

# Columbus Installation

## User Manual

Module version 7.6

# columbus

Issue: 12.18

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\* This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

### MinHook

MinHook - The Minimalistic API Hooking Library for x64/x86

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### HDE 32C / 64C

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# General

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Thank you very much for choosing brainwaregroup and Columbus. Columbus and Spider provide you with powerful tools for software and lifecycle management.

This manual will support you in using the manifold possibilities of Columbus in the best possible way for your company.

## 0.1 Target Group

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This manual is intended for all users who want to learn how to work with Columbus. After a general information and an explanation of the key terms you will be lead step by step through the installation, configuration and use of the available modules.

## 0.2 Supplementary documents

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Please refer to the following manuals for additional information about the described topics:

- **Columbus OSDeploy**  
Describes the setup and operation of OSDeploy and the PXE functionality.
- **Columbus Imaging**  
Describes the setup, operation and procedures of the Disk Imaging solution.
- **Columbus Software Deployment**  
Describes the software and patch distribution, setup and operation of SWDeploy/PatchDeploy, operation of the Management Clients and software packaging.
- **Columbus PatchDeploy**  
Describes the setup, operation and procedure during patch management.
- **Columbus Inventory**  
Describes the possibilities of inventorization such as basic inventory, inventory jobs and InventoryScanner.
- **Columbus DataBackup**  
Describes the usage of the DataBackup module for backup and recovery of user data.
- **Columbus Replication**  
Describes the replication of data carried out in the background between different software depots.
- **Columbus PackageStudio**  
Describes how to edit packages and configure the PackageStudio.
- **Columbus Technical Reference**  
Description of the script commands and variables as well as an overview of the Management Console configuration parameters (available in English language only).

The following OEM documents are delivered with Columbus.

- **RemotelyAnywhere**  
Extensive documentation about operation and configuration of RemotelyAnywhere.
- **Paragon\_Manual\_HDM\_deu**  
User documentation for the operation of the user interface.
- **Paragon\_Script\_Manual**  
Description of the script commands for the fully automated execution. Columbus has already prepared and tested scripts.

## 0.3 Typographical conventions

This manual uses various formats to highlight certain terms and actions. Specific notes and tips are shown with a different background color, according to their importance.

Format	Description
<b>Bold font</b>	Elements in the software or in the operating system, such as menu items, buttons or elements of a selection list
<i>Italic font</i>	Emphases (important details) and links to other chapters or documents
Triangle symbol ">"	Instruction step
Angle bracket ">"	Command menu sequences, e.g. <b>File &gt; Open</b>
<b>System font</b>	Directories, code and script samples
CAPITAL LETTERS	Key names, e.g. SHIFT, CTRL, or ALT
KEY+KEY	Key combinations, i.e. the user has to hold one key and press another simultaneously, e.g. CTRL+P or ALT+F4.

<b>Note</b>	Used for notes or tips which facilitate the work or for additional information which enhances understanding for the product.
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<b>Important</b>	Information which should be observed by the user, because otherwise problems or additional work may be caused in operation.
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<b>Attention</b>	Information which should be observed by the user in order to prevent malfunctions of the system (crashes, data loss, system failure).
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## 0.4 Help

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Please visit our **Website** <http://www.brainwaregroup.com> for additional information and support. Here you can find all documents, a **KnowledgeBase** <https://kb.brainwaregroup.com/> as well as a support form if you have questions for our specialists.

### Support

The support page features a link to the **KnowledgeBase** <https://kb.brainwaregroup.com/>, the support form and information about our customer service.

- Open **www.brainwaregroup.com** <http://www.brainwaregroup.com> in your browser and click on **Support and KnowledgeBase** on the right side.
- Start your search in the **KnowledgeBase** where you can find a list of the most common support cases

If nothing matches your search criteria, you may use the support form for advanced information. Please provide a detailed description of your problem so that our specialists can help you as quick as possible.

- Click on Support Form.
- Please fill in at least the fields marked with an asterisk (\*) and click on **Send Question**
  - ℹ You will receive a confirmation that your question has been received in the system.

The support page contains the telephone numbers necessary for telephone contacts.

### Documentation

A separate download area is available on our web site for the currently available documentation. This area contains all manuals in PDF and CHM format in German and English language. At present, some of the technical manuals are only available in English.

- Navigate to **www.brainwaregroup.com** <http://www.brainwaregroup.com> in your browser and click on **Downloads + Licenses** on the right side.
- Click on **Login**, enter your **User name** and **Password** and then click on **Register**.
- Please select **Documentation** as download type, then select the desired product and click on **Search**
  - ℹ An overview of all available documents will be displayed.
- Click on the desired format and language to download the PDF/CHM file in the desired form.

You will find the Acrobat Reader on our support page or directly under [www.adobe.com](http://www.adobe.com).

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#### Note

During the installation the documents are copied by default to the directory named [\[C:\Program Files\]\Columbus](#). In order to display the Console help in German you will have to rename the file [CMC\\_de.chm](#) in the [\Console](#) directory to [CMC.chm](#).

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### Training information

brainwaregroup is taking all efforts to ensure that our products and solutions will be used and operated in an appropriate, qualified and proper way. Therefore, we are offering various training courses. You can find all information about training types and dates under the **Training** [http://www.brainwaregroup.com/de-ch/kalender/training.html?utm\\_source=bwg.KC&utm\\_medium=referral](http://www.brainwaregroup.com/de-ch/kalender/training.html?utm_source=bwg.KC&utm_medium=referral) menu point

## 0.5 Licensing

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Columbus is divided into function modules for a wide range of applications which can be combined freely, according to the requirements of the customer. On purchase, each module will be equipped with one or more license features, which activate the desired functions.

You will find an overview of currently available modules under [www.brainware-group.com/produkte](http://www.brainware-group.com/produkte).

To find the best possible combination - or in order to learn about prices and special offers - we recommend to contact an authorized brainwaregroup partner or our direct sales department.

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Please refer to the list of current partners and their contact details under [www.brainware-group.com/partner](http://www.brainware-group.com/partner).

### Licensing Rules

Relevant for licensing is the number of managed assets based on the valid price list at the time of purchasing the license.

Managed assets are computer systems, e.g. laptops, desktops, servers, virtual servers, thin clients, mobile devices, tablets, every kind of asset for which software can be managed or for which another active management is technically available.

Such an active management can be e.g. the installation of the operating system, the inventORIZATION or the distribution of software (no definitive list). The service desired by the customer determines the suites or modules to be licensed.

A license is basically bound to one computer, regardless whether the license is used only once or continuously.

Apart from computers, Columbus is also able to collect data from additional network devices (routers, switches, printers, etc.) which are administered as so-called *Not Managed Devices*. These devices require no Columbus license as long as they have the status *Not Managed*.

Columbus has an active license check for all Columbus modules. License limit violations are signaled both on the Console as well as in the log file.

## Summary

The brainwaregroup licensing rules comprise the following:

- Each <ASS> operated by Columbus requires a license.
- The transfer of a license to another computer is limited to replacement purchases.

In case of a license violation

- you will be notified at the start or during your work with the Console,
- entries are generated in the log files.

### Important

If the number of managed assets increases, the customer shall bind himself/herself to obtain a new license for the additional ones within 30 days. The Software can restrict or stop the operation after an under-licensing period of 30 days.

A license comprises the temporally unlimited, non-exclusive usage right for the current version of the Software including all hot fixes within one year from the invoice date.

## CHAPTER 1

# Installation

---

### In this chapter

Prerequisites .....	12
Installation process .....	20
Activate the license .....	32
Check installation .....	33

This manual describes a complete installation of Columbus. Depending on the license, certain modules may be unavailable in your environment. Special options are described in the corresponding manual.

<b>Note</b>	Columbus is a 32-bit application. Installation and operation are designed in a way so they can be optimally used on 64-bit platforms.
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## 1.1 Prerequisites

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The following is required for the installation of a Columbus Infrastructure Service:

- Administrator rights
- Windows Server 2008 SP2, 2008R2, 2012, 2012R2 or 2016
- SQL Server 2014 or SQL Server 2016 (local or remote)
- SQL Native Client
- DHCP Server (for PXE / OS deployment)
- IIS 7, 8 or 10 (Master Server incl. license server)
- Microsoft .Net Framework 4.6
- Active directory or workgroup
- **Setup and license file** (see page 17)

<b>Note</b>	The setup has to be executed from a drive with assigned drive letter. For a basic installation, UNC paths are not supported.
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### 1.1.1 Accounts and sources

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During the installation you are prompted for some information required by the setup assistant.

#### SQL Administrator (e.g. SA)

Columbus requires a special SQL user account to create and modify databases. This will only be used during setup and is not stored.

<b>Tipp</b>	Allows the use by the SQL user SA or another user with sysadmin role.
-------------	---

## Columbus SQL-DB-Account (e.g. ColumbusRW)

Columbus requires a special account for access to the databases. They will be entered as normal user in the SQL Server and have access to the three databases with DBO authorization.

### Tipp

We recommend to accept the default value *Brainware123* for a demo installation.

## Columbus Admin account (active directory user)

The setup requires a Windows account with user name and password to install an operating system, install software, inventories systems and add a system to the domain.

The user needs access rights for the software and operating system directories on the Infrastructure Service as well as the right to add computer accounts to the domain.

## OSDeploy Smart

For the Smart Windows OS-Deployment, the setup requires a password to be used with the local administrator and the lock screen during OS deployment.

The local administrator password is only transferred when setting up new computers and only at the end of the installation process.

## OSDeploy Linux

For Linux deployment, the setup requires a password to be used for the local root user.

The local root password is only transferred when setting up new computers and only at the end of the installation process.

## E-Mail settings

During setup, the SMTP server incl. port and a user with password, as well as the corresponding E-Mail address for SMTP access can be stored.

Additionally, mail recipients for infrastructure, reporting and deployment E-Mails are stored and tested.

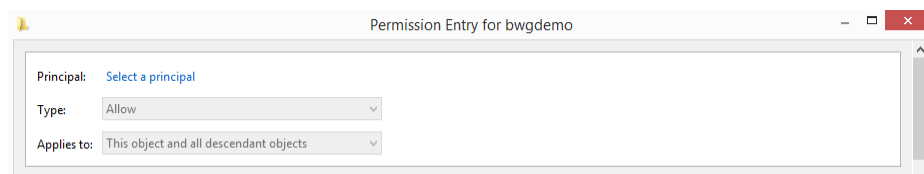
## Active directory user

### Columbus Admin Account

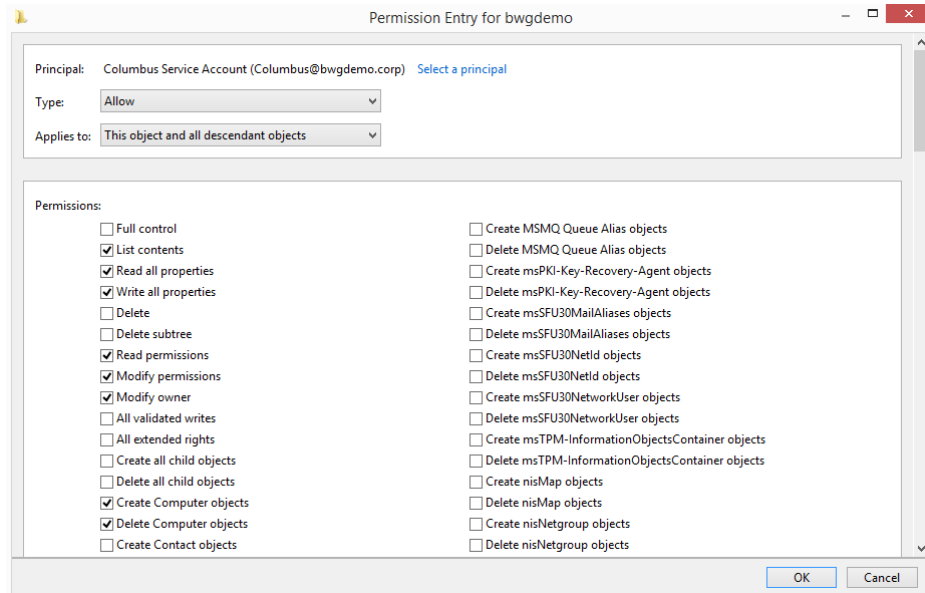
The Columbus Admin Account is a special user that must have the right to add or remove a computer account to or from a domain.

