

Borland®

Silk Central 16.5

Installation Help

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Introduction

Silk Central is a powerful, all-inclusive, software test-management tool. Silk Central builds quality and productivity into your testing process, speeding the delivery of successful software projects while minimizing the risks of application failures. It consolidates all the critical software-testing phases within a single, scalable, Web-based testing system, enabling your local and distributed software-development teams to share experiences, resources, and critical information.

This Help provides all the information you need to install and uninstall Silk Central. It describes hardware and software requirements and details the various setup options. It also helps you configure database access and start using Silk Central.


 **Note:** If you do not have access to a database management system (DBMS), you can install Microsoft SQL Server Express. Use Microsoft SQL Server Express as a local test-management database for evaluation purposes. Do not use Microsoft SQL Server Express for production environments, because it has limited capabilities compared to a full database server installation.

System Requirements and Prerequisites

For optimal performance of Silk Central, we recommend the configuration outlined in this section.

Server System Requirements

System Area	Requirement
CPU	Intel Core i5 or better
Memory	6 GB minimum
Free disc space	30 GB minimum, except for the database server
Network	100 Mbit
Operating system, database management system, Web server	See Tested and Supported Software .
Power Supply	Uninterruptible power supply (UPS) for all environments to reduce risks of power outages

 **Note:** To install Silk Central as an enterprise system, install the Silk Central servers on separate machines. These servers include the application server, front-end server, chart server, execution server, and database system. This procedure is outlined in the *Custom Installation* section of the *Silk Central 16.5 Installation Help*. You can also install any combination of these components on separate machines.

For more information on the optimal configuration of Silk Central contact technical support or your technical account team.

Execution Server Requirements

The actual requirements and prerequisites for execution servers depend on the application under test (AUT) and the type of testing.

For load testing, refer to the environment requirements of Silk Performer. Running load tests with the minimal configuration can result in inaccurate results.

For functional testing, refer to the environment requirements of Silk Test. We recommend a minimum of 2048 MB main memory for intensive testing, such as Web browser replay.

The Linux execution server requires Java Runtime Environment (JRE) 8.

Virtualization

Silk Central is tested to run on the virtual infrastructure environment VMware vSphere server.

Client-Side System Requirements

System Area	Requirement
Processor	Intel Core i3 or better
Memory	2 GB
Web browser	<ul style="list-style-type: none">• Google Chrome• Internet Explorer 10 or later (no compatibility mode)• Mozilla Firefox• Microsoft Edge <p>Limitation: Microsoft Edge and Google Chrome do not support NPAPI, so video recording, image capturing and code coverage recording in the manual testing window is not possible. For information on this limitation and possible workarounds, please contact SupportLine.</p>

The manual testing UI requires Java Runtime Environment (JRE) 7 Update 51 or later.

Tested and Supported Software

This section lists the software with which Silk Central 16.5 has been tested as well as the software that Silk Central supports.

Operating System Support

- Microsoft Windows Server 2008 R2 Service Pack 1 64-bit
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Microsoft Windows 7 32-bit/64-bit Service Pack 1 (execution server)
- Microsoft Windows 8 32-bit/64-bit (execution server)
- Microsoft Windows 8.1 32-bit/64-bit (execution server)
- Microsoft Windows 10 (execution server)

Linux Operating System Support

Silk Central supports Linux operating systems only for the execution server.

- Debian
- Redhat Enterprise Linux
- Suse Linux
- Ubuntu

Web Browser Support

- Google Chrome
- Internet Explorer 10 or later (no compatibility mode)
- Mozilla Firefox
- Microsoft Edge

Limitation: Microsoft Edge and Google Chrome do not support NPAPI, so video recording, image capturing and code coverage recording in the manual testing window is not possible. For information on this limitation and possible workarounds, please contact SupportLine.

Web Server Support

- IIS 7 32 bit/64 bit
- IIS 8 32 bit/64 bit

Database Management System Support

- Microsoft SQL Server 2008 R2 Service Pack 3
- Microsoft SQL Server 2012 Service Pack 2
- Microsoft SQL Server 2014 Service Pack 1
- Oracle 11g (version 11.2.0.4)
- Oracle 12c (version 12.1.0.2)

Integrated Micro Focus Software Support

- AccuRev 6.2
- CaliberRM 10.1, 10.2
- Caliber 11.3, 11.4
- Silk Performer 16.0, 16.5
- Silk Test 16.5
- StarTeam 14.3, 14.4
- Silk TestPartner 6.3

