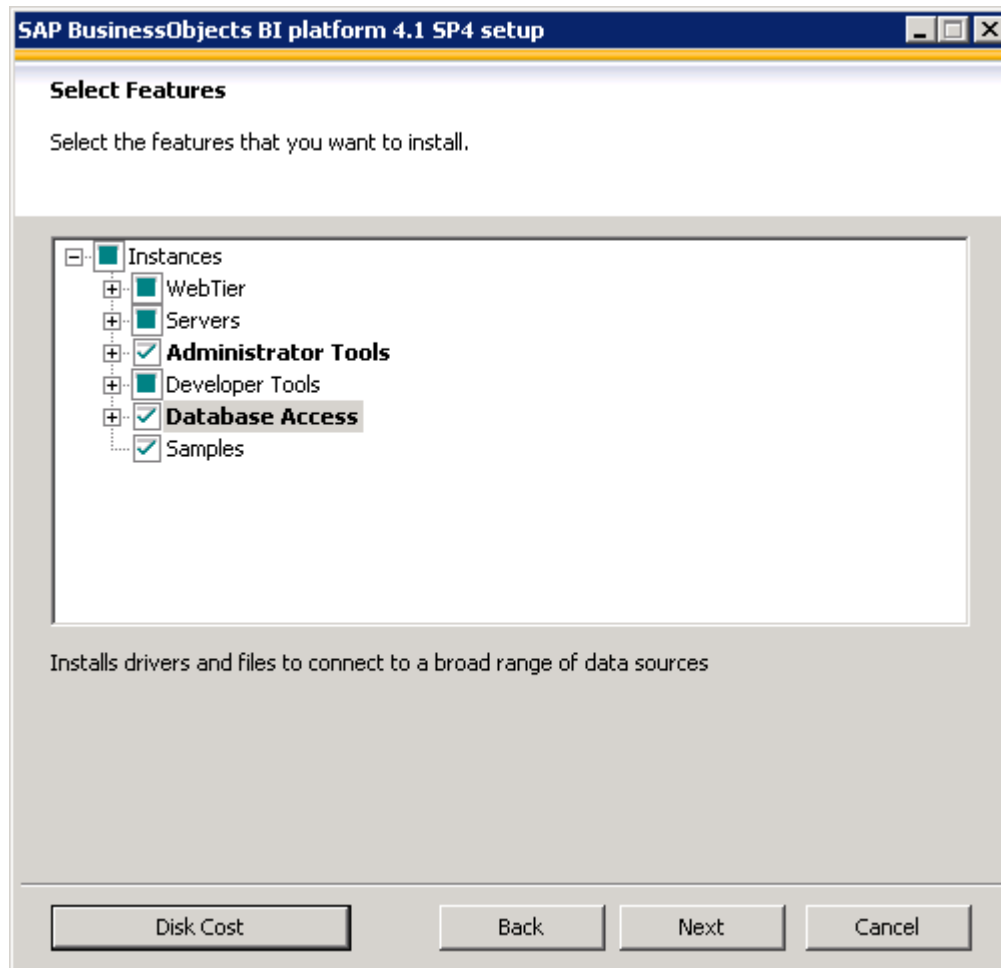
Installer checks for available space.

6. Click OK.

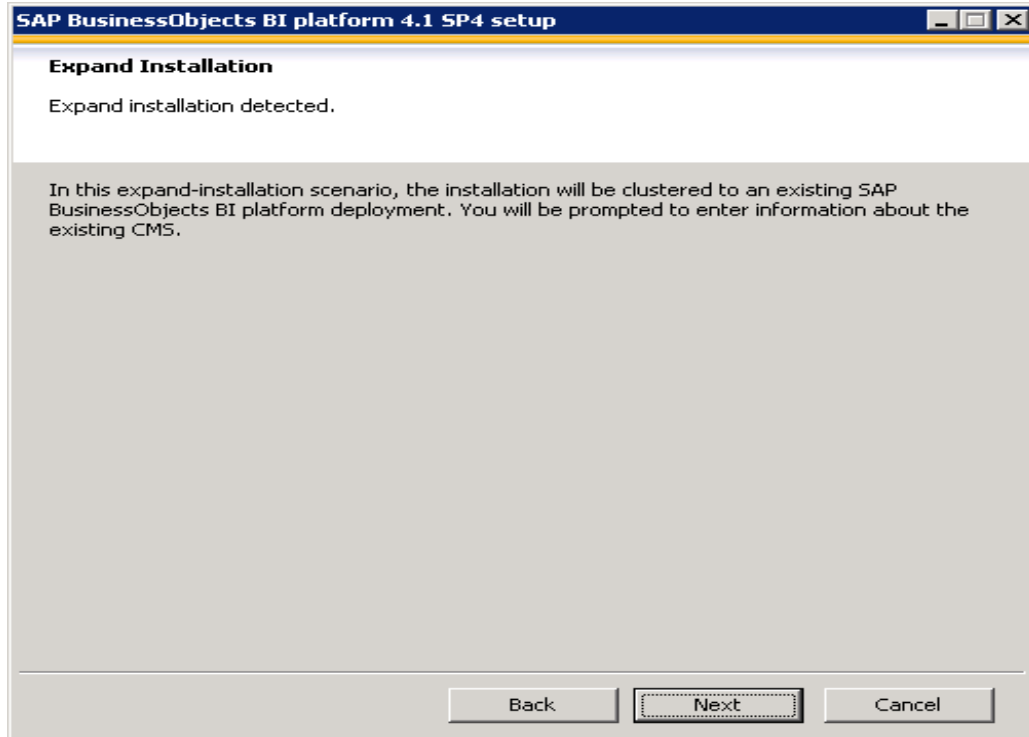


7. Select the required features that you want to add to the SAP BusinessObjects BI 4.1 installation and click Next.

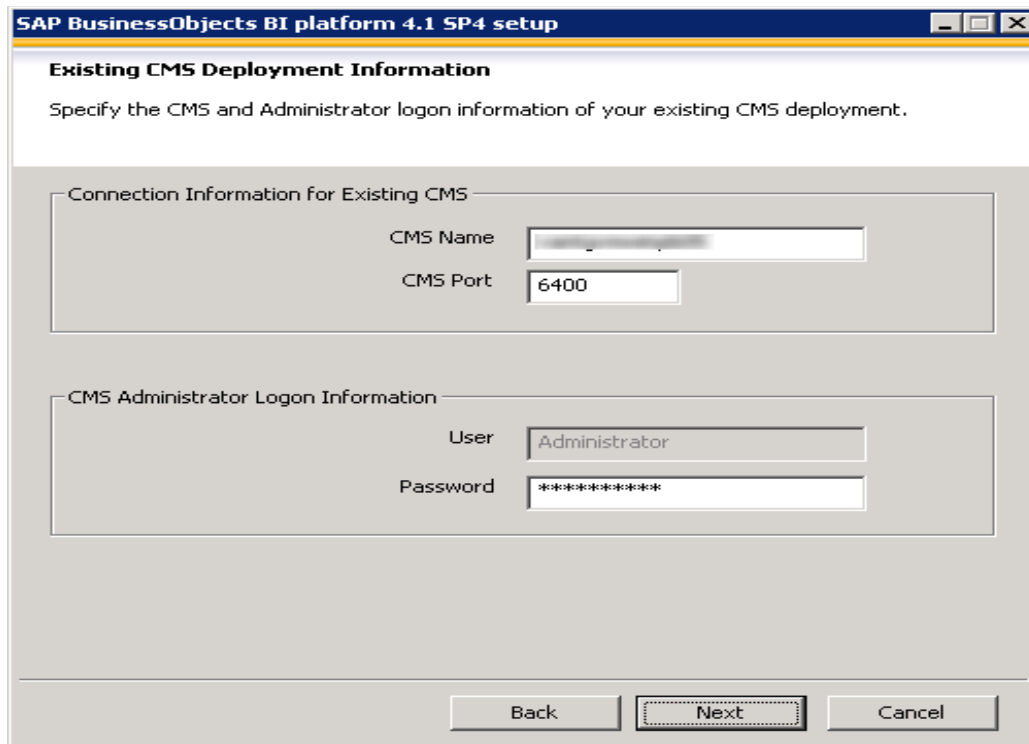
In this pattern, we have chosen to add all new Database Access drivers.