If no such user is provided, it can be created as follows:

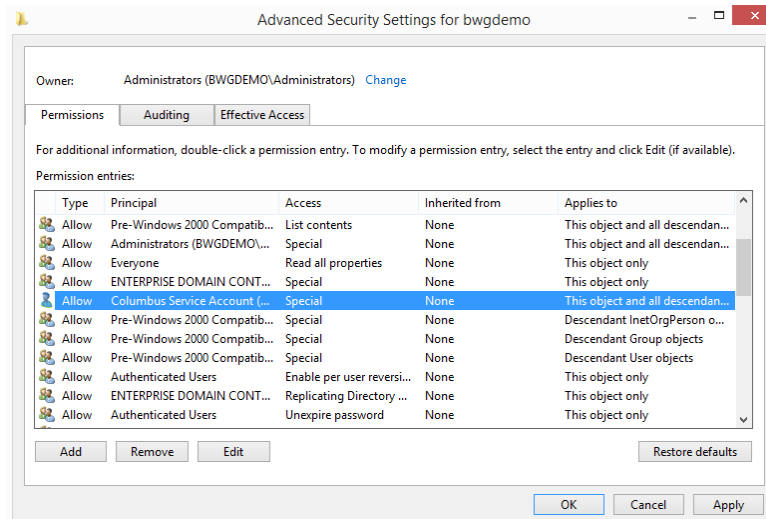
- Open the active directory for users and computers
- Activate in the menu under > View > Advanced Features
- Activate the domain the settings of which must be adjusted and open the properties using the context menu.
- Switch to the Security tab and click on Advanced.
- Click on Add on the lower left to create an entry.
- Define the desired user under Select a principal.



- After selecting the user, define the authorizations as follows:
- "Applies to:" must be defined with "This object and all descendant objects".
- The following rights must be set: "List contents", "Read all properties", "Write all properties", "Read permissions", "Modify permissions", "Modify owner", "Create Computer objects" and "Delete Computer objects".
- Click on OK to accept these adjustments in a new security settings entry.



- Click on OK to store these settings.

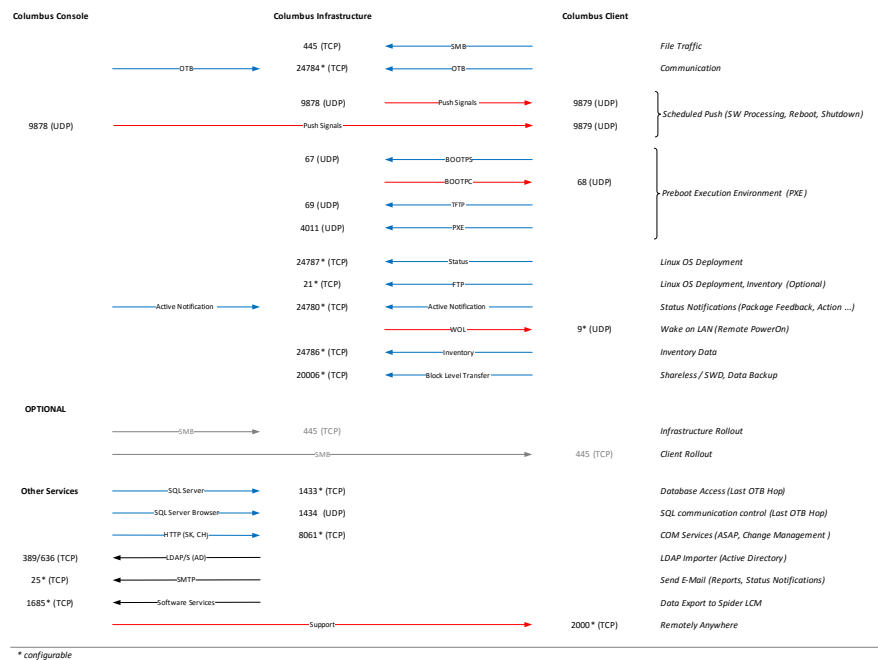


## 1.1.2 Configuration of the virus scanner

On the Columbus server system, the virus scanner must include the following exclusions:

- %\_ProgramFiles32%\Columbus\Infrastructure\
- %\_ProgramFiles32%\Columbus\Console\
- %\_ProgramFiles64%\Microsoft SQL Server\MSSQL<SQL-Version>.\SQL-Instanz>\MSSQL\DATA
- ?:\SQLDATA\Database
- ?:\SQLDATA\Backup

## 1.1.3 Network ports used



The network ports vary depending on the modules and components applied.

## 1.1.4 System Requirement

Please find below the requirements and recommendations for Columbus Systems. The requirements represent basic recommendations as well as imperative prerequisites which enable an optimum usage of the installed components.

### Infrastructure Service

#### Minimum

- OS: Microsoft Server 2008 SP2 or higher
- CPU: 1 GHz or better
- RAM: 4 GB
- HDD: 5 GB free disk space
- Physical or virtual
- Microsoft .NET Framework 4.6

- DBMS: Microsoft SQL Server 2014 & 2016 (local or in the network)
- SQL Native Client

#### Recommended

- OS: Microsoft Server 2016
- CPU: 2 GHz or better
- RAM: 8 GB
- HDD: 10 GB free disk space
- Virtual
- DBMS: Microsoft SQL Server 2016
- SQL Native Client

For the central license server (included in the Master Server), also IIS and .NET 4.6 are required.

#### Note

The specifications on capacity requirements vary according to the needs of Windows installation media and storage for SW packages.

The SW & OS depots may also be set up on other systems, such as NAS. To do this, an access option via a Windows UNC network connection (Sambashare) is required.

#### Note

In case of larger environments (> 1000 computers), it makes sense to separate the database and the activities of the Columbus agents.

## SiteServer

The requirements are based on the minimum of the master server. These requirements vary depending on the number of simultaneous accesses by the clients.

## SQL Server

### Requirements

- Physical or virtual
- Locally on the Master Server or on a different server in the network.

### Supported versions

- Microsoft SQL Server 2014
- Microsoft SQL Server 2016 (recommended)

### Supported editions

- Express (max. database size 10 GB, max. RAM 1410 MB, max. CPU 1 socket or 4 cores, max. 1 instance)
- Standard
- Business Intelligence (only SQL 2014)
- Enterprise



### Settings

- The SQL Server authentication must be executed in the mixed mode.
- The TCP/IP protocol must be active in the SQL Server.
- We recommend to run the SQL Server browser service.
- We recommend to configure the SQL Server service on a static port. (Default would be TCP 1433)
- Configure the Windows Firewall so that the SQL Server and the SQL Server browser can be addressed from the network.

### Management Console

- OS: Microsoft Windows Server 2008 SP2 / Windows Vista SP2 or higher
- CPU: 1 GHz or better
- RAM: Min. 1GB HDD: Min. 210 MB
- Minimum screen resolution 1440x900

### Management Client

- OS: Microsoft Server 2003 SP2/WinXP SP3 or higher
- CPU: 1 GHz or better
- RAM: Min. 1GB
- HDD: Min. 500 MB

### Preboot function

The preboot function (PXE) requires a DHCP server. The network adapters of the clients must be PXE capable/activated and the used computers require the latest BIOS version, because PXE is often poorly implemented on older computers.

We recommend to use entries in the network components (e.g. switch, router, etc.).

- Entry of an IP helper or additional DHCP relay in the corresponding subnets which indicates the IP address of the responsible Columbus server

<b>Tipp</b>	Please use a separated network if you carry out tests.
-------------	--

## 1.1.5 Installation files

For the installation you will need the setup and license file.

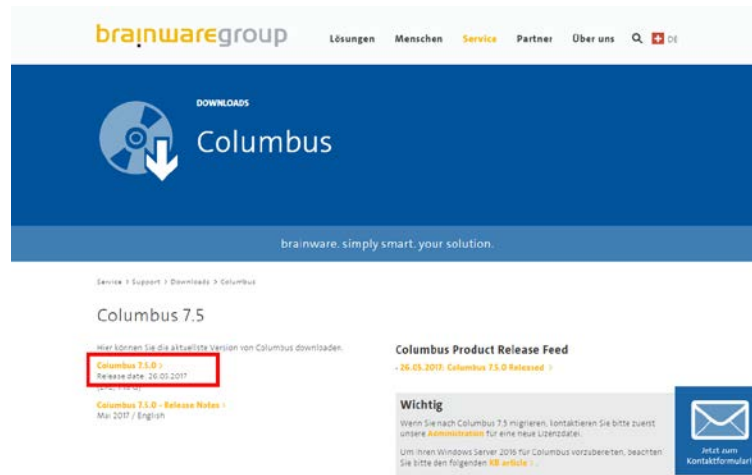
### Download Columbus

The installation file can be downloaded from the website **www.brainwaregroup.com**.

#### How to download the installation file

- Go to **www.brainwaregroup.com** and select **Service > Downloads** in the menu.
- Below *Columbus Software Management*, click **To the download >**

- Click **Columbus 7.5.0** ➤ to download the installation file.

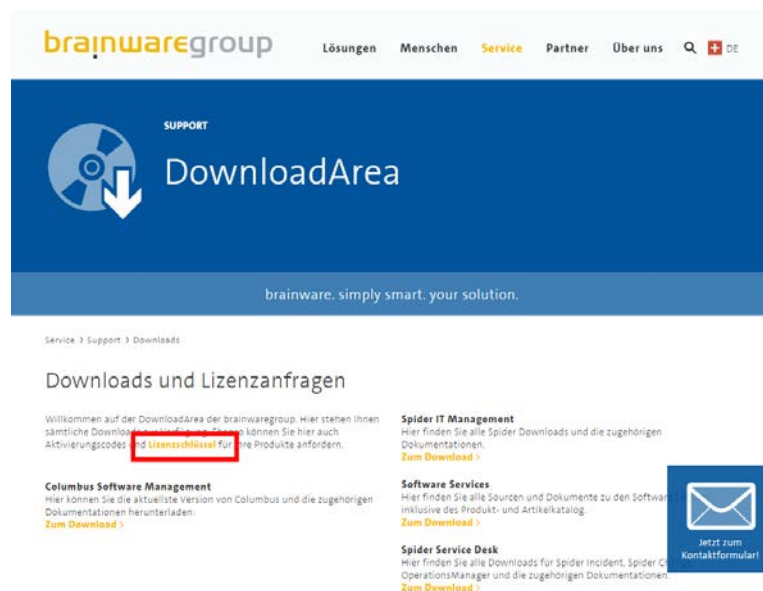


## Apply for license

During the installation process, a current and valid license is necessary. You can apply for this license on our website.