Integrated Third-Party Software Support

- Apache Commons Virtual File System (VFS)
- Atlassian JIRA 5, 6
- Atlassian JIRA Agile 6
- Bugzilla 4.4.9, 5.0
- Compuware Quality Manager (Changepoint 2010 SP1, Changepoint 2009 or Changepoint 2009 SP2)
- Git 2.5.0
- IBM Rational ClearQuest 8.0
- IBM Rational DOORS 9.5, 9.6
- IBM Rational RequisitePro 7.1.3, 7.1.4
- JUnit 4.11 or later
- Microsoft Office Excel (.xlsx) for importing tests and requirements
- Microsoft Office Word (.doc, .docx) for importing requirements
- Microsoft Visual Studio/Visual Studio Test Agent 2010, 2012, 2013
- Rally
- SAP Solution Manager 7.1
- Serena Version Manager (PVCS) 8.1.4 (Version Manager 8.1.4)
- Subversion 1.8.5
- Team Foundation Server 2010, 2012, 2013, 2015

- VersionOne Enterprise Edition
- VMware vCloud Director 5.5

Contents of the Installation Package

This topic provides an overview of the programs that are included on the installation CD and in the Web package. You need these programs for a complete installation of Silk Central. You can install missing programs using the **Setup** wizard. To install a component separately, run the EXE file from the specified location, as follows:

Program Location

Silk Meter Install Silk Meter from the following folder:

`\SilkMeter\silkmeter.exe`



Note: Silk Meter is available on the installation CD only. It is not included in the Web package.

The `\SilkMeter` folder also contains a program that helps you find information about your computer that you need when you contact Micro Focus to obtain a Silk Meter license.

Silk Central Licensing

This section describes how to obtain a license policy for Silk Central and how to install Silk Meter. You must have administrator privileges to install Silk Meter.



Note: Silk Central requires Silk Meter version 2008 or later as well as a Silk Central license policy.

Install Silk Meter once per license server. If you have multiple license servers, you need multiple license policy files, each one tied to a particular license server. A single Silk Meter license server can administer license policies for multiple products.

If you have received a Silk Central license policy, install the license policy on your license server. If you have not received a license policy, generate a license policy.

License Handling

Silk Central provides different types of licenses. These licenses are checked out from the license server as soon as a user enters a certain area of Silk Central:

License Type	Area
Test Manager	This license is checked out when you access a test management area for the first time after your login. Silk Central test management areas are: Requirements, Tests, Execution Planning, Tracking, Issues (excluding the Issue Manager area), and Reports .
Manual Testing	This license is checked out when you open the Manual Testing window. A Manual Testing license is checked out when a test is downloaded for offline execution. The license is checked back in when results are uploaded.
Issue Tracking	This license is checked out when you access Issue Manager.
Automated Testing	This license is checked out when an automated test starts running, thus limiting the number of automated tests that can be run concurrently. If no automated testing licenses are available, the automated tests are pending in a queue. The license is checked back in when an automated test run has finished.

Note the following:

- When you click **Log out (User > Log out)**, the licenses are checked in to the license server again, except checked out automated testing licenses and manual testing licenses for offline testing.
- If you do not log out (and just close the browser window), the license will only be checked in when the session expires.

The **About** page (**Help > About**) displays how many licenses are currently used and how many licenses are available for the client you are currently logged in to.

Generating a Silk Central License Policy

To run Silk Central, you need a valid license. If you have purchased Silk Central, you can use our online license generator to generate a license policy file. The online license generator requires an SSL-capable browser, such as Firefox or Internet Explorer. You will receive an email with instructions on how to generate your license policy file. If you did not receive these instructions, contact customer care at <http://support.microfocus.com>.

Finding the Host ID

To obtain a license policy file, you need to know the host ID of the machine on which you want to install the licenses. For floating licenses this is a license server with Silk Meter installed. For node-locked licenses this is typically the controller machine.

1. On the machine, open a command prompt and enter the command `ipconfig/all`. The network adapters and additional information is listed.
2. Note the host ID, which is the `MAC Address` or `Physical Address` of your LAN card, for example `00-BF-00-1C-D3-3D`.



Tip: Depending on your system setup, including virtual machines and VPN connections, your computer might have several network adapters with different MAC addresses. Be sure to note the host ID of your physical LAN card.

Silk Meter Installation

If you already have a Silk Central license policy file, you can install it when you install Silk Meter. If you do not have a valid Silk Central license, access the online License Generator to generate a license policy file.

To install and run Silk Meter on your license server, no license policy file is required. However, you must import a license policy file before you can run Silk Central. You can import a license policy file using the Silk Meter **Policy Administrator**.

If you have multiple license servers, you need multiple license policy files, each one tied to a particular license server. A single Silk Meter license server can administer license policy files for multiple products.

Silk Meter License Server Requirements

Before installing Silk Meter, refer to the *Release Notes* to ensure that the license server meets the requirements.