8. Click **Next**.

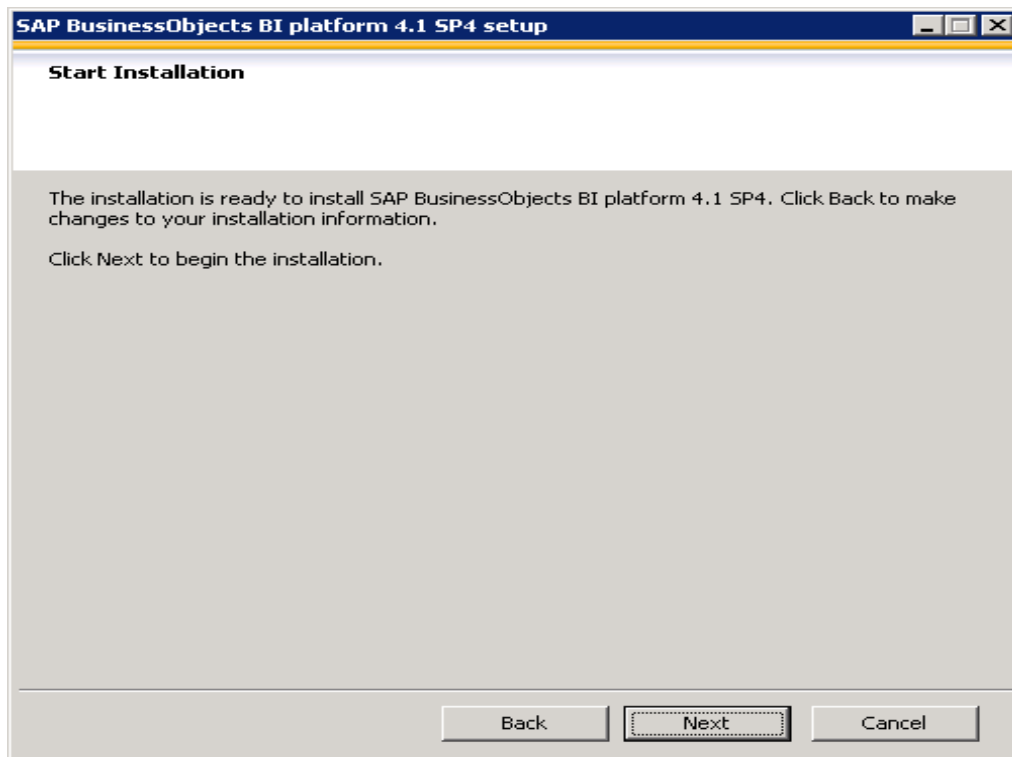


9. Specify the CMS and administrator login information of the existing CMS deployment, and click **Next**.

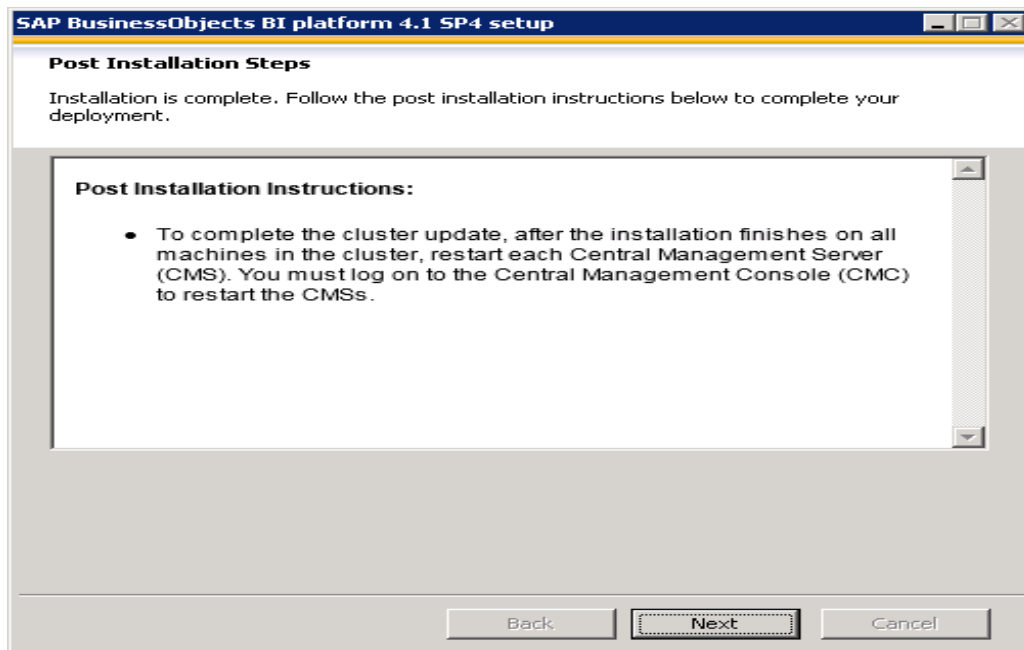




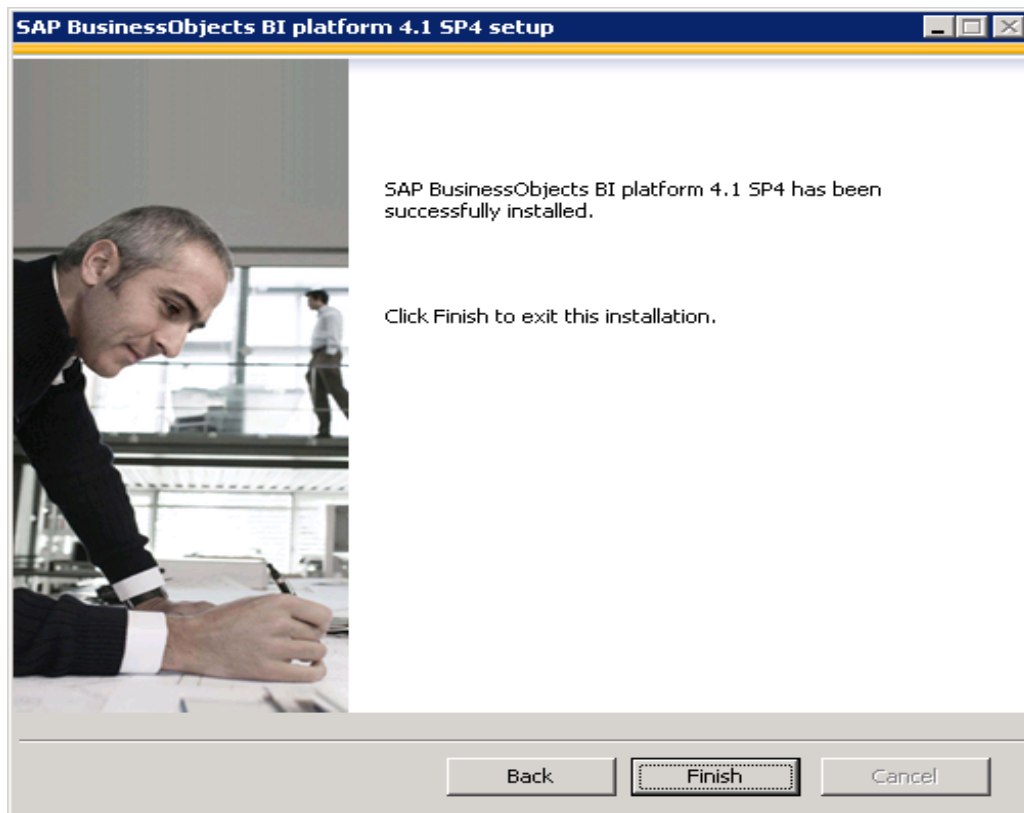
10. Click **Next** to begin the installation.



11. Click **Next**.



12. Click **Finish**.



The additional features that you have selected are now added to the deployment.

Repeat the same steps on the other machine (WINPB3-05), which is in the cluster.

[Web application server configuration](#)

In this pattern, we have used Tomcat 7.0 for deploying BI web applications. To configure web application server, perform the following steps:

- [Deploying Web Application Server](#)
- [Installing Tomcat 7.0.55 on both machines \(WINPB3-02 and WINPB3-03\)](#)
- [Run W-deploy on both the Tomcat machines \(WINPB3-02 and WINPB3-03\)](#)
- [Clustering Tomcat machines](#)
- [Create custom configuration files for web applications](#)
- [Uninstalling Tomcat 6 from both the Tomcat machines \(WINPB3-02 and WINPB3-03\)](#)

Installing Tomcat 7.0.55 on both machines (WINPB3-02 and WINPB3-03)

Before installing Tomcat 7.0.55, ensure that Tomcat 6.0.36 service is stopped and the startup type is set to 'Disabled'.

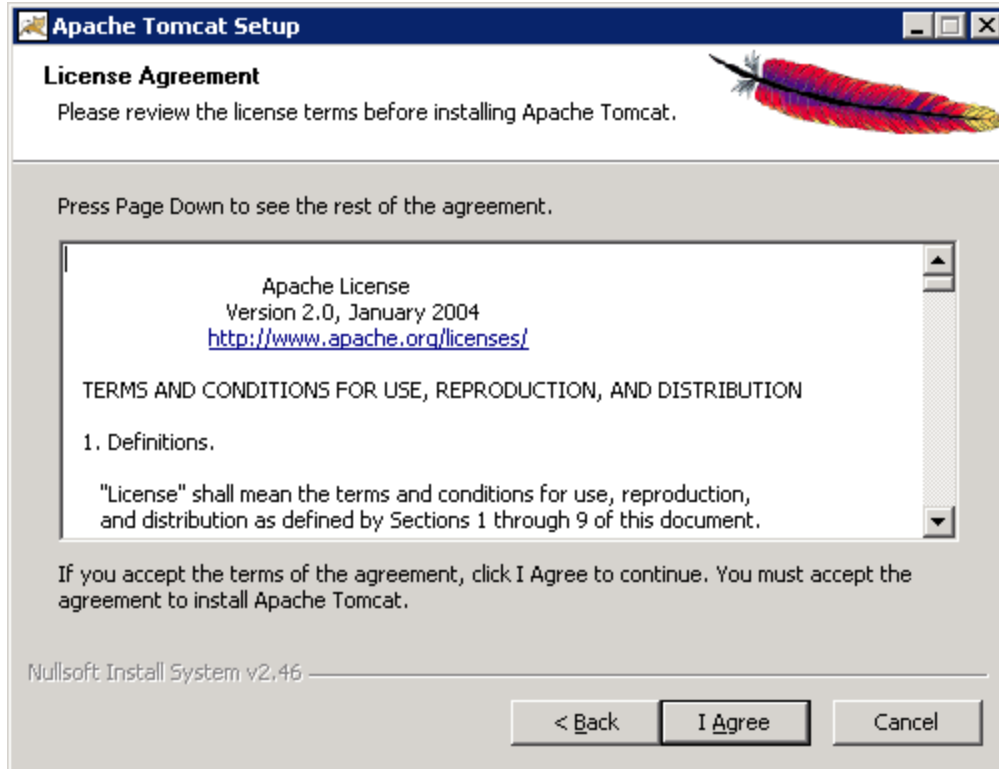
1. Log on to the machine WINPB3-02 using the Windows domain account SVC_WEBTIER.
SVC_WEBTIER is a domain user account and a member of local Administrators group. It is not sufficient to use domain Administrator account because the account used to install BI platform applications must be a member of Administrators group of the machine on which Tomcat is installed.
2. Run the Apache Tomcat 7.0.55 installer.
As we are using non-default Administrator account, security warnings appears.