### How to apply for a license

- Go to **www.brainwaregroup.com** and select **Service > Downloads** in the menu.
- Click on **License key**.
  - I The link takes you to the form *Apply for license key*.



- Please fill in at least the fields marked with an asterisk (\*) and click on **Send** ➤.

Service > Support > Downloads > Lizenzschlüssel

### Lizenzschlüssel anfordern

Kundenname\*

Testfirma AG

Lizenzfile für\*

☒ Columbus

☐ Spider / Software Services

Grund der Lizenzschlüsselanforderung

Update

Bemerkung

Update von Columbus T4.1 auf Columbus T5.0

Ihre Kontaktdaten

Abrede

Herr

Vorname\*

Hugo

Name\*

Testmann

E-Mail\*

Hugo.testmann@testfirma.ch

Firma\*

Testfirma AG

Adresse


Testweg 12

8000 Zug

Telefon

+41 41 xxx xxx xx

**Abmelden** ➤



Jetzt zum Kontaktformular!

---

**Note** The application is checked manually. Therefore, a fast reply is only ensured during the usual office hours.

---

After checking the request, you will receive the license file per E-Mail.

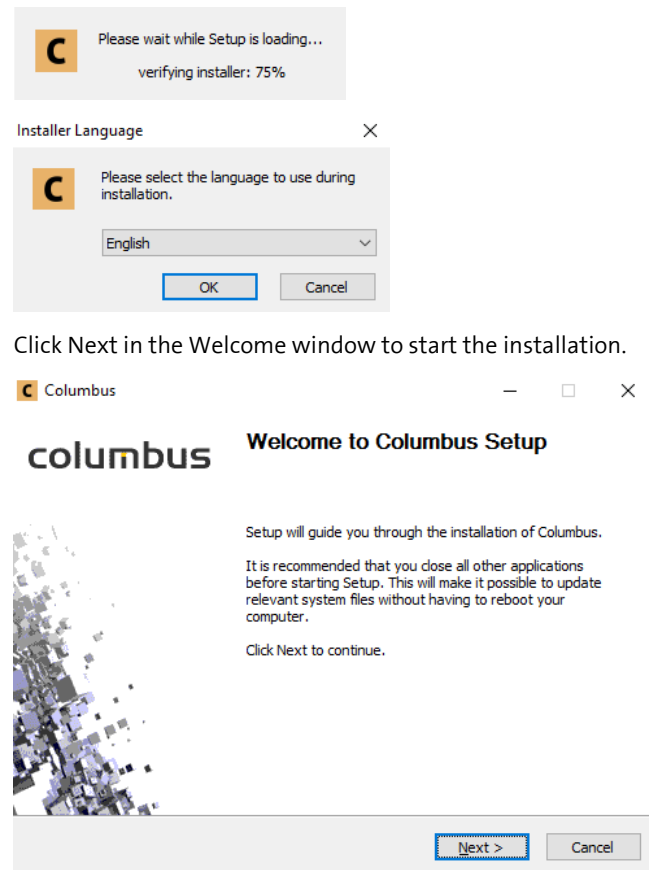
## 1.2 Installation process

This process describes the work steps indicating the recommended default values.

<b>Note</b>	During the installation, we recommend to accept the values proposed by the setup wizard. You can modify and adapt a completed installation later on.
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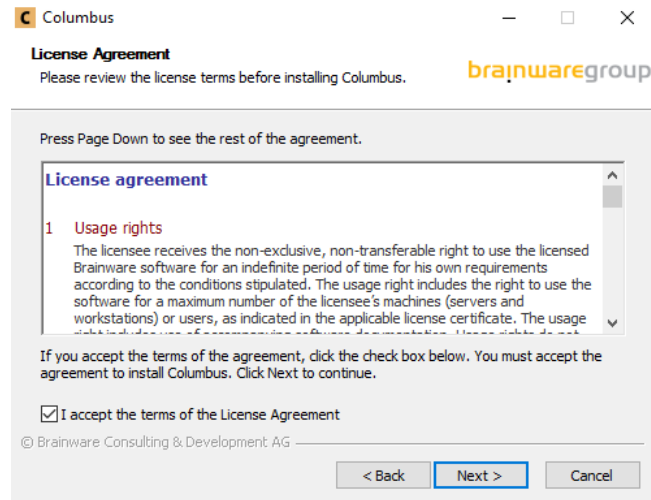
### How to start the setup wizard

- Double-click on the setup file **C7setup.exe**.
- Select the language for the installation process in the list box and click on **OK**.
  - ! The language selection applies only for the setup wizard. The language selection for Columbus can be done later.



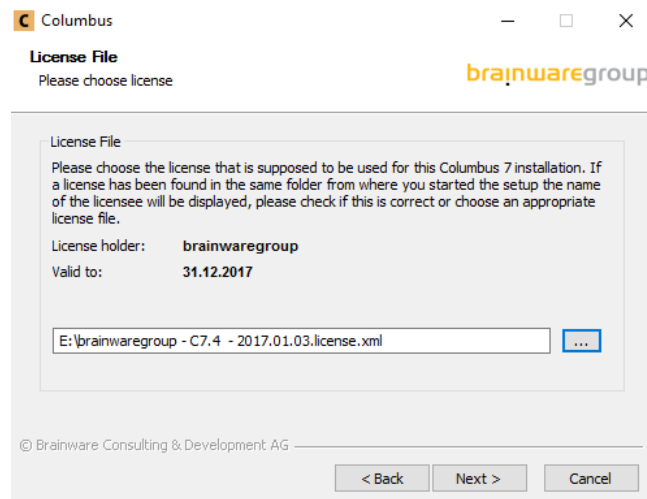
### 1.2.1 License agreement

- Read the license agreement.
- Activate the checkbox and click on **Next**.



### 1.2.2 License file

- Enter the path to the license file `License.xml` and click on **Next**.
  - ! The installation cannot be continued without a license file.



### 1.2.3 Components

Use this dialog window to define which type of installation you would want to carry out.

- Select the desired installation type, enter the server FQDN and click on **Next**.

Options

☒ Master Server (Only one per organisation)

☐ Site Server

Own FQDN

FQDN:

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< Back Next > Cancel

Option	Description
Master server	Central server that also contains the Columbus Database (local or remote). This server must always be installed as the first component of a Columbus System and can only be granted once as role.
Site server	Typically, Site Server are used in external locations or for the purpose of reducing the load. If OSDeploy, SWDeploy, or UpdateManagement are used, these servers also contain replications of the data depots to reduce the network traffic on the WAN.

### 1.2.4 System requirements

Use this dialog window to check the necessary system requirements.

- Click on **Details** to obtain more information on a highlighted check.
- Click on **Rescan** to recheck the system requirements.
- Make sure that all checks were successful and click on **Next**.

State	Item	Message
✓	OS Version requirements	Pass
✓	Administrative user	Pass
✓	IIS settings	Pass
✓	IIS management scripts and tools	Pass
✓	IIS Asp .Net settings	Pass
✓	Microsoft .Net 4.6 installed	Pass
✓	FIPS compliant algorithms disabled	Pass
✓	Validating previous Columbus installation	Pass
✓	License Console not running	Pass

Details Rescan

© Brainware Consulting & Development AG

< Back Next > Cancel

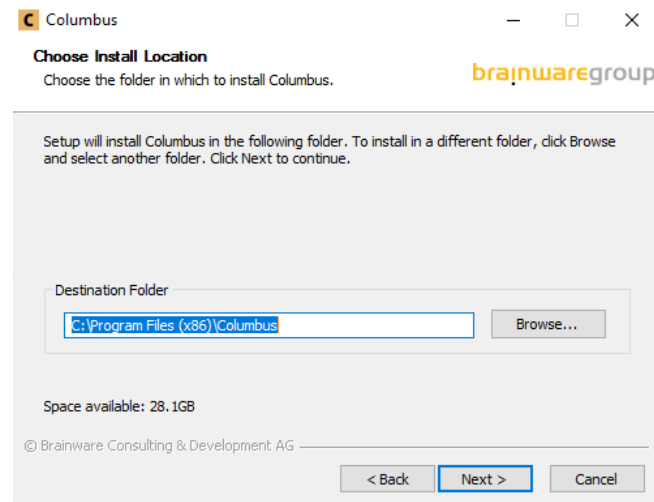
## 1.2.5 Target directory for program files

Use this dialog window to define the installation directory for Columbus.

- Accept the installation directory and click on **Next**.

- or -

Click on **Browse** and select the installation folder.



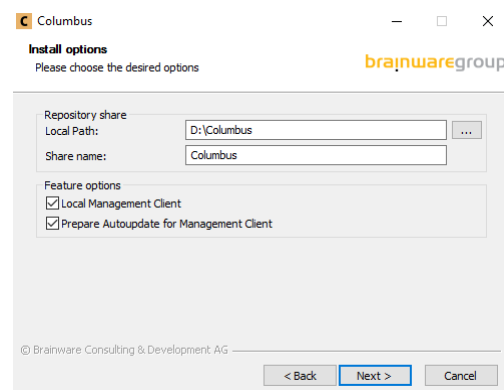
## 1.2.6 Options

Use this dialog window to determine the location of the depot structures (e.g. OS depot, SW depot and inventory depot).

### Important

Due to performance and backup reasons, we recommend to not create these data in the system drive of the server but to select another drive or preferably a separate disk.

- Accept the default values for the path and release and click on **Next**.
- or -
- Click on **Browse** and select the repository directory.
- Accept the feature Option Local Management Client in order to execute the local installation of a management client.
- Accept the feature Option Prepare Autoupdate for Management Client in order to implement the automatic updates on the server.
- To continue, click on **Next**.



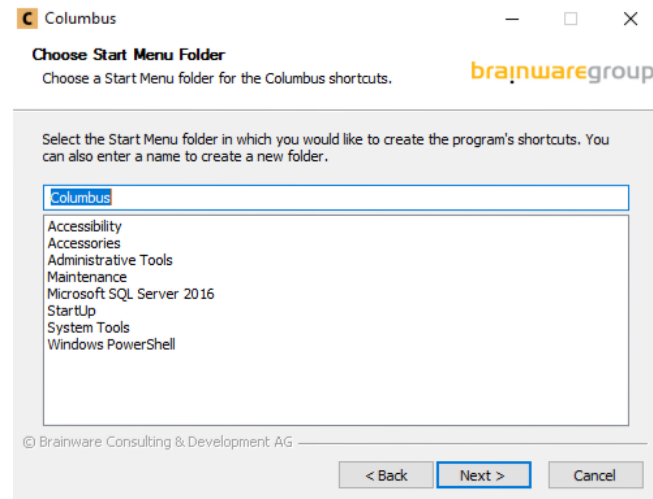
### Note

The paths and settings for the depots may be changed afterwards.