Uninstalling a Previous Version of Silk Meter

If a previous version of Silk Meter is installed on your license server, you must uninstall it before the latest version of Silk Meter can be installed.

1. Choose **Start > Programs > Silk > Silk Meter > Uninstall**.
2. Click **Yes** to uninstall Silk Meter. The **Remove Settings** dialog box opens.
3. Click **No** to keep your Silk Meter settings.



Attention: You must click **No** to preserve license policies that currently exist on your Silk Meter license server.

4. Reboot your computer.

Silk Meter is now uninstalled, and you can install the latest version of Silk Meter.

Installing Silk Meter on Your License Server

Before installing Silk Meter, verify the following information:

- Your user account possesses administrator privileges.
 - An instance of Silk Meter is not installed on your license server.
1. Visit the [product updates site](#) and search for Silk Meter.
 2. Download and save the latest **Silk Meter Installation Files**.
 3. Navigate to the location where you saved the .exe file and double-click it. For a standard installation, follow the Silk Meter installation wizard by using the default options.



Important: If setup prompts you to restart the computer, make sure to do so.

Silk Meter License Server Configuration

To run any version of Silk Central, Silk Meter must be installed and configured on a computer within your network.

The communication process between Silk Central and Silk Meter relies on the following files and variables:

- `SILK_CONFIG_PATH` environment variable
- `CosLicensingService.ref` file
- `CosPropertyService.ref` file
- `ls_segue.ref` file
- `silkmeter.cfg` file



Important: Do not delete these files.

The Silk Central setup program creates these objects based on the values you enter in the fields of the **Select Silk Meter License Server** utility.

Modifying Your License Server Configuration

Use the **Select Silk Meter License Server** utility to modify or repair your license server configuration. This utility is installed with your Silk Central installation.

1. Choose **Start > Programs > Silk > Silk Central 16.5 > Administration Tools > Change your License Server Configuration**. The **Select Silk Meter License Server** utility opens.
2. In the **Application** list box, select the product for which you want to configure the license server.
3. Click the **Using local or remote server** option button to configure a Silk Meter license server.
4. In the **License Server Host** field, type the computer name of the Silk Meter license server.
Unless your network administrator has defined a different port, do not change the **Port Number**.
5. Click **Apply** to activate the license server configuration.
6. Click **Test Connection** to verify that a Silk Meter server is accessible on the specified host and port. If the connection is successful, the **Status** field displays a `SUCCESS` message.



Note: In some cases, specifying the simple name of the license server in the **License server host** field, such as `licenseserver`, might not work. A message box stating `Connection to Silk Meter license server failed` opens. To resolve this issue, specify the hostname by using a fully qualified name, such as `licenseserver.mycompany.com`.

7. Click **Close** to complete the license server configuration.


Installing Silk Central

This section explains the setup options that are available when installing Silk Central.

The setup depends on the application environment you want to create and on the available resources.


The Silk Central installation CD and setup program enable you to install all Silk Central software components on a single computer or to install components individually on separate computers.

To install Silk Central, your computer system must meet the minimum requirements. The installation program checks your system and optionally installs any required software.


 **Note:** You must have administrative rights on the computer to install Silk Central.

Installing Silk Central/Silk Central Connect for Evaluation

Before you start, download the Silk Central executable file or insert the Silk Central CD into the CD drive.

 **Note:** Because the installation of Microsoft SQL Server Express requires administrative privileges, the installation will fail if UAC is enabled. Disable UAC on the computer on which you want to install Silk Central/Silk Central Connect for evaluation.

Set up a standalone installation with all features installed on a single machine. Standalone installations do not provide the full performance of Silk Central. Use this installation type for evaluation or demonstration purposes only.

 **Note:** The .NET Framework 3.5 SP1 setup cannot be executed during the installation of Silk Central on Microsoft Windows Server 2008 R2, Microsoft Windows Server 2008 R2 SP1, or Microsoft Windows Server 2012. If .NET Framework 3.5 SP1 is not installed on your system, and your operating system is Microsoft Windows Server 2008 R2, Microsoft Windows Server 2008 R2 SP1, or Microsoft Windows Server 2012 and you want to install the evaluation version of Silk Central, install .NET Framework 3.5 SP1 on your system with the Windows Server Manager before you install Silk Central.

1. Locate and double-click the Silk Central executable file. The InstallShield wizard opens.
2. Follow the setup wizard and confirm all default settings by clicking either **Next** or **OK** on each dialog.
3. On the **Select Licensing Mode** dialog, keep the default setting (**Evaluation**).

Silk Central requires a database repository. For the purpose of evaluation we recommend you use Microsoft SQL Server Express, which is installed as part of Silk Central. Make sure the **Install Microsoft SQL Server 2008 Express SP1** checkbox is checked.