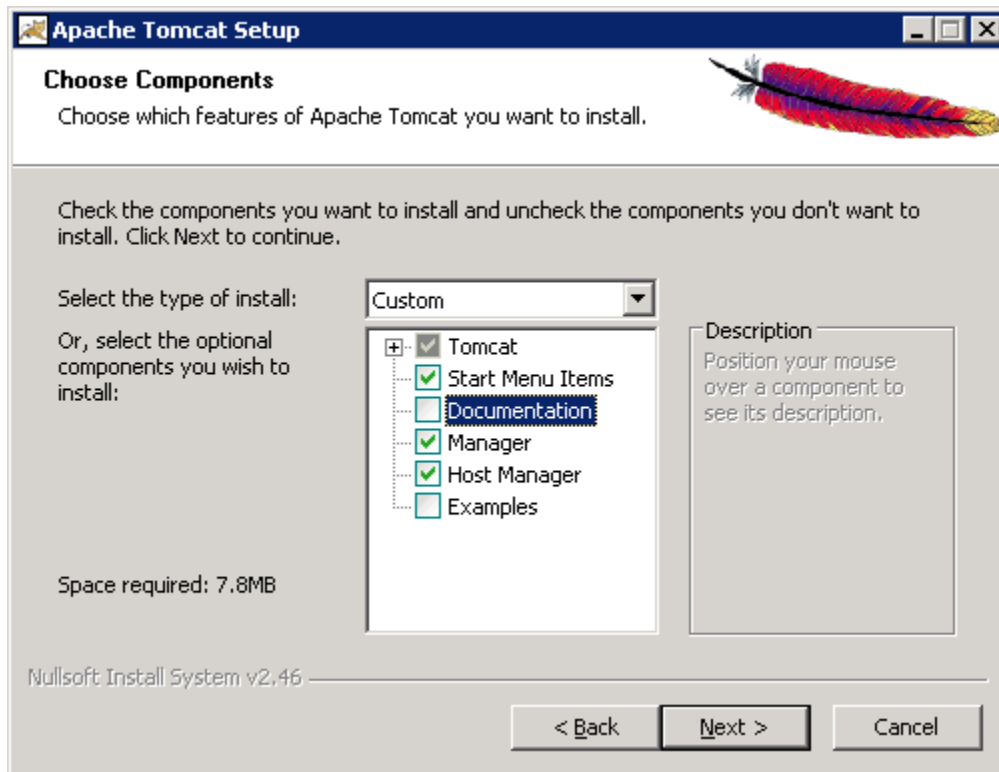
3. Click **Yes**.
4. Click **Next**.



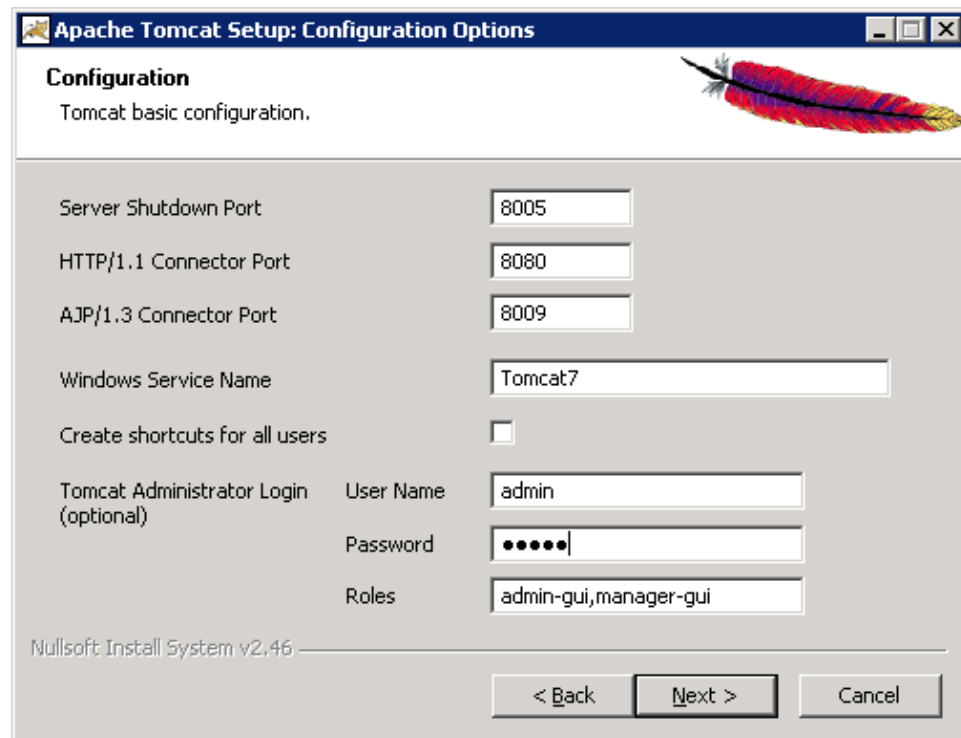
5. If you accept the terms of the agreement, click **I Agree**.



6. Retain the default Tomcat options and click **Next**.



7. In the Configuration Options page, perform the following steps and click **Next**.
 - a. Retain the default ports for Tomcat.
Information: Ensure that you noted down all the options you have selected during the Tomcat installation. You may require this information if you want to change any settings later on.
 - b. Create Tomcat Administrator account. You may need this account to manage Tomcat applications.



Apache Tomcat Setup: Configuration Options

Configuration
Tomcat basic configuration.

Server Shutdown Port: 8005

HTTP/1.1 Connector Port: 8080

AJP/1.3 Connector Port: 8009

Windows Service Name: Tomcat7

Create shortcuts for all users: ☐

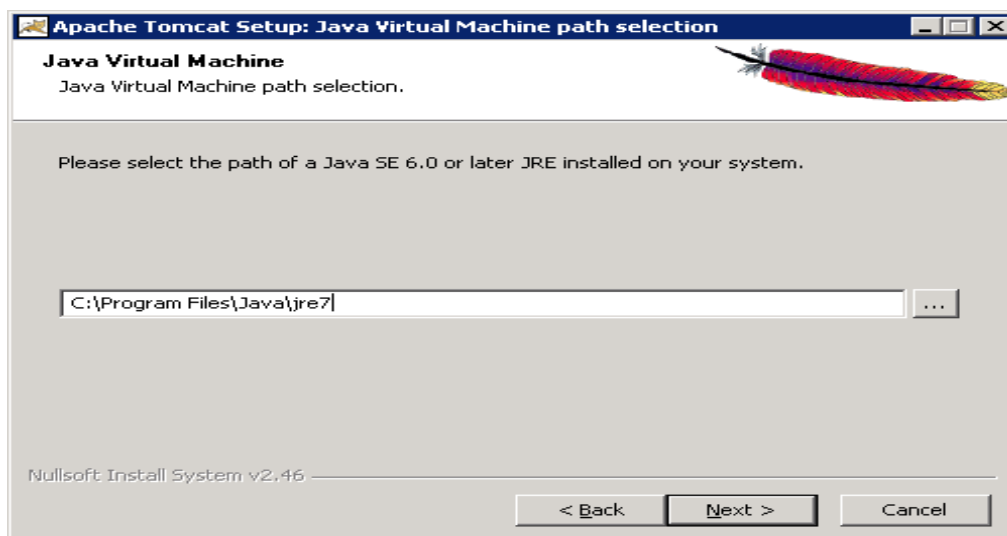
Tomcat Administrator Login (optional):

| | |
|-----------|-----------------------|
| User Name | admin |
| Password | ••••• |
| Roles | admin-gui,manager-gui |

Nullsoft Install System v2.46

< Back Next > Cancel

8. Specify the JVM path and click **Next**.



Apache Tomcat Setup: Java Virtual Machine path selection

Java Virtual Machine
Java Virtual Machine path selection.

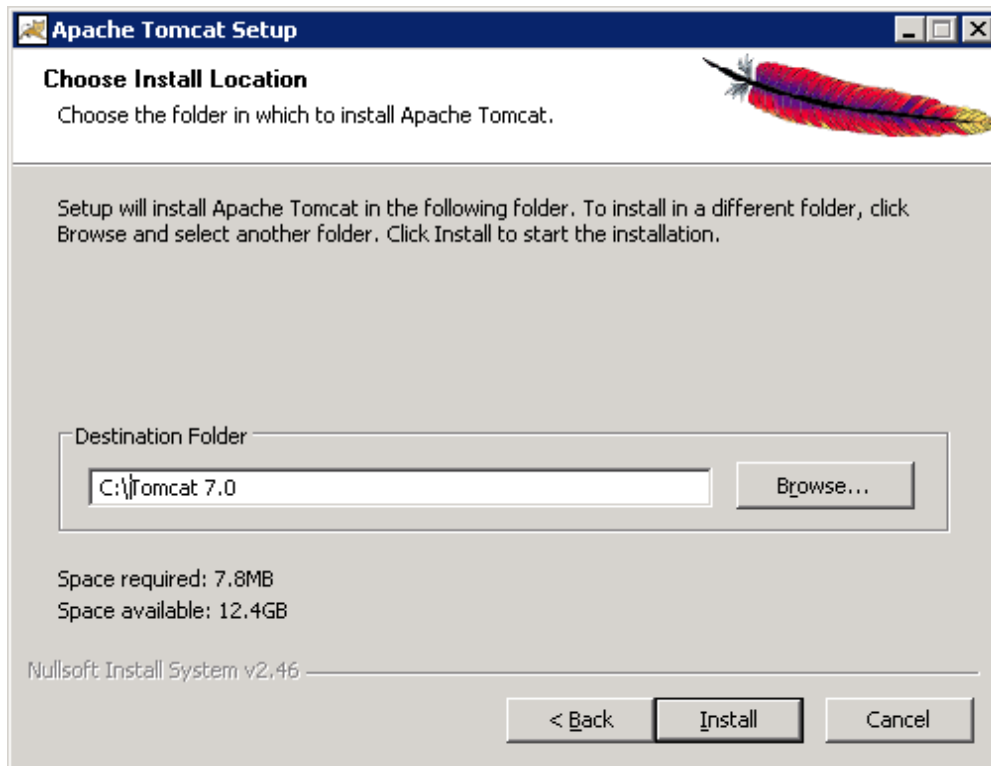
Please select the path of a Java SE 6.0 or later JRE installed on your system.