## 1.2.7 Start menu group

Use this dialog window to define which program group will be used for the Columbus link in the Start menu.

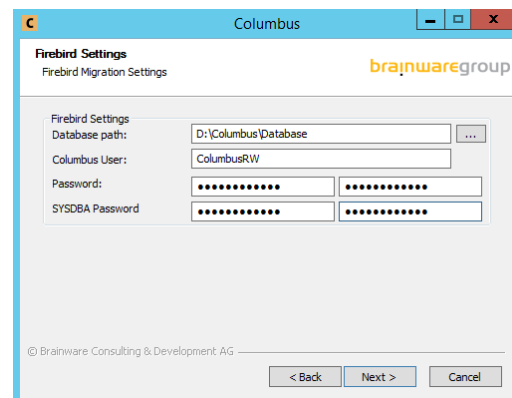
- Accept the default value and click on **Next**.



## 1.2.8 Firebird settings

In case of a migration, this dialog window is displayed to define the access to the existing Columbus Database.

- Enter the specifications on the existing Columbus Database and click on **Next**.

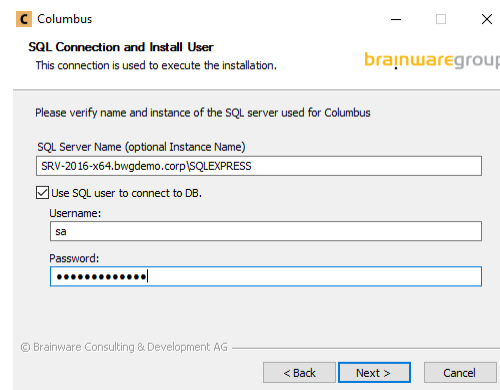




## 1.2.9 SQL connection

Use this dialog window to define the SQL connection and the relevant user together with his password.

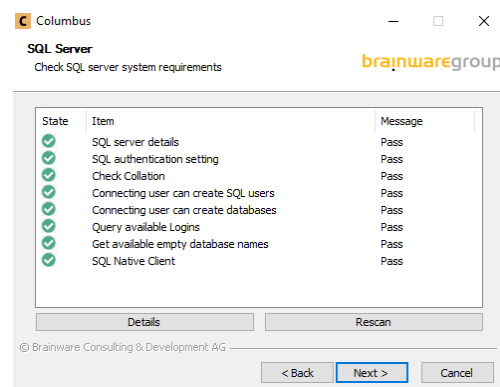
- Enter the SQL Server under **SQL Server Name**. If it is a SQL Server Express, the instance must be specified as well.
- If the logged-in Windows user has no administrative rights on the SQL Server, a SQL user must be entered.
  - For this purpose, activate the checkbox **Use SQL user to connect to DB**.
  - Enter a SQL user with administrative rights in **Username**. (e.g. sa)
  - Enter the password in **Password**.
- Click on Next.



## 1.2.10 SQL requirements

Use this dialog window to check the necessary SQL Server requirements.

- Click on **Details** to obtain more information on a highlighted check.
- Click on **Rescan** to recheck the SQL Server requirements.
- Make sure that all checks were successful and click on **Next**.



### 1.2.11 SQL database

Use this dialog window to define the SQL databases.

- Accept the default values for the three databases and click on **Next**.

Columbus

**Databases**  
Please choose your databases

Please choose an existing database or specify a new one to create.

Audit	- Create new database -	Audit
Columbus	- Create new database -	Columbus
EndPoint	- Create new database -	EndPoint

Prefix:  Suffix:

New databases will be created using the standard Settings of the SQL server.

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< Back Next > Cancel

### 1.2.12 SQL database prerequisites

In case of a new installation, use this dialog window to check the necessary SQL database prerequisites.

- Click on **Details** to obtain more information on a highlighted check.
- Click on **Rescan** to recheck the SQL database prerequisites.
- Make sure that all checks were successful and click on **Next**.

Columbus

**Databases**  
Check database prerequisites

State	Item	Message
✓	Database name does not contain illegal characters	Pass
✓	Database name does not contain unicode characters	Pass
✓	Prefix does not start with digit	Pass
✓	Check for existing database with chosen name	Pass
✓	Check that existing databases are empty	Pass
✓	Check for alter permission on existing databases	Pass
✓	Check for extended properties in databases	Pass
✓	Check database collations	Pass
✓	Check if empty DB matches generated name	Pass
✓	Check for Always ON Availability on databases	Pass

Details Rescan

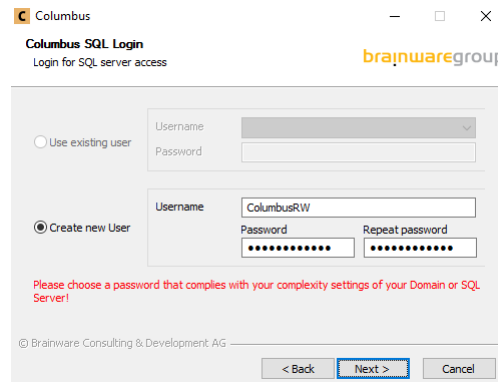
© Brainware Consulting & Development AG

< Back Next > Cancel

### 1.2.13 Columbus SQL login

During the installation of the Columbus Database, an internal Columbus database account named *columbusrw* with read and write rights is created. This account is used by all Columbus server components for accessing the Columbus Database database.

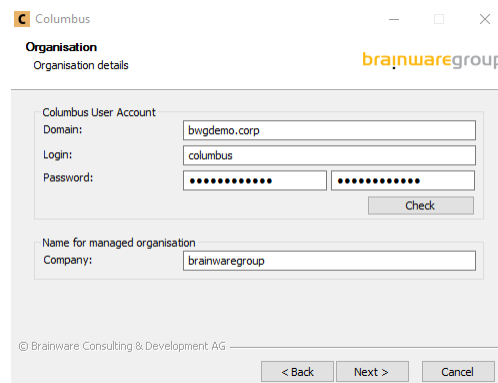
- Enter a password and click on **Next**.



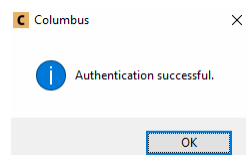
### 1.2.14 Organization

In case of a new installation, various Columbus components require special access rights and authorizations e.g. for accessing the operating system sources, software packages for including a new computer into the Active Directory or for the installation of software. For this purpose, the setup requires a user account that has the necessary rights.

- Enter the domain and the login/password and click on Check.



- If the check was successful, this will be indicated with Authentication successful.



The top element in a Columbus structure is the company. Enter the name of the company which you want to manage with Columbus. The setup will create this company in the structure tree.

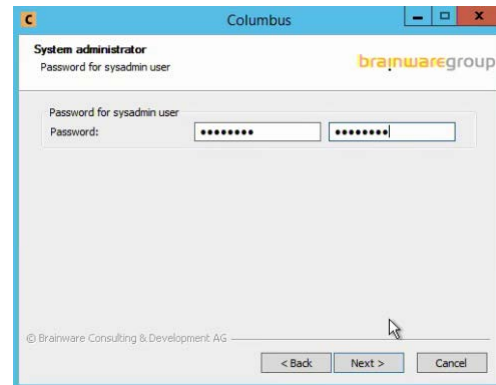
- Enter the company name and click on **Next**.

**Important** The use of '.' (dot) in the company name is not permitted.

### 1.2.15 System administrator

Use this dialog window to define the Admin account for the Management Console.

- Enter a password and click on Next.

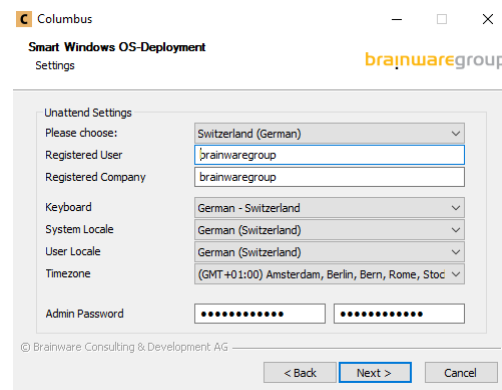


**Note** The password of the sysadmin can be adjusted in the admin console after installation.

### 1.2.16 Smart Windows OS Deployment

Use this dialog window to define the default settings for the Smart Windows Deployment.

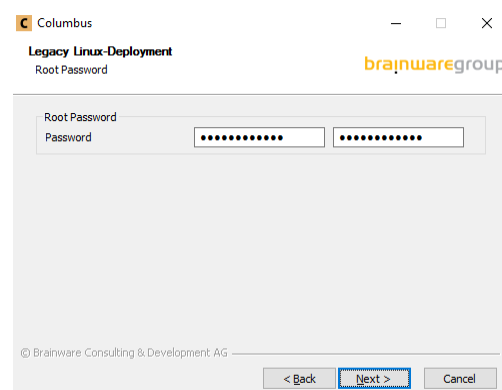
- Enter the required data and click on **Next**.



### 1.2.17 Legacy Linux Deployment

Use this dialog window to define the default settings for the Legacy Linux Deployment.

- Enter the required data and click on **Next**.



## 1.2.18 Email settings

When carrying out a new installation, the basic e-mail settings can be defined for different components for sending notification and error e-mails.

Here, you can determine which sort of E-Mails must be sent.

- Enter the required information and click **Test** to send a test e-mail of the selected type.
- After all tests are successfully completed, click on Next.

Columbus

**Email Settings**  
SMTP and recipient settings

Brainwaregroup

SMTP

Server:  Port:

Login:

Password:

Sender:

Mail recipients (comma separated)

Infrastructure:

Reporting:

Deployment:

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< Back **Next >** Cancel

Before the installation is started, it is possible to go back in the menu by pressing the back button and correct the relevant options.

- If you wish to start the installation, click on **Install** to start the installation.

## 1.2.19 Installation process

Before the installation is started, it is possible to go back in the menu by pressing the back button and correct the relevant options.

Columbus

**Install Confirmation**

Brainwaregroup

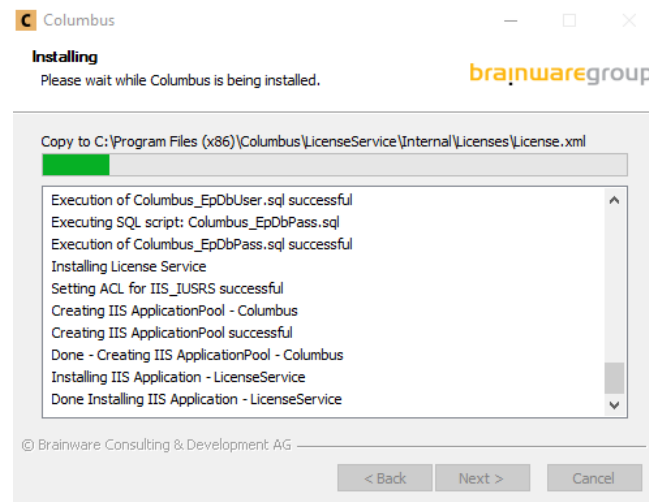
Install Confirmation  
Ready to install

© Brainware Consulting & Development AG

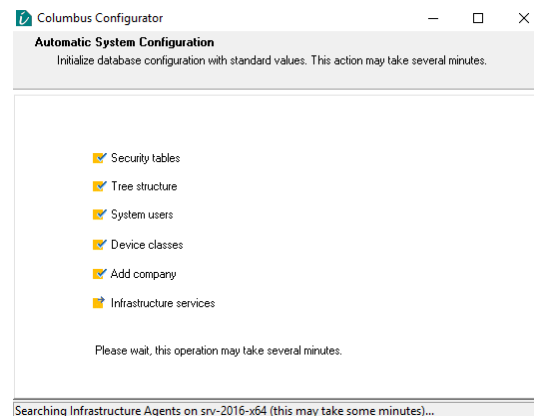
< Back **Install** Cancel

- When you want to start the installation, click on **Install**.