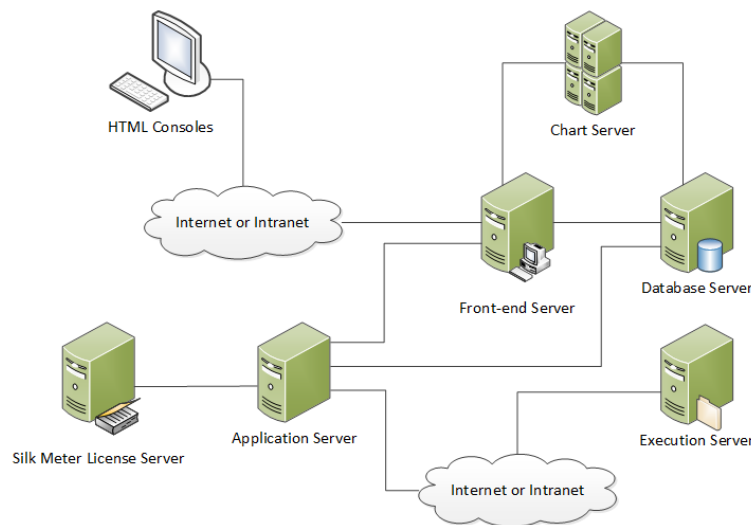
4. Complete the installation by clicking **Next**.

Installing Silk Central/Silk Central Connect in a Distributed Environment

Before you start, download the Silk Central executable file or insert the Silk Central CD into the CD drive.

The Silk Central setup wizard gives you full control over the Silk Central installation. To deploy Silk Central in a production environment, we recommend to set up a distributed environment to spread the load across different servers.

Silk Central Architecture



1. Locate and double-click the Silk Central executable file.

If you have a Silk Central CD, insert your CD. If the setup program does not start automatically, manually start the Silk Central setup program by choosing **Start > Run** and entering `<cddrive>:\setup.exe`.

The InstallShield wizard opens.

2. The welcome page of the wizard opens. The wizard guides you through the setup procedure. Click **Next** to continue.
3. Select the language that you want to use, and then click **Next**. The **License Agreement** opens.
4. Read the license agreement carefully. If you accept the terms of the agreement, click **I accept the terms of the license agreement**. The **Setup Type** page opens.
5. Choose the product that you want to install.

- **Silk Central:** A powerful, all-inclusive software test-management tool. It consolidates all the critical software-testing phases within a single, scalable, web-based testing system.
- **Silk Central Connect:** Enables you to test your web applications across a variety of desktop and mobile web browsers, through local and cloud-based execution servers.

To install the Silk Central Execution Server, check the **Install Execution Server** check box.

The default installation destination is displayed in the **Destination path** section of the **Setup Type** page. To change the default installation directory, perform the following steps:

- a) Click **Browse**. The **Choose Folder** dialog box opens.
- b) Specify the folder in which you want to install Silk Central, and then click **OK** to return to the **Setup Type** page.



Note: Silk Central must be installed on a local drive. An error message appears if you specify an invalid installation destination.

6. Click **Next**. The **Select Features** page lists the default settings. By default, setup installs all components incorporated in the Silk Central package.
7. To set up a distributed environment, check the check boxes for the components that you want to install on the current computer.



Note: Silk Central functions appropriately only if all of the following components are installed correctly:

- To install the Silk Central Application Server, check the **Application Server** check box.

- If you are installing on a 64-bit operating system, you can check the **Front-End Server (64-bit)**. Use this option to leverage memory above 2GB. Refer to "Memory Settings for Silk Central Servers" in the Online Help for detailed information.
- To install the Silk Central Chart Server, check the **Chart Server** check box.



Tip: Install the chart server on a separate computer due to its high memory consumption when handling reporting requests.

- To install Issue Manager, check the **Issue Management** check box.



Note: You must install **Issue Management** on the computer on which you are installing the Silk Central front-end server.

8. Click **Next** to continue. The **Installation Options Summary** page lists the settings that you selected.

9. Review the provided information and perform one of the following steps:

- To change any settings, click **Back** to return to the appropriate page.
- If you are satisfied with the settings, click **Next** to start the installation process.

The status bar on the **Setup Status** page provides information about the installation process. Upon completion, the **Select licensing mode** page opens.

10. Click one of the following option buttons:

- **Evaluation** – Installs an evaluation version of Silk Central/Silk Central Connect, which grants you full product functionality for 45 days (15 days for Silk Central Connect). The usage is limited to 10 Silk Central users and 10 Issue Manager users. To upgrade to a full version at a later point in time, contact your sales representative. Check the **Install Microsoft SQL Server 2008 Express SP1** check box to additionally install Microsoft SQL Server 2008 Express SP1.
- **Licensed** – Installs an unrestricted version of Silk Central/Silk Central Connect, which requires a license.