C:\Program Files\Java\jre7

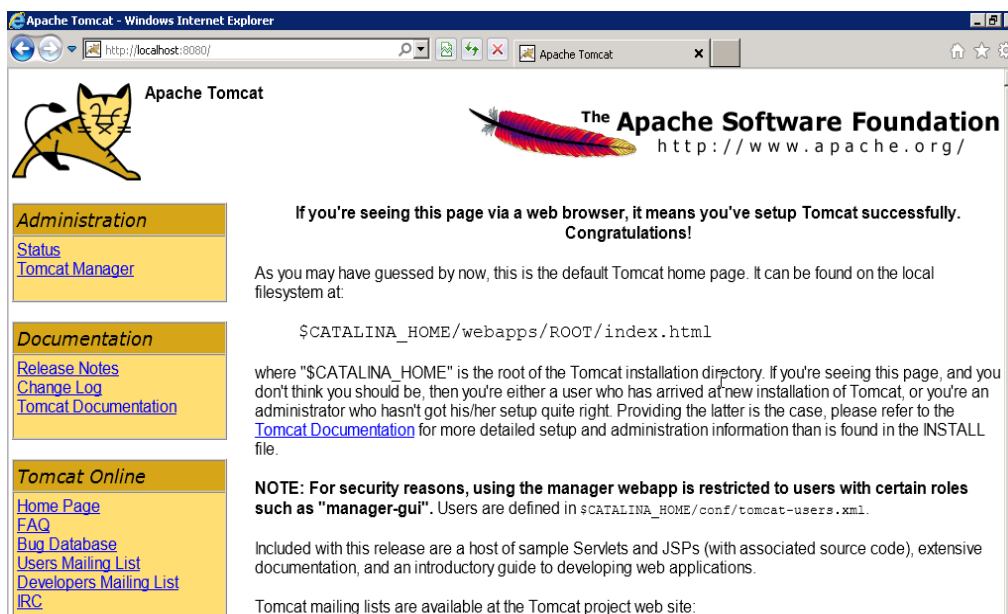
Nullsoft Install System v2.46

< Back Next > Cancel

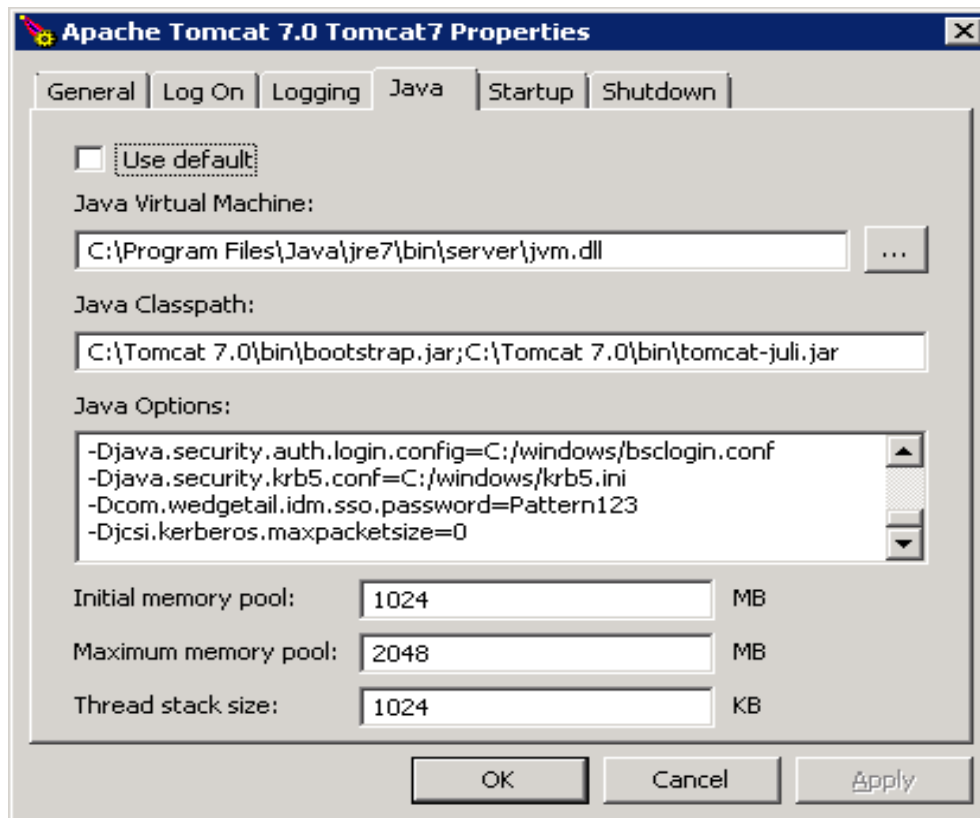
9. Choose the folder in which you want to install Apache Tomcat and click **Install**.



When the installation completes, Tomcat starts. Verify if the Tomcat is installed properly.



10. Launch the Tomcat Configuration program from the Windows start menu.



11. Modify the default values for initial and maximum memory pools, and Stack size.

Xms=1024, Xmx=2048 and Xss=1024 are the initial values that work in most deployments. Add -XX:MaxPermSize=512m under Java Options. You may have to further tune the Java parameters based on the performance and stability of your deployment.

Refer the sizing document for more details: <http://scn.sap.com/docs/DOC-33126>

12. Restart Tomcat for settings to take effect.

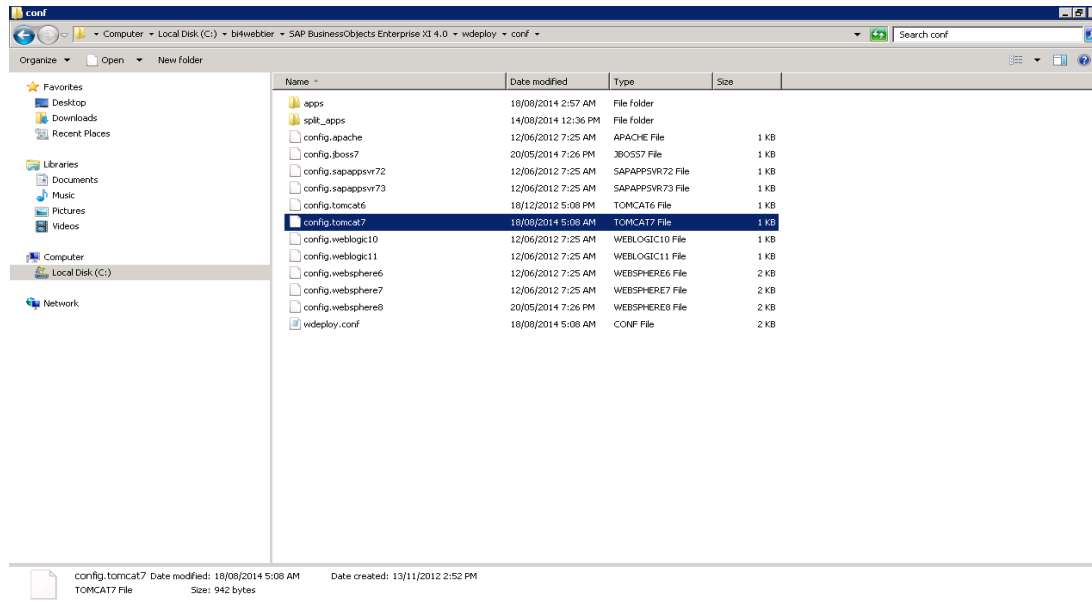
To set up Tomcat on the WINPB3-03 machine, follow the above steps. And, after installing Tomcat, verify if the Tomcat is installed properly.

Run W-deploy on both the Tomcat machines (WINPB3-02 and WINPB3-03)

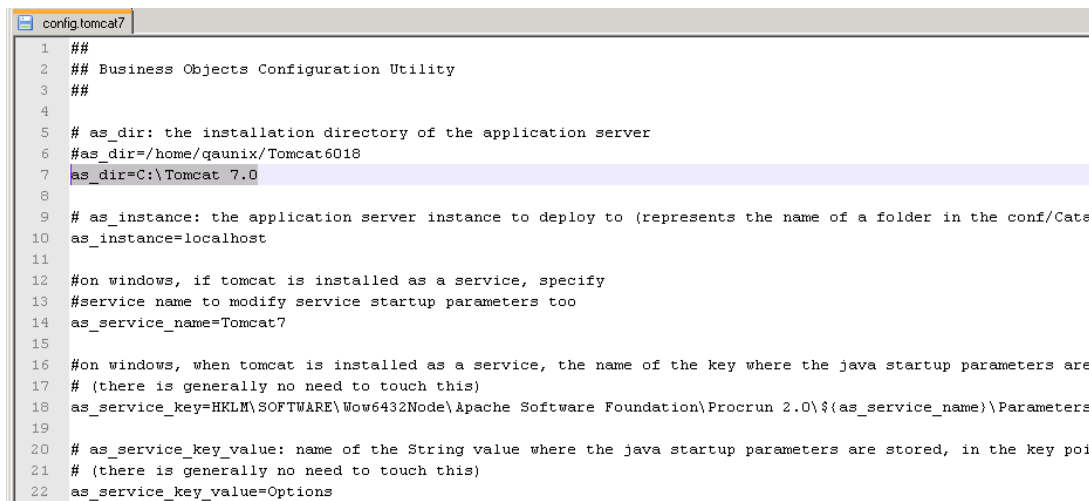


Before using WDeploy to deploy BI platform web applications to the Tomcat Application Server, ensure that the configuration files for the application server contains correct information, and modify them if required.

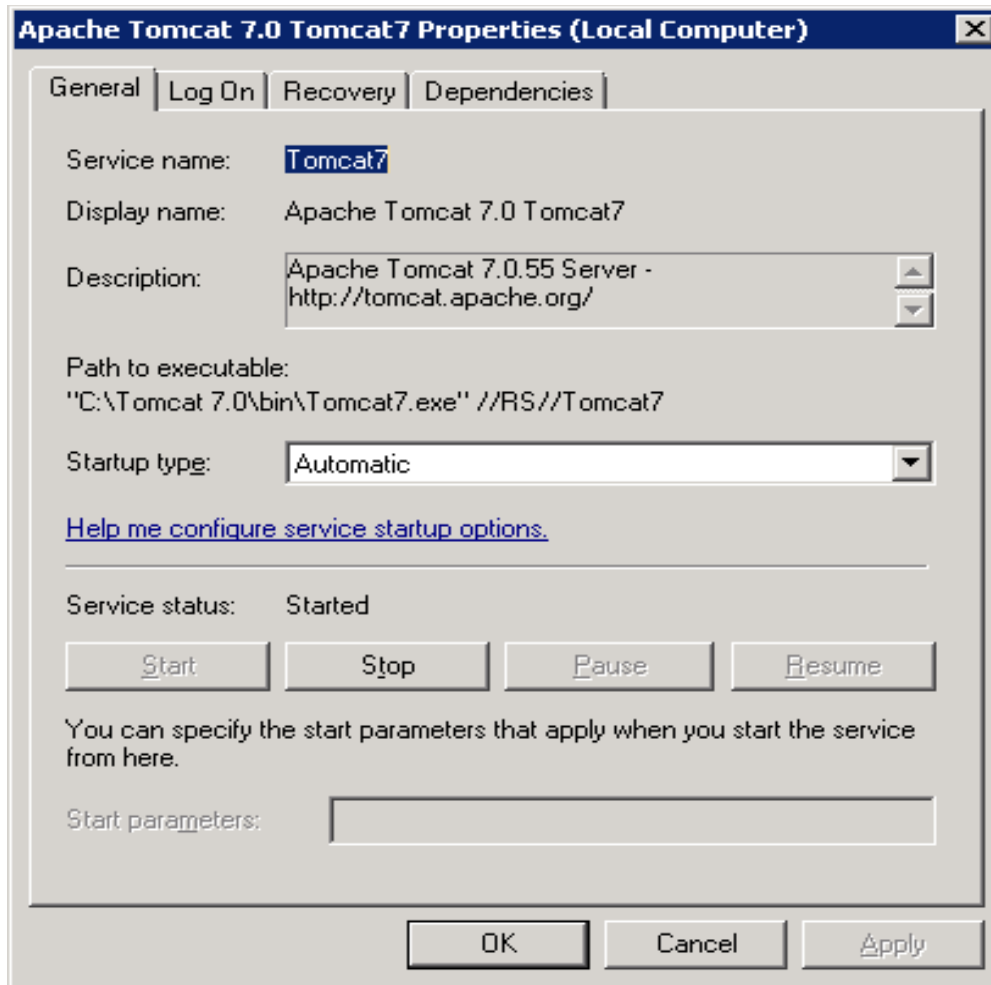
Navigate to the folder where the configuration files are stored: C:\bi4webtier\SAP BusinessObjects Enterprise XI 4.0\wdeploy\conf.