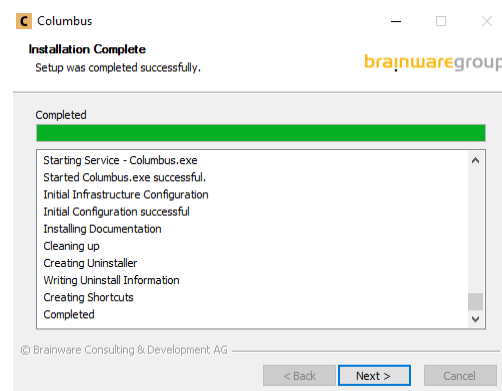
The setup wizard installs first the defined components.



In case of a new installation, the setup wizard starts the configuration of the database and services upon completing the installation.



After configuring the database and services, the setup wizard concludes the installation.



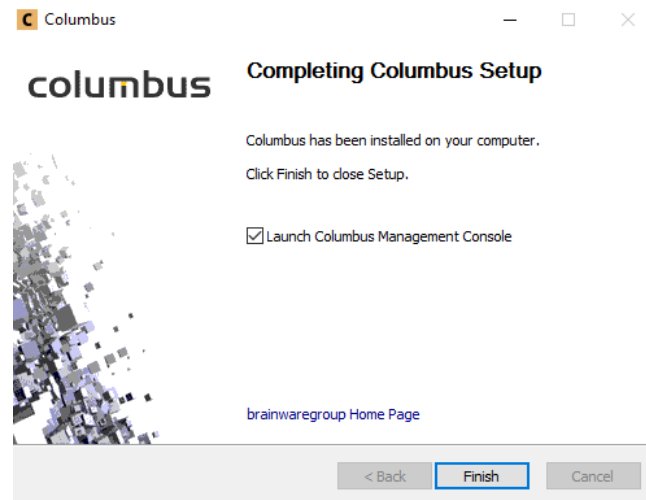
## 1.2.20 Finish setup

---

This dialog window indicates that the installation has been completed.

➤ Click **Finish** to exit the setup wizard.

|| If the option **Launch** Management Console remains active, the Management Console is started automatically.



## 1.3 Activate the license

---

After successful installation, the Columbus license must be activated.

### 1.3.1 Create an activation request

---

The first step for activating the license is to create an activation request.

#### How to create an activation request

- Start the Columbus license console.
- Activate the required license in the *Licenses Information* grid.
- Press *Save Activation Request for Selected License ID* on the drop down menu with the right mouse button to save the activation request.
- Enter a file name and save the activation request in the required directory.

### 1.3.2 Apply for an activation file

---

You can apply for an activation file with the activation request that you just created.

#### How to apply for an activation file

- Send an e-mail with the activation request in the attachment to the license administration (licensing@brainwaregroup.com).

---

**Note**

The application is checked manually. Therefore, a fast reply is only ensured during the usual office hours.

- 
- After checking the request, you will receive the activation file per E-Mail.
  - Save the activation file attached to the e-mail on the server.

### 1.3.3 Activate the license

---

You can now execute the activation using the activation file that you just received.

#### How to activate your license

- Start the Columbus license console.
- Activate the relevant license in the *Licenses Information* grid.
- Press *Import Activation Information File* on the drop down menu with the right mouse button to execute the activation.
- Select the activation file that you just saved and click on **Open**.
- After successful activation, that license console must be shut down and the IIS service and the Columbus Infrastructure Service must be restarted.
  - ┆ Alternatively, you can simply restart the server.



## 1.4 Check installation

After a successful installation or update of the Columbus System we recommend to check the installation using the following steps:

- Check Columbus system user
- Login to the system
- Check agents

The default password for all internal Columbus System users is *Brainware123*. Please change it later in the Console.

### 1.4.1 Check Columbus domain user

During the installation, the Columbus System prompts for the input of a user name/password for the Columbus user account which is later used by the Management Client and the agents for connection to operating system sources, software packages, etc.

Depending on the rights which you possess during installation after log-in, the creation of this user may fail. The user creation may also fail if the specified password does not correspond to the given complexity guidelines of the domain controller.

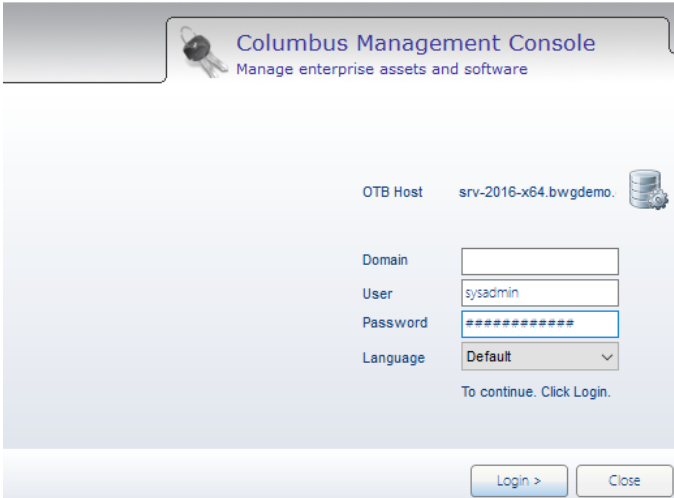
Therefore, verify that the account has been created in the domain and has access to the depot directories such as OS depot or SW depot.

### 1.4.2 Login to the system

During the installation, the Management Console ([CMC.exe](#)) has been installed on your computer and a link in the start menu has been created.

- Click on the Windows start button and select **Programs > Columbus > Management Console**.

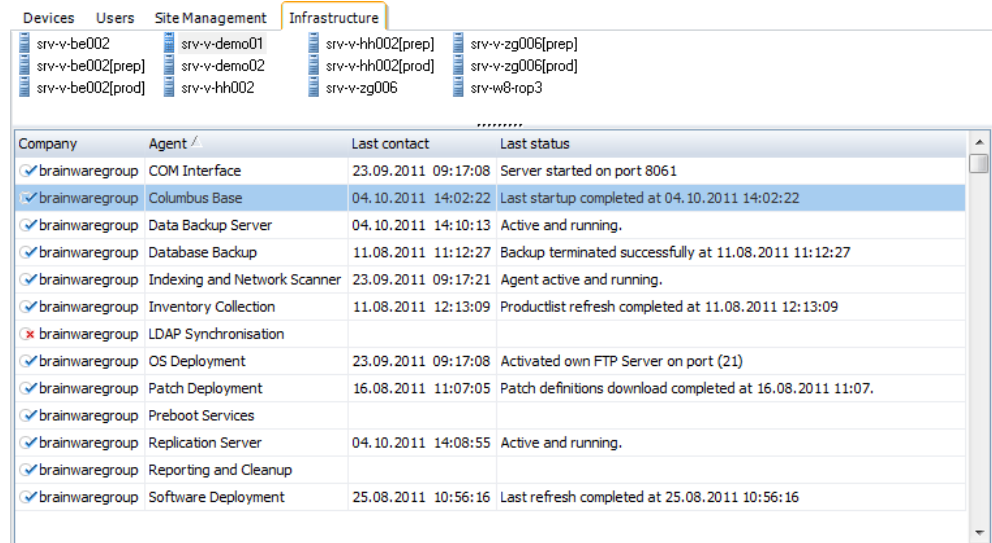
Columbus Login



- Enter your user name and password and click on **Login**
  - ▮ For the login, use the user data default values (sysadmin / brainware123) which have been setup during the installation.
  - ▮ In case of existing (migrated) systems you can log in with the same ID as used before the migration.

### 1.4.3 Check the infrastructure services

- Activate the **Infrastructure** view in the Console.
  - ▮ All agents registered on the Infrastructure Service are listed.



Company	Agent	Last contact	Last status
✓ brainwaregroup	COM Interface	23.09.2011 09:17:08	Server started on port 8061
✓ brainwaregroup	Columbus Base	04.10.2011 14:02:22	Last startup completed at 04.10.2011 14:02:22
✓ brainwaregroup	Data Backup Server	04.10.2011 14:10:13	Active and running.
✓ brainwaregroup	Database Backup	11.08.2011 11:12:27	Backup terminated successfully at 11.08.2011 11:12:27
✓ brainwaregroup	Indexing and Network Scanner	23.09.2011 09:17:21	Agent active and running.
✓ brainwaregroup	Inventory Collection	11.08.2011 12:13:09	Productlist refresh completed at 11.08.2011 12:13:09
✗ brainwaregroup	LDAP Synchronisation		
✓ brainwaregroup	OS Deployment	23.09.2011 09:17:08	Activated own FTP Server on port (21)
✓ brainwaregroup	Patch Deployment	16.08.2011 11:07:05	Patch definitions download completed at 16.08.2011 11:07.
✓ brainwaregroup	Preboot Services		
✓ brainwaregroup	Replication Server	04.10.2011 14:08:55	Active and running.
✓ brainwaregroup	Reporting and Cleanup		
✓ brainwaregroup	Software Deployment	25.08.2011 10:56:16	Last refresh completed at 25.08.2011 10:56:16

- The last status is displayed in the **Last contact** column.
- All components selected in the setup routine or their agents are pre-configured and ready for use.

In order to check whether the agents are working, we recommend a refresh of each agent.

#### How to carry out a refresh operation

- Highlight e.g. Software Deployment Agent and select the **Schedule** function in the menu ribbon.
- In the dialog window **Refresh SW Depot Index List**, activate the option **Process now** and click on **OK**.

The updates require some minutes. In the **Last status** column you can see whether the action has started or if it is already completed.

CHAPTER 2

Annex

In this chapter

SQL Server installation process..... 35

Adjustments after installing the SQL Server ..... 46

Installation of SQL Server Management Studio..... 49

This chapter contains additional documents regarding the basic Columbus requirements.

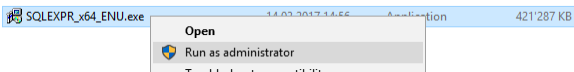
2.1 SQL Server installation process

This process describes the work steps indicating the recommended default values.

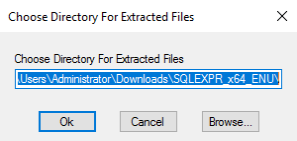
Note	During the installation we recommend to accept the values proposed by the setup wizard unless otherwise described.
------	--

How to start the setup wizard

- Start the setup file `SQLEXPR_x64_ENU.exe` as administrator.