11. Click **Next**.

Depending on the components you have selected for installation, the licensing page opens. If you have not installed any of the components that require licensing and the page does not open, proceed to the next step.

To install the license file, perform the following steps:

a) Click **OK** to specify the location of your license file.

The license utility checks your local system for the existence of Silk Meter license server configuration files. If the files are found, the configuration and type of license server are displayed and used for licensing. If no configuration data is found, the **Select SilkMeter License Server** page is displayed with the default settings.

This page provides generic information about Silk Meter licensing. For detailed information on Silk Meter licensing, click **Open SilkMeter ReadMe**. This action opens the Silk Meter documentation in your default browser.



Note: **Open SilkMeter ReadMe** is not available if the document is not available in the installation source directory. This document is typically unavailable when installing a Silk Central Web package.

b) From the **Application** list box, select **Silk Central** as the application you are licensing.

c) Click one of the following option buttons:

Using local or remote server

In the **License Server Host** field, type the name of the computer on which Silk Meter is installed. Do not change the default port number, 5461, unless your network administrator has defined a different port. Click **Apply** to generate your license server configuration. Click **Test Connection** to verify that a Silk Meter server is accessible on the specified host and port. Testing the connection to the license server might fail during installation as required system libraries, which are installed later with the software package, might not yet be available.



Note: In some cases, specifying the simple name of the license server in the **License Server Host** field, such as `licenseserver`, might not work. A message box stating `there is no license server running on the hostname you specified` opens. To resolve this issue, specify the hostname by using a fully qualified name, such as `licenseserver.mycompany.com`.

Not using server (standalone)

Runs Silk Meter standalone. You are prompted to import a Silk Meter license file. Click **Yes** and specify the location of your license file.

d) Click **Close** to return to the InstallShield wizard.

12. Click **Finish** to complete the installation.



Note: If the InstallShield wizard fails to update a file during the installation because a system library is locked by Windows, or if the InstallShield wizard detects that the system must be restarted, you are prompted to restart your computer. If you do not restart your computer, you might experience problems when accessing Silk Central.

13. Repeat the previous steps on any other computers that you want to include in the distributed environment.

Installing a Windows Execution Server

Install an execution server on each point of presence (POP) that you want to use as a remote Silk Central execution server. The execution server executes Silk Central tests on remote computers.

1. In the Silk Central menu, click **Help > Tools > Windows Execution Server** and download the Windows execution server package.
2. Locate and double-click the Silk Central executable file. The InstallShield wizard opens.
3. Follow the instructions on the Installation Wizard.
4. Click **Finish** to complete the installation.



Note: If the InstallShield wizard fails to update a file during the installation because a system library is locked by Windows, or if the InstallShield wizard detects that the system must be restarted, you are prompted to restart your computer. If you do not restart your computer, you might experience problems when accessing Silk Central.

Installing a Linux Execution Server

This task addresses Silk Central users who use Linux.

Install an execution server on each point of presence (POP) that you want to use as a remote Silk Central execution server. The execution server executes Silk Central tests on remote computers.

1. In the Silk Central menu, click **Help > Tools > Linux Execution Server** and download the Linux execution server package.



Note: The Linux execution server package does not include a JRE. Ensure that you have Java Runtime Environment (JRE) 8 installed. You can download JRE from [Java SE Downloads](#).

2. Unpack the package file `tar.gz` using the following command:

```
tar xfz <PackageFileName>.tar.gz
```

Where the package file name is `LinuxExecServer` with optional build or version numbers added.

3. Use the following command to navigate to the directory where the package file was extracted:

```
cd LinuxExecServer
```

4. Start the execution server using the following command:

```
./startExecServer.sh
```



Note: Cache information and log files are stored in the hidden folder `~/.LinuxExecServer` in your home directory. The `ExecServer.log` log file is also accessible through the Silk Central Web interface.



Attention: The source control systems currently supported for Linux execution servers are Subversion and the Apache Commons virtual file system (VFS).

Tests created with the following technologies are not supported for execution on a Linux execution server:

- All Silk Test technologies
- Silk Performer
- .NET Explorer
- TestPartner
- NUnit

These test types are platform-specific for the Microsoft Windows operating system.

Upgrading to Silk Central 16.5

If you are upgrading from an earlier version of Silk Central, you must remove the existing installation before you can install Silk Central 16.5.