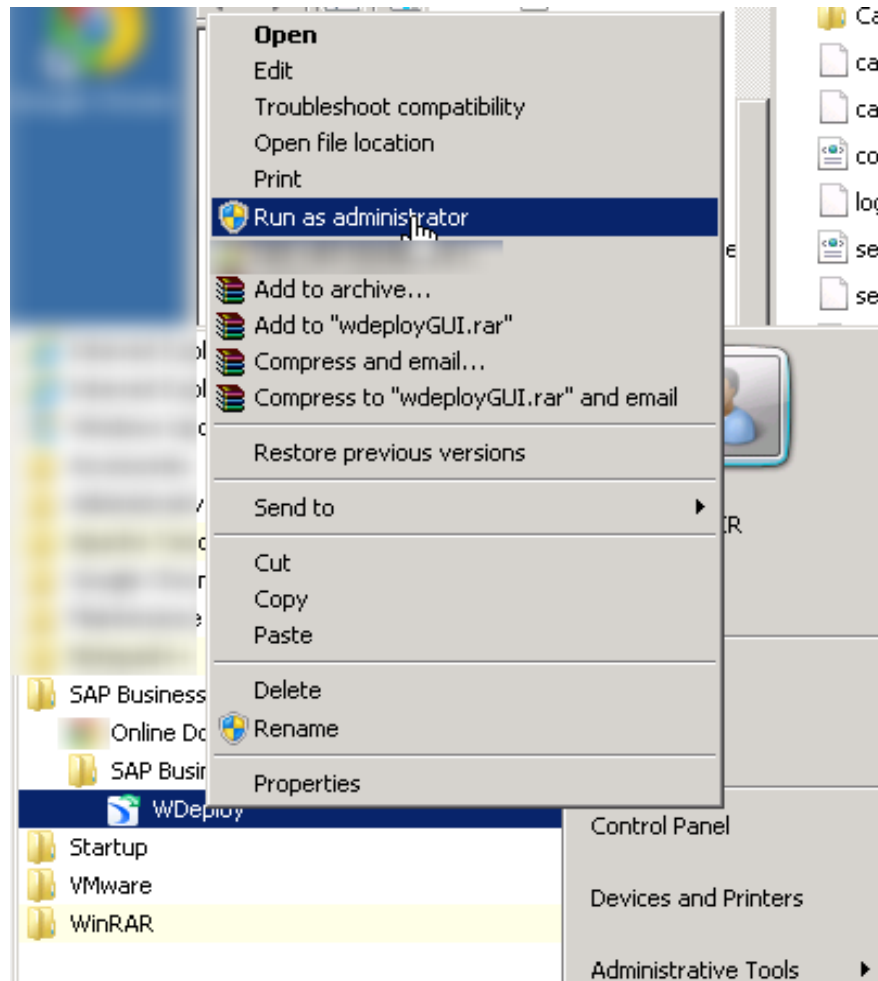
In a text editor, open the config.tomcat7 file. Verify that as_dir is pointing to the Tomcat installation location and as_service_name is pointing to the correct Tomcat service name.



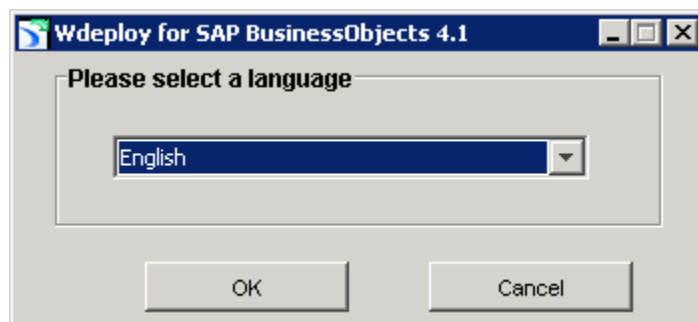
Tomcat Service name can be verified by opening the services.msc from Start>Run> and locate the Tomcat and double-click on Apache Tomcat 7.0 Tomcat7.



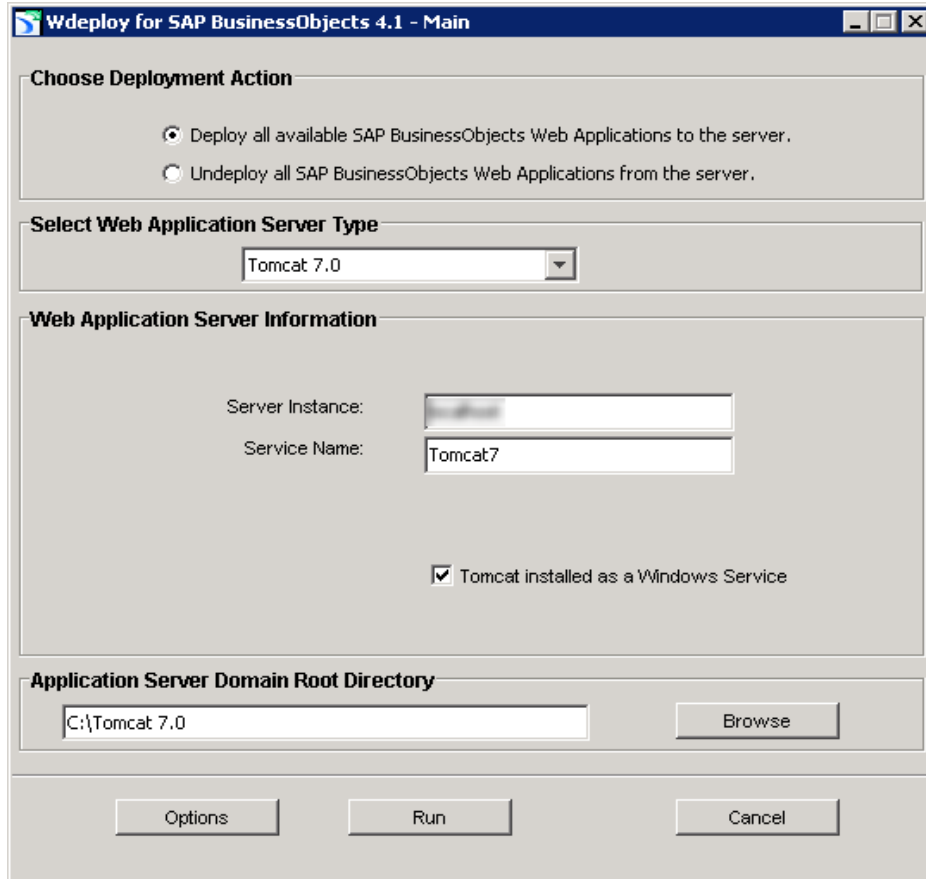
1. Log on to Tomcat machine (WINPB3-02) using the Windows domain account SVC_WEBTIER.
2. Go to Start > All Programs > SAP BusinessObjects BI platform 4, right-click WDeploy, and select Run as administrator.



3. In the "Wdeploy for SAP BusinessObjects 4.0" dialog box, select **English**, and click **OK**.



4. Click **Deploy all available SAP BusinessObjects Web Applications to the server**, and ensure that you specify the parameters as shown below, and click **Run**.



Wdeploy for SAP BusinessObjects 4.1 - Main

Choose Deployment Action

☒ Deploy all available SAP BusinessObjects Web Applications to the server.
☐ Undeploy all SAP BusinessObjects Web Applications from the server.

Select Web Application Server Type

Tomcat 7.0

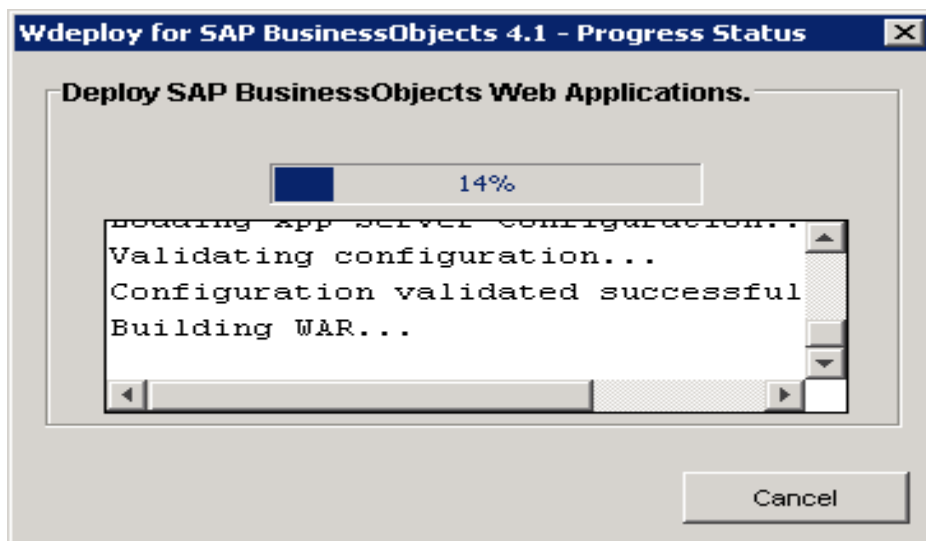
Web Application Server Information

Server Instance:
 Service Name:

☒ Tomcat installed as a Windows Service

Application Server Domain Root Directory

The following confirmation pop-ups appear:

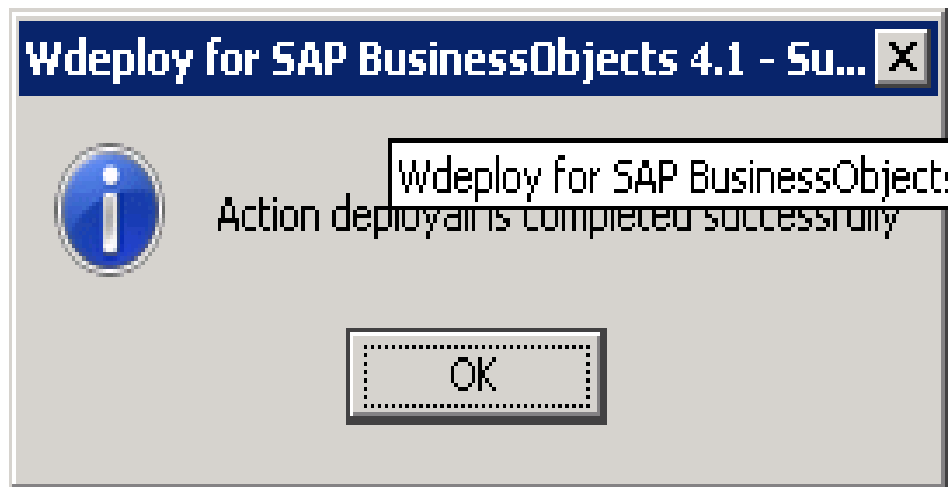


Wdeploy for SAP BusinessObjects 4.1 - Progress Status

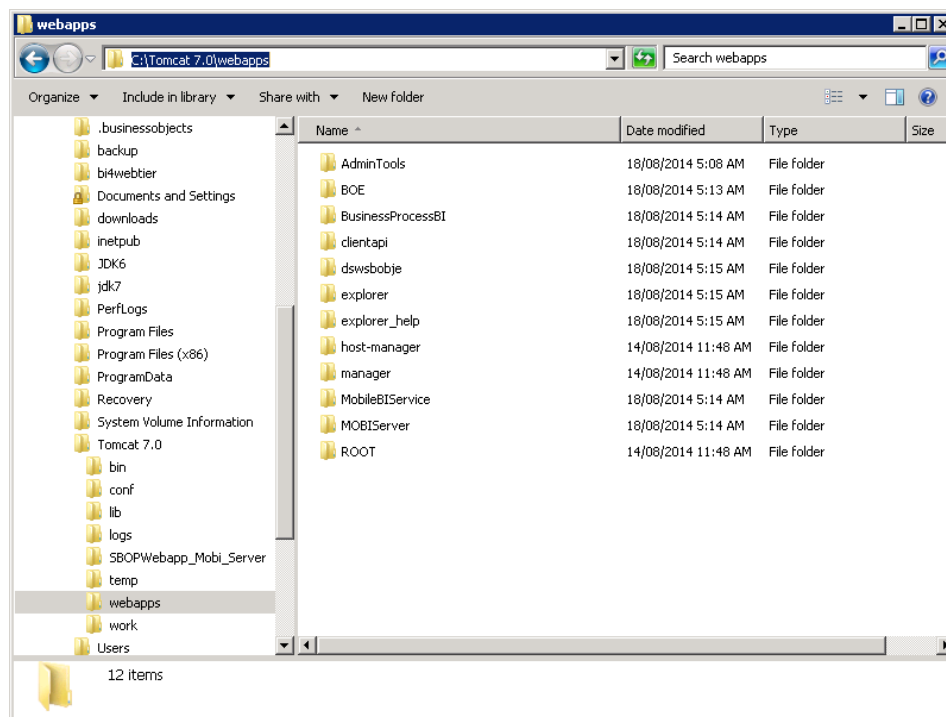
Deploy SAP BusinessObjects Web Applications.

14%

Loading App Server Configuration...
 Validating configuration...
 Configuration validated successful
 Building WAR...



After WDeploy has successfully deployed the web applications, go to the `C:\Tomcat 7.0\webapps` folder, and check if the following folders are listed:



Verify if the deployment is complete.

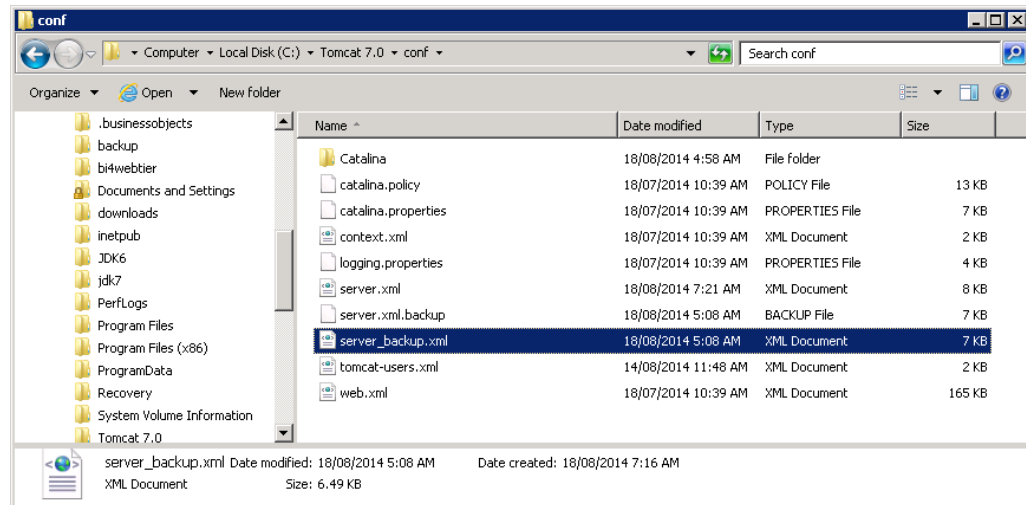
To complete the installation of the web-tier on the second application server machine, repeat all the above steps on WINPB3-03.

Clustering Tomcat machines

For more information on configuring Tomcat 7 in a cluster, see the "How To":

<http://tomcat.apache.org/tomcat-7.0-doc/cluster-howto.html>

1. Log on to machine WINPB3-02 using the Windows domain account SVC_WEBTIER.
2. Take a backup of the server.xml file located at C:\tomcat7\conf by renaming it to server_Backup.xml.



3. In a text editor, open server.xml, go to the cluster section, and replace the following:

server.xml

```
<!--<Cluster
className="org.apache.catalina.ha.tcp.SimpleTcpCluster"/>-->
```

With

server.xml

```
<Engine name="Catalina" defaultHost="localhost" jvmRoute="machinename">

<!--For clustering, please take a look at
documentation at:/docs/cluster-howto.html (simple
how to)/docs/config/cluster.html (reference
documentation) -->
```

```

<!--<Cluster
className="org.apache.catalina.ha.tcp.SimpleTcpCluster"/>-->

<Cluster className="org.apache.catalina.ha.tcp.Simple
TcpCluster"channelSendOptions="8">
<Manager className="org.apache.catalina.ha.session.De
ltaManager"expireSessionsOnShutdown="false" notifyLis
tenersOnReplication="true"/>
<ChannelclassName="org.apache.catalina.tribes.group.G
roupChannel">
<Membership className="org.apache.catalina.tribes.mem
bership.McastService" address="228.0.0.4"port="45564"
frequency="500" dropTime="3000"/>
<Receiver className="org.apache.catalina.tribes.trans
port.nio.NioReceiver" address="auto"port="4000" autoB
ind="100" selectorTimeout="5000" maxThreads="6"/>

<SenderclassName="org.apache.catalina.tribes.transpor
t.ReplicationTransmitter">
<Transport className="org.apache.catalina.tribes.tran
sport.nio.PooledParallelSender"/>
</Sender>

<InterceptorclassName="org.apache.catalina.tribes.gro
up.interceptors.TcpFailureDetector"/>

<InterceptorclassName="org.apache.catalina.tribes.gro
up.interceptors.MessageDispatch15Interceptor"/>
</Channel>

<Valve className="org.apache.catalina.ha.tcp.Replicat
ionValve" filter=""/>
<Valve className="org.apache.catalina.ha.session.JvmR
outeBinderValve"/>
<ClusterListenerclassName="org.apache.catalina.ha.ses
sion.JvmRouteSessionIDBinderListener"/>

<ClusterListenerclassName="org.apache.catalina.ha.ses
sion.ClusterSessionListener"/>
</Cluster>

```

```

94  -->
95  <Engine name="Catalina" defaultHost="localhost" jvmRoute="1" />
96
97  <!--For clustering, please take a look at documentation at:
98  /docs/cluster-howto.html (simple how to)
99  /docs/config/cluster.html (reference documentation) -->
100  <!--
101  <Cluster className="org.apache.catalina.ha.tcp.SimpleTcpCluster"/>
102  -->
103  <Cluster className="org.apache.catalina.ha.tcp.SimpleTcpCluster" channelSendOptions="0">
104  <Manager className="org.apache.catalina.ha.session.DeltaManager"
105  expireSessionsOnShutdown="false" notifyListenersOnReplication="true"/>
106
107  <Channel className="org.apache.catalina.tribes.group.GroupChannel">
108
109  <Membership className="org.apache.catalina.tribes.membership.McastService"
110  address="228.0.0.4" port="45564" frequency="500" dropTime="3000"/>
111
112  <Receiver className="org.apache.catalina.tribes.transport.nio.NioReceiver"
113  address="auto" port="4000" autoBind="100" selectorTimeout="5000" maxThreads="6"/>
114
115  <Sender className="org.apache.catalina.tribes.transport.ReplicationTransmitter">
116  <Transport className="org.apache.catalina.tribes.transport.nio.PooledParallelSender"/>
117  </Sender>
118
119  <Interceptor className="org.apache.catalina.tribes.group.interceptors.TcpFailureDetector"/>
120  <Interceptor className="org.apache.catalina.tribes.group.interceptors.MessageDispatch15Interceptor"/>
121  </Channel>
122
123  <Valve className="org.apache.catalina.ha.tcp.ReplicationValve" filter=""/>
124  <Valve className="org.apache.catalina.ha.session.JvmRouteBinderValve"/>
125  <ClusterListener className="org.apache.catalina.ha.session.JvmRouteSessionIDBinderListener"/>
126  <ClusterListener className="org.apache.catalina.ha.session.ClusterSessionListener"/>
127  </Cluster>
128
129  <!-- Use the LockOutRealm to prevent attempts to guess user passwords

```

The code for <cluster> represents the default cluster configuration, which functions properly for this pattern. Cluster membership is defined by the Multicast address 228.0.0.4. That value changes between independent clusters if you have several servers running on the same network. Session replication takes place over TCP/IP and uses port 4000 for communication.