- The installation files must be unpacked. Check the path and press OK.



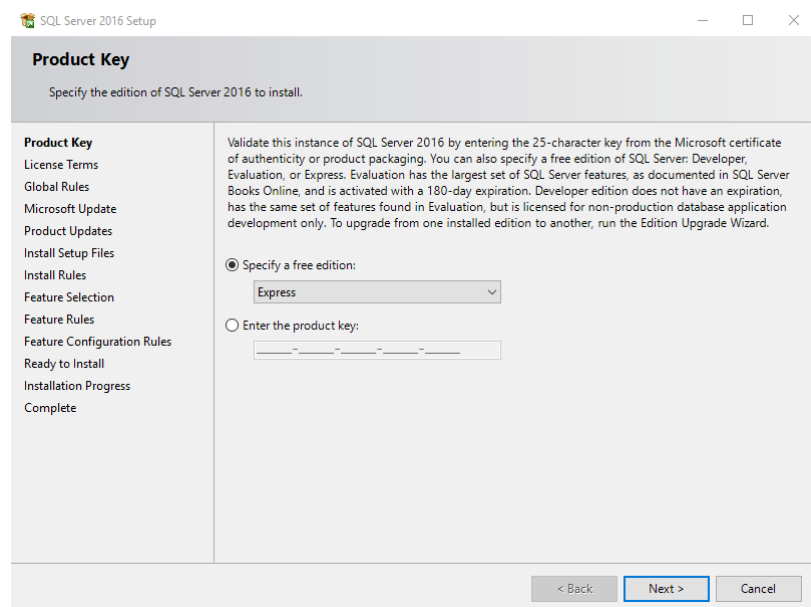
- After the setup wizard has been started, you can click on "New SQL Server stand-alone installation or add feature to an existing installation".



## 2.1.1 Product key

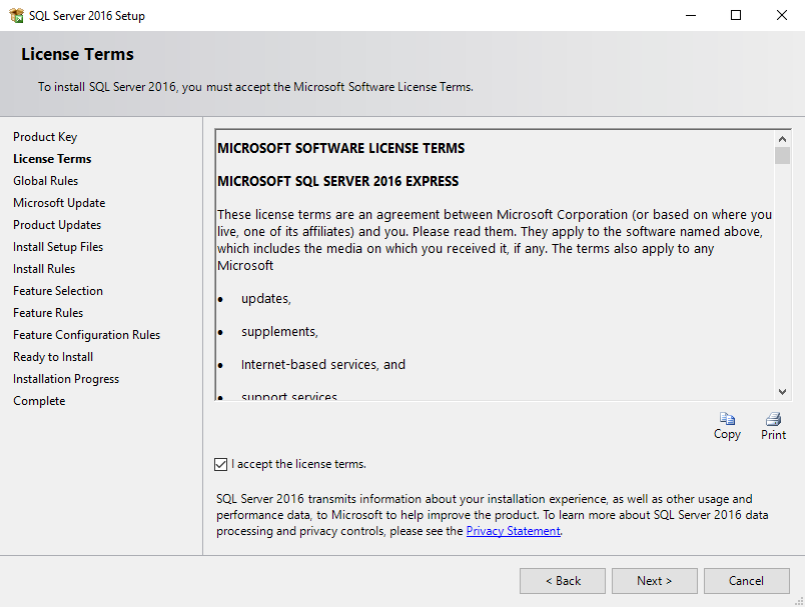
If not using a "free edition", use this dialog window to enter the license key.

- If required, enter a license key and click on **Next**.



### 2.1.2 License terms

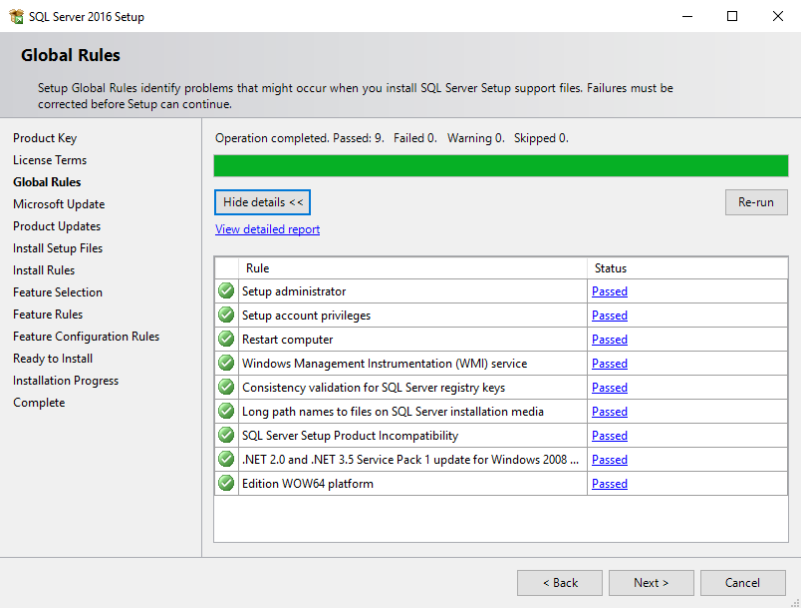
- Read the license agreement.
- Activate the checkbox and click on **Next**.



### 2.1.3 Global rules

Use this dialog window to check the generally necessary requirements for the installation of the SQL Server.

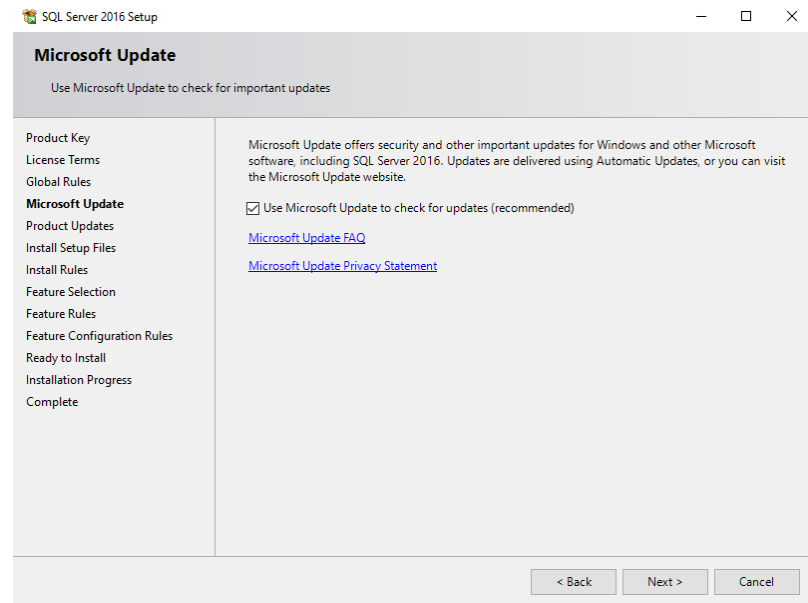
- Click on **Show Details** to obtain more information on the individual checks.
- Click on **Re-run** to recheck the requirements.
- Make sure that all checks were successful and click on **Next**.



## 2.1.4 Microsoft update

Use this dialog window to define whether the installation wizard shall try to download the latest updates for this installation at Microsoft.

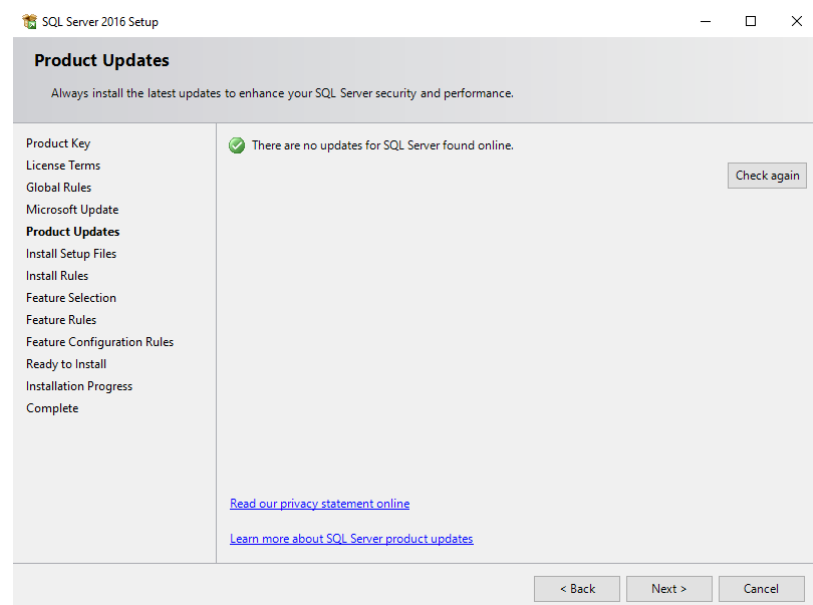
- Activate the checkbox and click on **Next**.



## 2.1.5 Product updates

This dialog window displays any available updates.

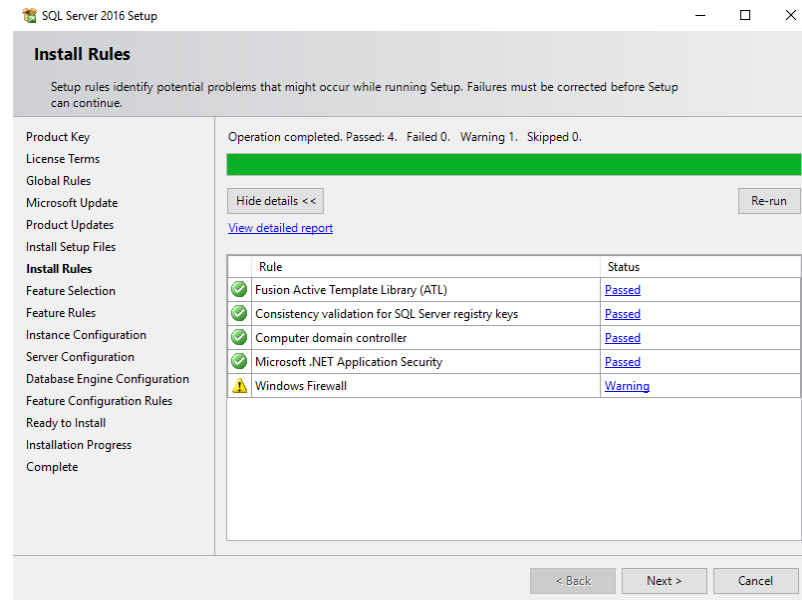
- Click on **Check again** to check again for any available updates.
- If updates are available, activate the checkbox in order to consider them and click on **Next**.



## 2.1.6 Install rules

Use this dialog window to check the additionally necessary requirements for the installation of the SQL Server.