1. Make a backup copy of your Silk Central repository or database before you start upgrading to a new version.
2. Make a backup copy of the directory `/conf` before proceeding, if you have made changes to any of the XML-based configuration files in your current installation's `/conf` directory, or if you have added new files to this directory.
3. If you have enabled SSL, make a backup copy of your certificate file. Depending on the mode in which you run your front-end server, you will need to re-import the certificate into one of the following keystores:
 - For 64-bit mode: `C:\Program Files (x86)\Silk\Silk Central 16.5\lib\jre64\lib\security\cacerts`
 - For 32-bit mode: `C:\Program Files (x86)\Silk\Silk Central 16.5\lib\jre\lib\security\cacerts`

For additional information, see *Configuring Secure Connections with Tomcat Web Server*.

4. Remove the current installation of Silk Central's front-end server, application server, and chart server. If an execution server is installed on the same computer as one of the previously mentioned components, remove the execution server installation.
5. If you are using a Microsoft SQL Server as your database server you have to enable the "snapshot" isolation level.

Snapshot isolation is used to avoid reader-writer blocking scenarios.

- a) Connect to the database server.



Note: You must have administrator rights on the database server to enable the setting.

- b) Execute the following command: `ALTER DATABASE <your databasename> SET ALLOW_SNAPSHOT_ISOLATION ON.`

6. Install the Silk Central front-end server, application server, and chart server.

To install an execution server on the same computer as one of the previously mentioned components, install the execution server together with the other components.

7. Edit the advanced configuration settings, such as displaying the hostname in the browser title bar, in the new configuration files with a text or XML editor.

Before editing the XML files, make sure that the front-end server service is stopped.

The database settings are automatically updated. For detailed information about advanced settings in the configuration files, see the *Administration* topics in this Help.



Note: For large databases, a small database transaction log size may result in an error during the update. To prevent the error, set the size of the database transaction log to 5 GB.

8. Restart the front-end server service after editing the configuration files.

For detailed information about stopping and starting services, see the *Administration* topics in this Help.

9. Connect to the database and enter the appropriate connection data for the Web front-end server.



Note: Your existing database is automatically updated to the current version when you connect. This process can take from a few minutes up to several hours, depending on the size of the database. Use the logon credentials of the user who created the database to connect to the database.

10. If you are upgrading from a Silk Central version prior to version 2009 SP1 you have to manually upgrade each of your execution servers, as follows:

- a) Remove the current installation of Silk Central's execution server.
- b) Install a Silk Central 16.5 execution server.
- c) Repeat the previous steps for each execution server installation.

Configuring Silk Central Databases

This section provides an overview of the database systems that are supported by Silk Central and explains how to create and connect to Silk Central databases.

Only a System Administrator can configure repositories. For more information regarding user roles, see the *Administration* topics in this Help.

After you have installed and configured your relational database management system (RDBMS) and installed Silk Central, you can create one or more repositories or connect to existing repositories. For more information about working with repositories, see *System Administration*.

Choosing a Relational Database Management System

Install and setup Oracle or Microsoft's SQL Server as described in your relational database management system (RDBMS) documentation.

Silk Central supports the following database management systems:

- Microsoft SQL Server 2008 R2 Service Pack 3
- Microsoft SQL Server 2012 Service Pack 2
- Microsoft SQL Server 2014 Service Pack 1
- Oracle 11g (version 11.2.0.4)
- Oracle 12c (version 12.1.0.2)



Note:

Microsoft SQL Server Silk Central supports only Microsoft SQL Server servers that are set up to be case-insensitive.

Microsoft SQL Server Express Do not use Microsoft SQL Server Express for production environments, because it has limited capabilities compared to a full database server installation.

Databases

Identify which type of database system to use to create or access Silk Central repositories.



Note: Oracle does not create databases but rather schemes that are assigned to specific user names. Therefore, database names are not assigned to Oracle repositories but instead to user names. Silk Central refers to such user names as *database names*.

The following table describes the requirements for each database type.

RDBMS	Have ready
Oracle	<ul style="list-style-type: none">• Oracle tablespace.• Server host name and port number. The default port is 1521.• Name of the Oracle instance (<code>\$ORACLE_SID</code>). Ask your Oracle administrator for the name of your Oracle instance.• Name and password of your Silk Central database user. The user must possess quotas and sufficient

RDBMS	Have ready
Microsoft SQL Server	<p>permissions. Ask your Oracle administrator for assistance if necessary.</p> <ul style="list-style-type: none"> • Server host name and port number. • MS SQL Server system user name and password. • Name for your Silk Central repository. • Name and password of your Silk Central database user.

Database User Privileges

Because of the security risks, we recommend that you do not use the database administrator user for maintaining your Silk Central repository. This topic lists the database roles that can be used for specific tasks, as follows:

Microsoft SQL Server If Microsoft SQL Server is your DBMS for Silk Central, set the following database user privileges for your Silk Central repository:

- db_owner
- db_ddladmin

Both roles allow creating and configuring repository tables, working with a previously created database, and installing and upgrading the software.