4. Save and close the file.
5. Repeat Steps 1 - 4 on the WINPB3-03 machine.
6. When you have completed setting up clustering on WINPB3-03, restart Tomcat.

The output from catalina.out contains an additional component when the second cluster member starts. At that point, the member joins the cluster. This is indicated in Tomcat logs as follows:

```

Aug 19, 2014 1:02:54 AM
org.apache.catalina.ha.tcp.SimpleTcpCluster
startInternal
INFO: Cluster is about to start
INFO: Setting cluster mcast soTimeout to 500
Aug 19, 2014 1:02:54 AM
org.apache.catalina.tribes.membership.McastServiceImp
l waitForMembers

```

```
INFO: Sleeping for 1000 milliseconds to establish
cluster membership, start level:4
Aug 19, 2014 1:02:54 AM
org.apache.catalina.ha.tcp.SimpleTcpCluster
memberAdded
INFO: Done sleeping, membership established, start
level:4
Aug 19, 2014 1:02:55 AM
org.apache.catalina.tribes.membership.McastServiceImp
l waitForMembers
INFO: Sleeping for 1000 milliseconds to establish
cluster membership, start level:8
The Tomcat cluster is now functional.
```

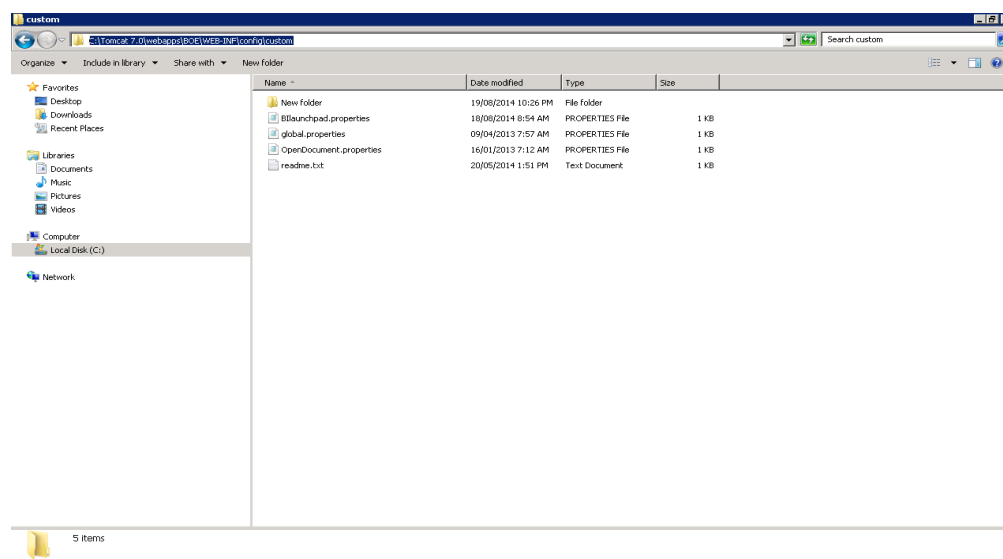
Test BI launch pad and CMC apps on the reverse proxy machine for clustering.

Create custom configuration files for web applications

You need to create custom configurations for BI 4.1 web applications such as BI Launch Pad and OpenDocument on both the Tomcat machines (WINPB3-02, WINPB3-03)

1. Create <*>.properties files under **Custom** folder (C:\Tomcat 7.0\webapps\BOE\WEB-INF\config\custom).

Refer the backed up files under the custom folder of Tomcat 6. You can directly copy backed up files from Tomcat6 to Tomcat7 or manually create properties file and add the parameters as shown below:



2. Add the following parameters for the *Bllaunchpad.properties* file.

```

1 # You can specify the default Authentication types here. secEnterprise, secLDAP, secWinAD, secSAPR3
2 authentication.default=secWinAD
3
4 # Choose whether to let the user change the authentication type. If it isn't shown the default authentication
5 authentication.visible=true
6
7 # You can specify the default CMS machine name here
8 cms.default=@BI4Win2008Pattern

```

Add the following parameters for the *global.properties* file.

```

1 # Set to true to enable other single sign on.
2 sso.enabled=true
3
4 # Set to true to enable Vintela single sign on.
5 vintela.enabled=true
6 idm.realm=BI4PATTERN.COM
7 idm.princ=BICMS/SVC_PATTERN.BI4PATTERN.COM
8 idm.allowUnsecured=true
9 idm.allowNTLM=false
10 idm.logger.name=simple
11 idm.logger.props=error-log.properties

```

Add the following parameters to the *OpenDocument.properties* file.

```

1 # You can specify the default Authentication types here. secEnterprise, secLDAP, secWinAD, secSAPR3
2 authentication.default=secWinAD
3
4 # Choose whether to let the user change the authentication type. If it isn't shown the default authentication
5 authentication.visible=true

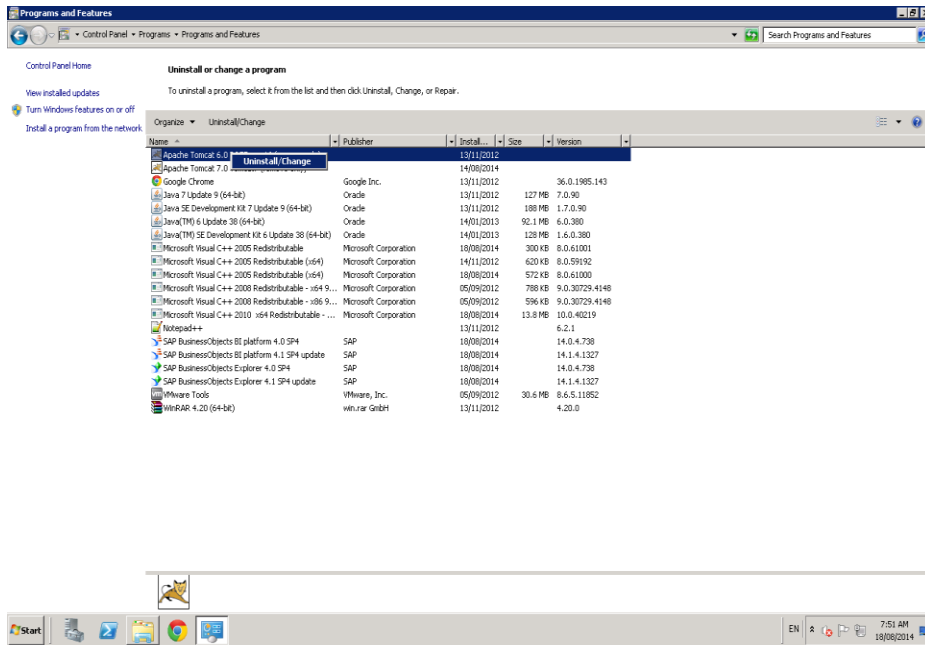
```

After creating custom configuration files, if needed, test BI 4.1 SP4 by logging on to BI Launch pad and CMC apps using reverse proxy for both the Enterprise and Windows AD users .

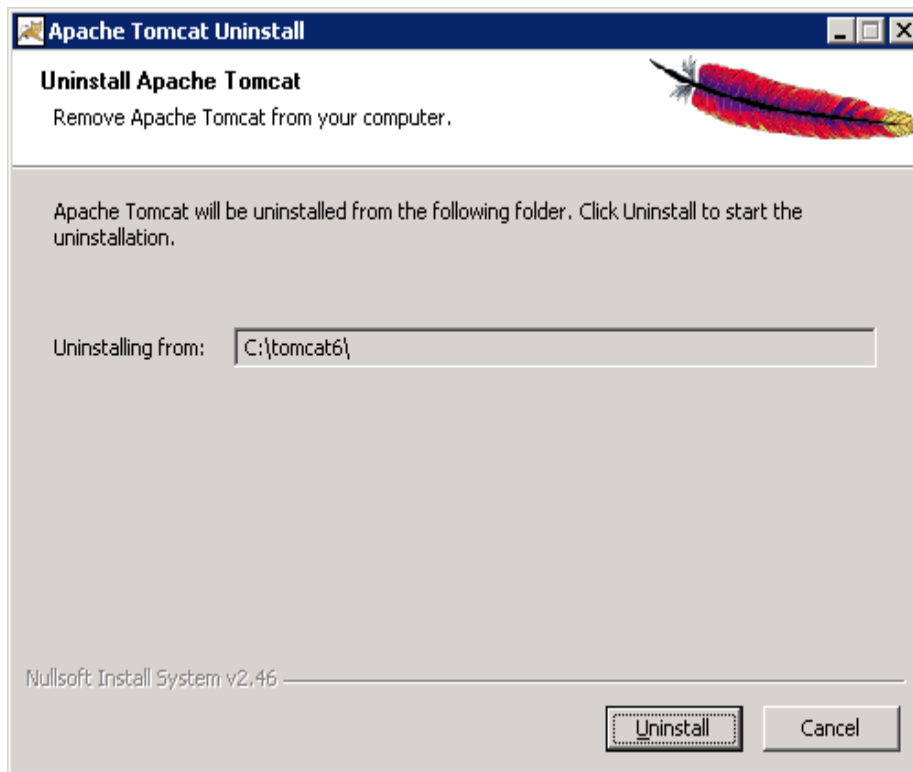
After installing and testing Tomcat 7.0 successfully, uninstall Tomcat 6.0 from both the Tomcat machines.