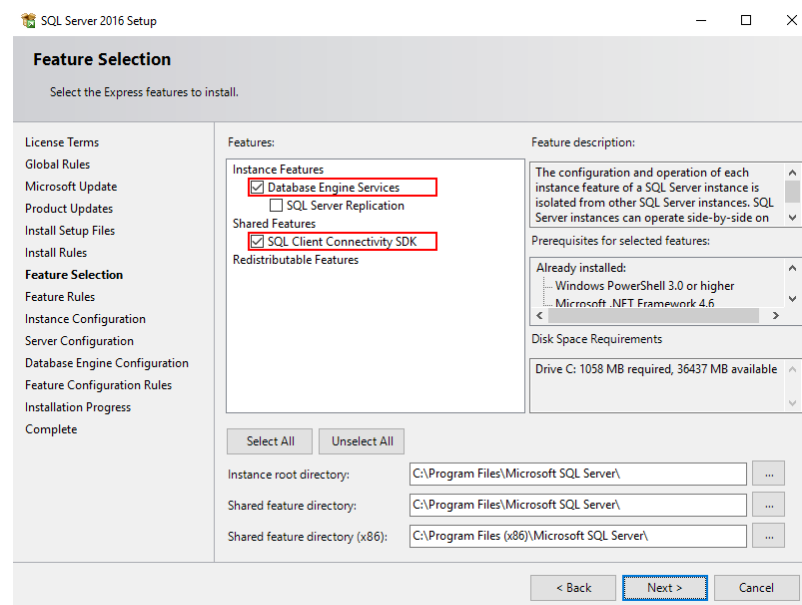
- Click on **Show Details** to obtain more information on the individual checks.
- Click on **Re-run** to recheck the requirements.
- Make sure that all checks have been completed with successful or warning status and click on **Next**.



## 2.1.7 Feature selection

Use this dialog window to define the features and the installation directories to be installed.

- Select the two features "Database Engine Services" and "SQL Client Connectivity SDK".
- Accept the default values of the installation directories and click on **Next**.



**Attention** At least the two features "Database Engine Services" and "SQL Client Connectivity SDK" must be installed.

## 2.1.8 Instance configuration

Use this dialog window to define the SQL instance to be installed.

➤ Accept the default values for the instance and click on **Next**.

SQL Server 2016 Setup

**Instance Configuration**

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Product Key  
License Terms  
Global Rules  
Microsoft Update  
Product Updates  
Install Setup Files  
Install Rules  
Feature Selection  
Feature Rules  
**Instance Configuration**  
Server Configuration  
Database Engine Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

☐ Default instance  
☒ Named instance:

Instance ID:

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQLEXPRESS

Installed instances:

Instance Name	Instance ID	Features	Edition	Version
---------------	-------------	----------	---------	---------

< Back   Next >   Cancel

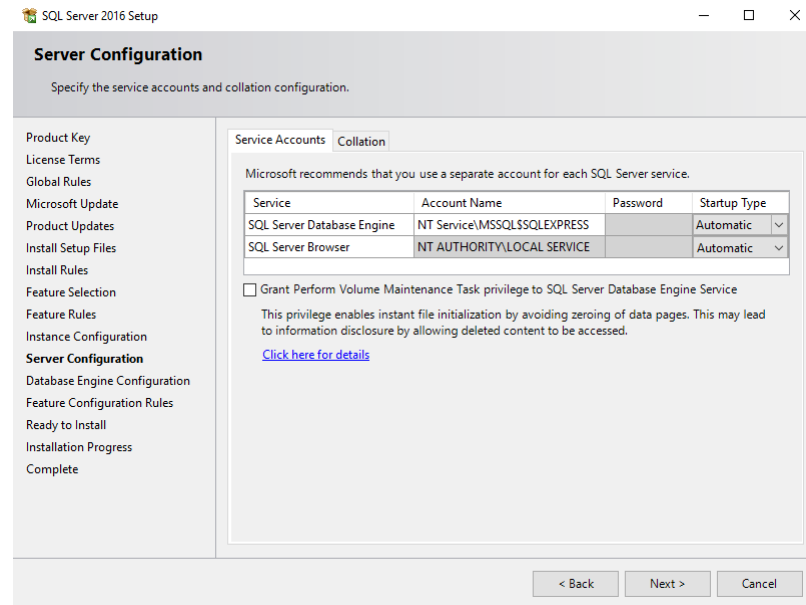


## 2.1.9 Server configuration

This dialog window contains the two tabs "Service Accounts" and "Collation".

The SQL Server and the SQL Browser service are defined in the "Service Accounts" tab.

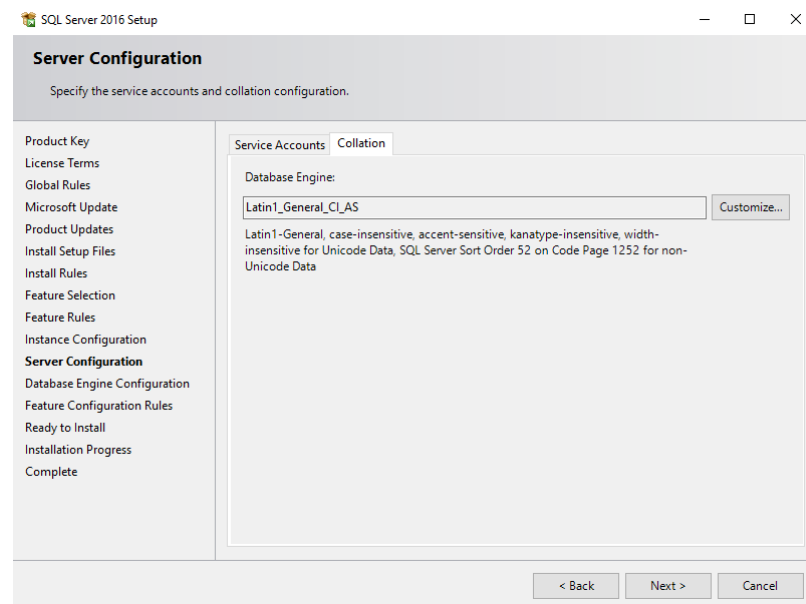
- Make sure that the SQL Server and the SQL Browser service are automatically set on the startup type.



**Attention** The two services "SQL Server Database Engine" and "SQL Server Browser" must be installed automatically with the start type.

The collation of the database engine is defined in the "Collation" tab.

- Accept the default values and click on **Next**.

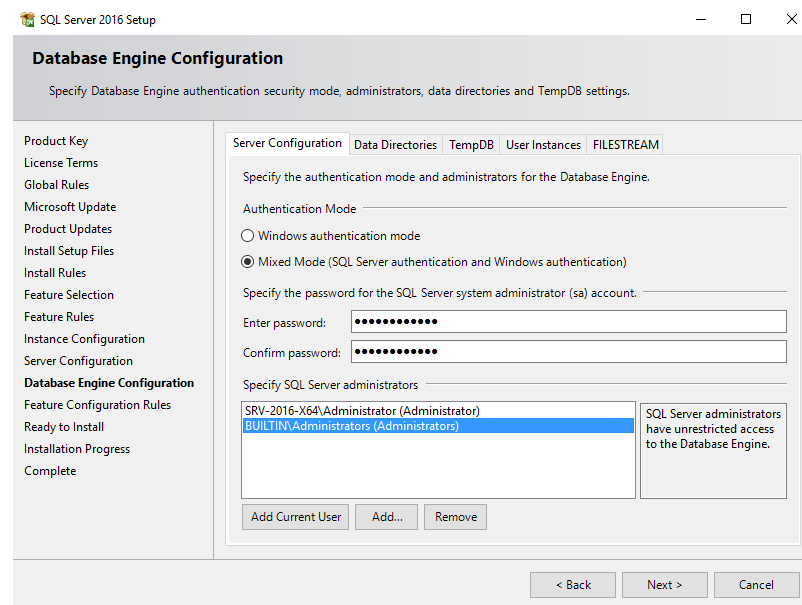


## 2.1.10 Database engine configuration

This dialog window contains the tabs "Server Configuration", "Data Directories", "TempDB", "User Instances" and "Filestream".

The authentication mode, the SA password and the membership to the SQL Server administrators group is defined in the "Server Configuration" tab.

- Set the authentication mode to "Mixed Mode (SQL Server authentication and Windows authentication)".
- Enter the SA password in the fields "Enter password" and "Confirm password".
- Define all the desired users, groups and services as members of the SQL Server administrators group in "Specify SQL Server administrators".

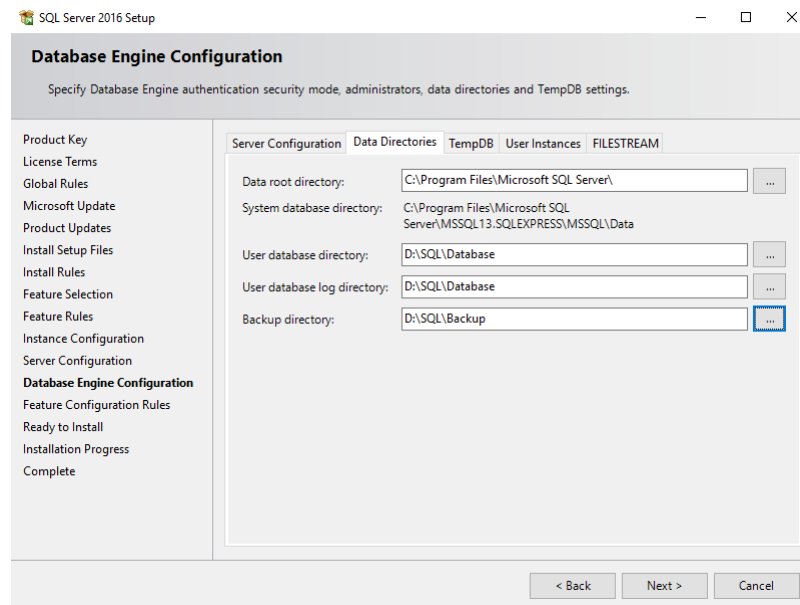


**Attention** The authentication mode must be set to "Mixed Mode (SQL Server authentication and Windows authentication)".

SQL directories are defined in the "Data Directories" tab.

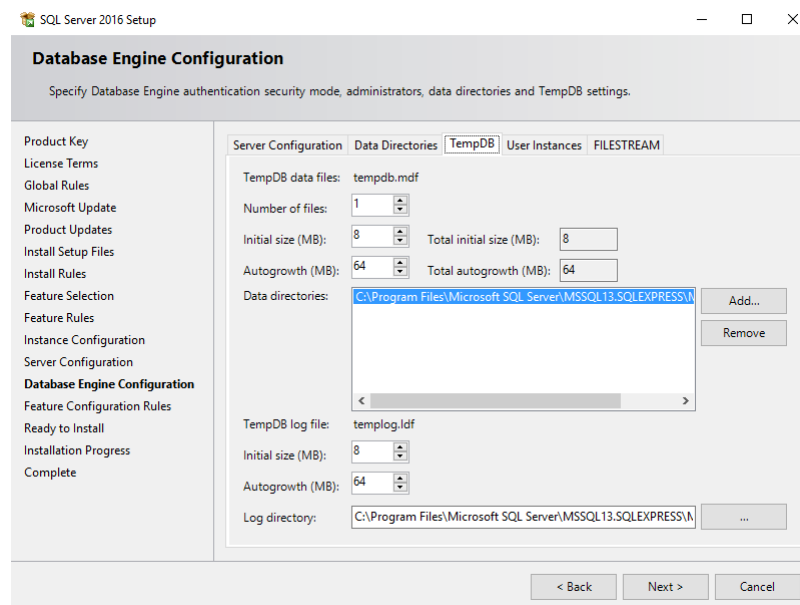
- Accept the default values in the field "Data root directory".