Note: The Silk Central database user requires both privileges. Otherwise, errors occur.

Oracle If Oracle is your DBMS for Silk Central, set the following Oracle database user privileges to work with Silk Central:

- CREATE SESSION
- CREATE PROCEDURE
- CREATE SEQUENCE
- CREATE TABLE
- CREATE TRIGGER
- CREATE VIEW



Note: The Silk Central database user requires all the preceding privileges. Otherwise, errors occur.



Note: The Oracle user must have sufficient quotas to work with Silk Central.

When setting up an Oracle DBMS for Silk Central, ensure that the Oracle environment meets the following requirements:

- At least 2 GB of temporary tablespace is available.
- Sufficient disk space is available to handle the size of the temporary tablespace.

Connecting to a Silk Central Database

Silk Central is a comprehensive test-management solution that includes scheduling and issue-tracking components that are closely integrated with Silk Test Classic and Silk Performer.

You can access Silk Central with a Web browser or through the Windows menu. Both methods are available only on the computers hosting the front-end and application server. To access Silk Central from a Web browser, use the default URL `http://<computer name>:19120/login`. To access Silk Central through the Windows menu, choose **Start > Programs > Silk > Silk Central > Silk Central 16.5 > Silk Central Home Page**. The default value for both the username and password is `sysadmin`.

You can also launch Silk Central components within Silk Test Classic in embedded browser windows.

To run Silk Central or Issue Manager, you must connect to a Silk Central database.

The terms *database* and *repository* are sometimes used interchangeably, but generally a repository is defined as a central place in which an aggregation of data is kept and maintained. The conceptual model for Silk Central is that of a data repository that contains the Issue Manager and Silk Central data.

Disconnecting from a Silk Central Database

To connect to a new Silk Central database, you must first disconnect from the current database.

1. Browse to your Silk Central site with a Web browser.
The default URL is `http://<computer name>:19120/login` (no port information required if Silk Central runs on IIS).
2. Log in to Silk Central as System Administrator. The default value for both the username and password is `sysadmin`. The **Database** page opens.
3. Click **Disconnect** to disconnect from the current database.

Connecting to an Existing Database

If you are currently connected to a Silk Central database, you must disconnect from the current database before you can create a new database.

1. Browse to your Silk Central site with a Web browser.
The default URL is `http://<computer name>:19120/login` (no port information required if Silk Central runs on IIS).
2. Log in to Silk Central as System Administrator. The default value for both the username and password is `sysadmin`. The **Database** page opens.



Note: If you were previously connected to a Silk Central database, the **Database** page shows the information for the previously connected database. Accept the default values and reconnect to the previous database, or enter data for another existing database.

3. Specify or confirm the information for the database, and then click **Connect**.



Note: If you are connecting Silk Central to an older database, Silk Central automatically performs an upgrade. Depending on the size of the database, this upgrade might require several hours. If the version of the execution server is an invalid older version, but later than version *SilkCentral Test Manager 2009 SP1*, the execution server is automatically upgraded to the current Silk Central version. Silk Central shows a message concerning the upgrade in the **Information** column in the list of execution servers. As long as the upgrade procedure is not complete, the upgrading execution server is not used.

After the database connection is established, the Silk Central logon page opens.

4. Log on to Silk Central.
The default value for both the username and password is `admin`.

Getting Started with Silk Central

This section describes how to start working with Silk Central.

Getting Started with Silk Central

After you install Silk Central and connect to a Silk Central database, you can start with administrative tasks in Silk Central.

Getting Started with Issue Manager

Before you can access an Issue Manager repository, you must initialize a project for Issue Manager.

1. Browse to your Silk Central site with a Web browser.
The default URL is `http://<computer name>:19120/login` (no port information required if Silk Central runs on IIS).
2. Log on.
The default value for both the username and password is `admin`.
3. In the menu, click **Issues > Project List**. A list of available projects is displayed.
4. In the **Actions** column of the project for which you want to manage issues, click the **Initialize repository configuration** icon.
5. Follow the instructions on the screen.
For additional details, see the Issue Manager topics in this Help.

Administering Silk Central

After you install Silk Central, connect to a Silk Central database, and initialize a project for Issue Manager, perform the following actions to work with Silk Central:

- Configure system settings
- Create users and projects
- Configure locations
- Create products, components, platforms, releases, and builds
- Create a test structure
- Set up Silk Central requirements
- Create tests
- Plan tests
- Run managed tests
- Track and manage issues
- Report results

For details on the listed actions, see the *Administration* topics in this Help, or refer to the Silk Central Help, the Silk Test Classic Help, and the Silk Performer Help.