Uninstalling Tomcat 6 from both the Tomcat machines (WINPB3-02 and WINPB3-03)

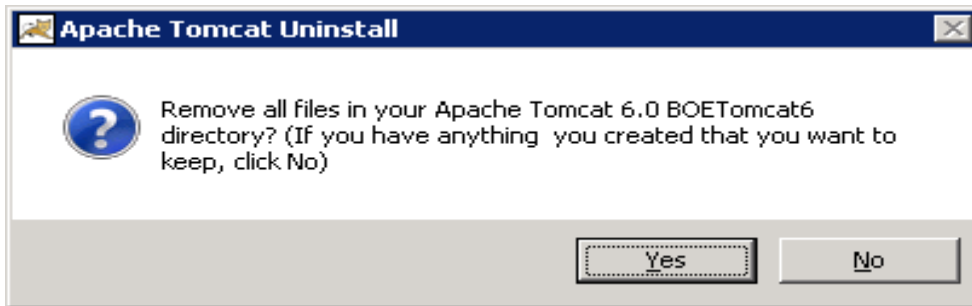
1. Go to **Start > Control Panel > Programs > Program and Features > Uninstall a program.**
2. Right-click **Apache Tomcat 6.0.**
3. Select **Uninstall/Change.**



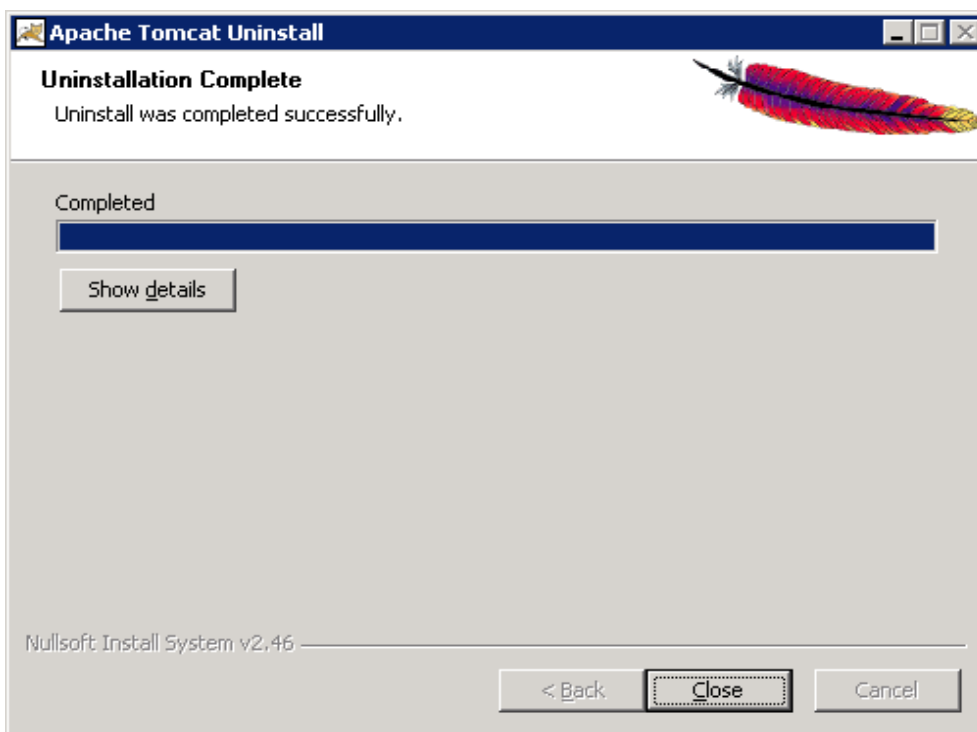
4. Click **Uninstall**.



5. Click **Yes**.



6. Click **Close**.



Perform the same steps to uninstall Tomcat 6.0 in the other tomcat machine (WINPB3-03).

Post update tools and processes

Run the repository diagnostic tool (RDT)

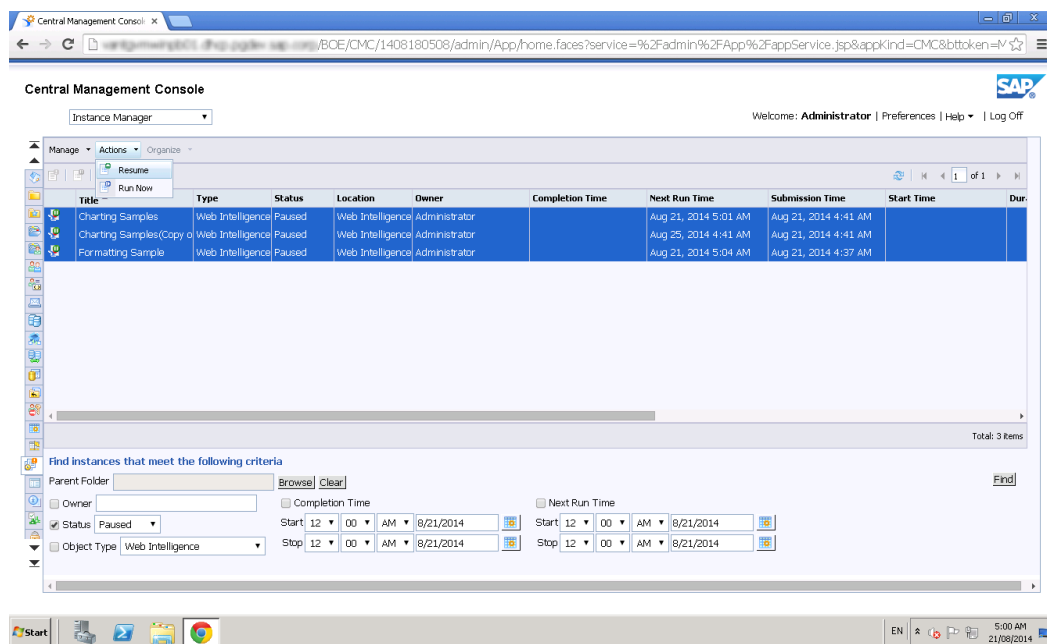
After the patch update, run the repository diagnostic tool to check if there are any inconsistencies between CMS and FRS repositories.

Run the SAP BI Platform Support tool

After the patch update, run the SAP BI Platform Support tool to get the report of the existing system landscape of BI 4.1 system. For verifying any changes to the landscape, compare the post update report with the report generated before the patch update ([outlined here](#)).

Resume all the paused document schedules

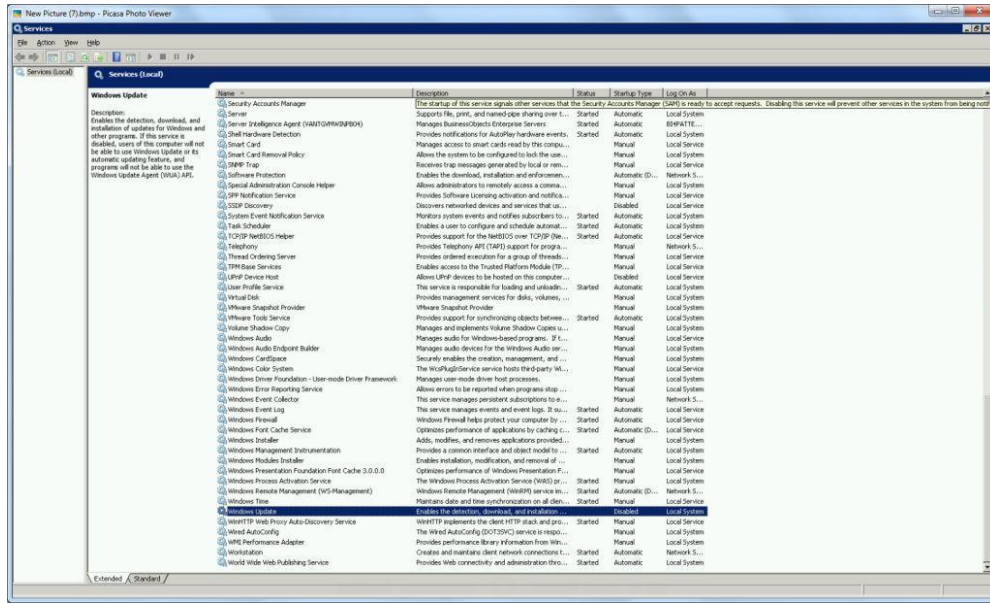
1. Log on to CMC as administrator.
2. In the CMC Home, select **Instance Manager** from the drop-down list.
3. Select the **Status** option and select **Paused** to filter all the schedules, which are in paused status.
4. Select all the instances and choose **Resume** from the menu bar.



All the paused document schedules will be resumed.

Enable the update for Windows in all machines

1. Go to Start > Run.
2. Type **services.msc**.
3. Right-click **Windows Update** and select **Properties**



4. Click **Start**.
5. From the **Startup Type** drop down list, set to state as earlier.
6. Also enable Anti-virus process on all machines.

Known issues and challenges

The following are the known issues with BI 4.1 updates and upgrades:

- [1944956 - Upgrading BI4.0 to BI4.1 breaks version management](#)
- [2023731 - Federation Job Fails after Upgrade from BI 4.0 to 4.1](#)
- [1998678 - AdaptiveconnectivityService running with error after upgrade to BI4.1](#)
- [1949693 - AdaptiveProcessingServer Running with errors after installing BI 4.1 or after upgrade to BI 4.1](#)
- [1987825 - The APS status is "Running with errors" after upgrading to BI 4.1 SP2](#)
- [1887237 - After upgrade to BI4.1 CMS process does not start and C++ errors are seen in CCM](#)
- [1981451 - Web Intelligence reports migrated from BI 4.0 to BI 4.1 error on open:This document does not contain any reports. \(Error: INF\) and Unable to get the first page of the current report. Check the validity of your report. \(ERR WIJ 20003\)](#)
- [1931237 - StackTrace displayed on BI Launchpad home page](#)



References

The following table provides the list of guides, SAP notes, and reference materials, which aids you in performing the 4.1 update:

| For information on... | Then go here... |
|--|---|
| Product guides | Installation, Upgrade, Deployment Support Package Known Issues - 4.1 SP 4 Minor Release Update Guide - Instructions for updating BI 4.0 to 4.1 Update Diagram |
| Update best practices | BI4 How To: BI4.0 Patch to BI4.1 SP01+ and adding new features Patching Strategies and Best Practices + Parallel Patching 1757132 - BI4 Support Pack Upgrade and Patch Install Best Practice Guide Doing a full install for updating from BI4.0 to BI4.1? Think again... Upgrade Options from BI4.0 to BI4.1 |
| SAP Notes/ KBAs | 2013616 - How to patch BI 4.x servers in a distributed BI Platform deployment simultaneously (in parallel)? 1757132 - BI4 Support Pack Upgrade and Patch Install Best Practice Guide |
| What's new – Release Notes for BI4.1 | SAP Help Portal SAP BusinessObjects BI 4.1 What's New L2 |
| Product Availability Matrix | PAM document for BI 4.1 SBOP BI PLATFORM 4.1 PAM webpage |
| BusinessObjects features since XI3.1 vs BI4.0, BI4.1 for different user groups | http://scn.sap.com/community/bi-platform/blog/2014/04/06/businessobjects-features-since-xi-31-for-different-user-groups |