Front-end Server Load Balancing

Load balancing is used to distribute a big amount of requests to several servers. Silk Central allows you to setup and configure a load balancer, which will distribute the traffic to two or more front-end servers. Load balancing can enhance the performance of Silk Central considerably.

Configuring Load Balancing for Front-end Servers



Note: Web service clients that use `setCurrentProject` cannot use the load balancer. Instead, access one of the front-end servers directly from your web service client.

To set up a load balancing system that distributes the load on several front-end servers:

1. Stop all running Silk Central services and Apache.
2. You can install one front-end server on the load balancer machine itself or install it on a separate machine. On the load balancer server, install Apache Webserver 2.2 (Apache HTTP Server Project). You can download the setup files from the Apache website.
3. In the `httpd.conf` file, configure all necessary settings like `ServerName`, `ServerAdmin`, `DocumentRoot`, `Listen`, and so on.
4. Download the module `mod_jk*.so` from the Apache website and move it to the `modules` folder, which resides in the Apache installation directory.
5. Add the following lines to the `httpd.conf` file to load and configure the module `mod_jk`:

```
#
# Load mod_jk
#
LoadModule jk_module modules/mod_jk.so

#
# Configure mod_jk
#
JkWorkersFile conf/workers.properties
JkLogFile logs/mod_jk.log
JkLogLevel info
```

6. Add the load balancer filter to the `httpd.conf` file. The load balancer filter specifies which load balancer handles which requests. In this example, all requests are forwarded to the load balancer worker:

```
JkMount /* loadbalancer
```

7. Create the file `workers.properties` on the load balancer machine in the `conf` folder of the Apache installation and adjust the settings to your needs:

```
#
# workers.properties
#

# In Unix, we use forward slashes:
ps=/

# list the workers by name

worker.list=tomcat1, tomcat2, loadbalancer

# -----
# First tomcat server
# -----
```

```

worker.tomcat1.port=19121
worker.tomcat1.host=<first_FE_Server>
worker.tomcat1.type=ajp13

#
# Specifies the load balance factor when used with a load balancing worker.
# Note:
# ----> lbfactor must be > 0
# ----> Low lbfactor means less work done by the worker.
worker.tomcat1.lbfactor=1

# -----
# Second tomcat server
# -----
worker.tomcat2.port=19121
worker.tomcat2.host=<second_FE_server>
worker.tomcat2.type=ajp13

worker.tomcat2.lbfactor=1

# -----
# Load Balancer worker
# -----

#
# The loadbalancer (type lb) worker performs weighted round-robin
# load balancing with sticky sessions.
# Note:
# ----> If a worker dies, the load balancer will check its state
#       once in a while. Until then all work is redirected to peer
#       worker.
worker.loadbalancer.type=lb
worker.loadbalancer.balanced_workers=tomcat1, tomcat2
worker.loadbalancer.method=Session

#
# END workers.properties
#

```

8. On all front-end server hosts, adjust the `server.xml` file to connector strings. Add the AJP connector and set the `jvmRoute`, for example: `tomcat1` for front-end server 1, `tomcat2` for front-end server 2.

```

<Server port="19132" shutdown="SHUTDOWN">
  <Service name="FrontendServer">
    <Connector port="19121" maxThreads="150" minSpareThreads="25"
maxSpareThreads="75" acceptCount="100" enableLookups="false" protocol="AJP/
1.3" URIEncoding="UTF-8" />
    <Engine name="FrontendServer" defaultHost="localhost"
jvmRoute="tomcat1">
      <Host name="localhost" appBase="../../wwwroot" unpackWARs="true"
autoDeploy="false" xmlValidation="false" xmlNamespaceAware="false"
workDir="../../cache/tcFeServerWork">
        <Context path="/" docBase="." caseSensitive="false"
crossContext="true"/>
        <Context path="/silkroot" docBase="silkroot" caseSensitive="false"/>
      </Host>
    </Engine>
  </Service>
</Server>

```

9. On all front-end servers, edit the `appserver.ini` file to point to the proper application server.
10. Start all front-end servers and verify that the servers are started and running.

11. Start Apache. In the Apache home directory in the folder `log`, the following files are created: `httpd.pid`, `error.log`, and `mod_jk.log`. Check if these files exist and verify that Apache started with the `mod_jk` module.

Now you can access the load balanced system through the URL `http://<load-balancer-name>/silk`, which will forward you to one of your front-end servers. You can disable the HTTP connectors on the front-end servers to prevent users from accessing the front-end servers directly. As long as you access the load balancer through the above mentioned URL, you will be using the load balancing functionality.

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