- Enter the desired directories for the user databases and the database backup.



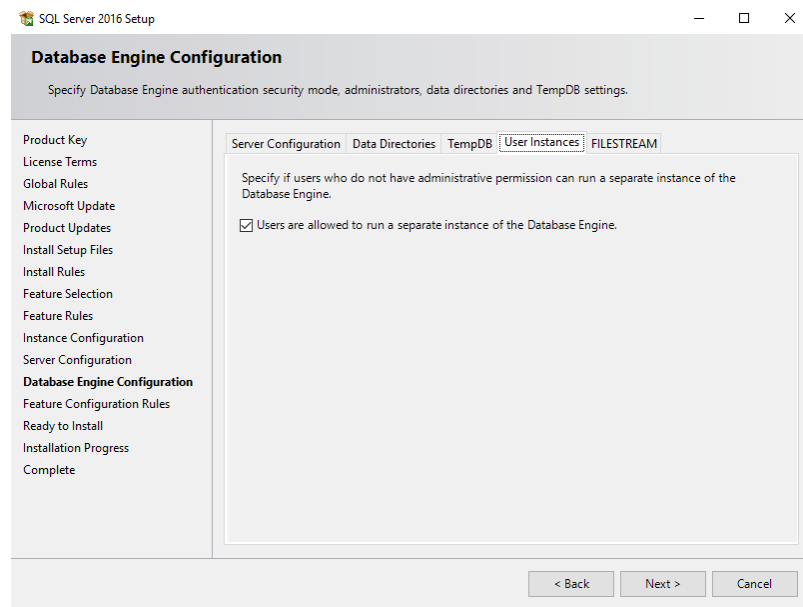
Enter the definitions for the temporary database of the SQL Server in the "TempDB" tab.

- Accept the default values.



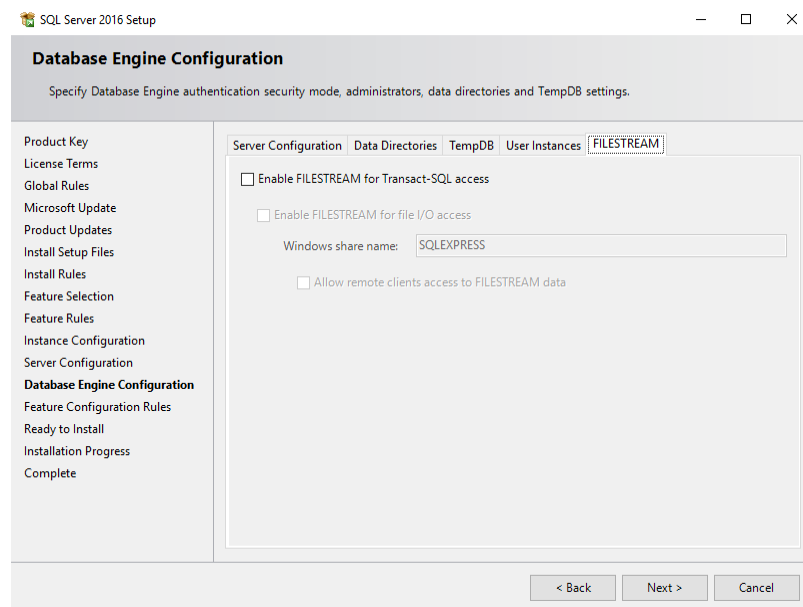
The handling of non-administrative users and the SQL instance are defined in the "User Instances" tab.

- Accept the default values.



The behavior of filestreaming and the transaction logfile are defined in the "Filestream" tab.

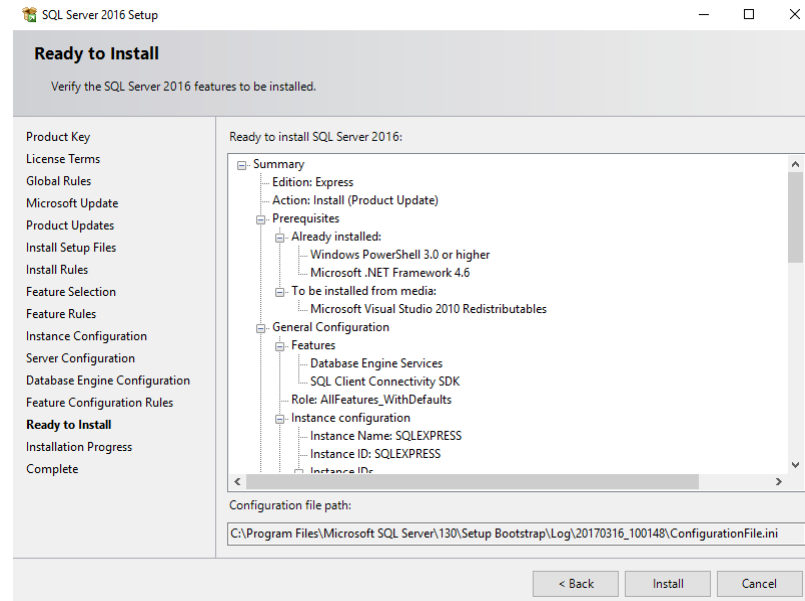
- Accept the default values and click on **Next**.



### 2.1.11 Ready to install

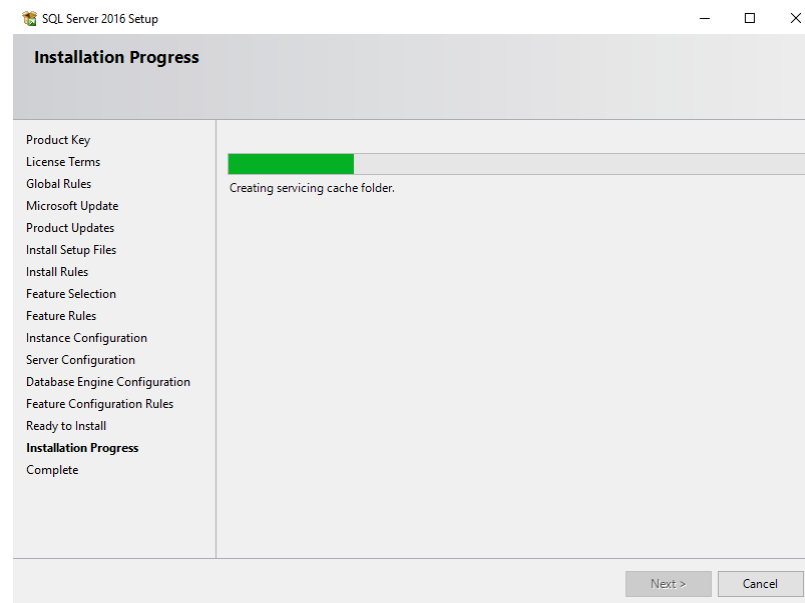
This dialog window shows the installation configuration as well as the file in which this configuration is stored.

- Check the configuration and click on the button Install to start the installation.



### 2.1.12 Installation progress

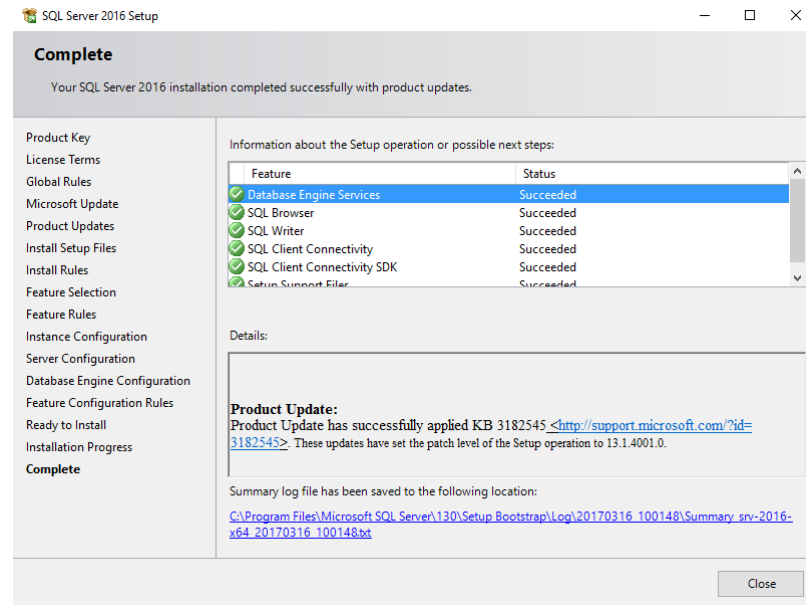
This dialog window shows the installation progress.



### 2.1.13 Complete

This dialog window shows the installation process of the individual components.

- Check that all components have been successfully installed and click on Close to exit the setup wizard.



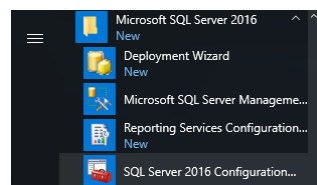
## 2.2 Adjustments after installing the SQL Server

This procedure describes the work steps that must be carried out to adjust the SQL Server so it is ready for the Columbus installation.

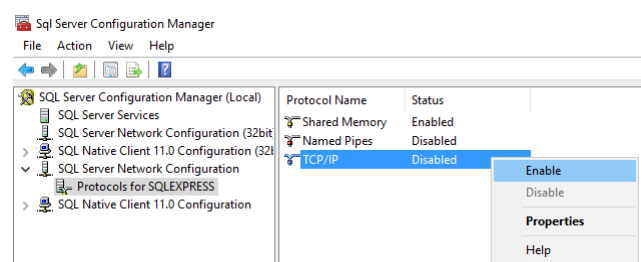
### 2.2.1 SQL Server configuration

The SQL Server must be adjusted.

- Start the SQL Server Configuration Manager.

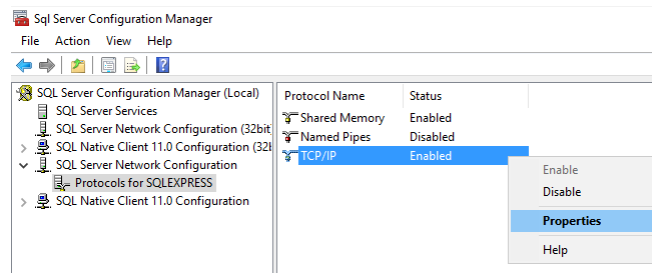


- Activate the TCP/IP protocol using the context menu.

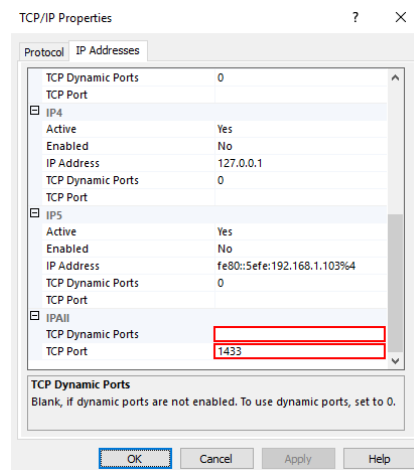


**Attention** The TCP/IP protocol must necessarily be activated.

- We recommend to adjust the TCP/IP settings using the context menu.

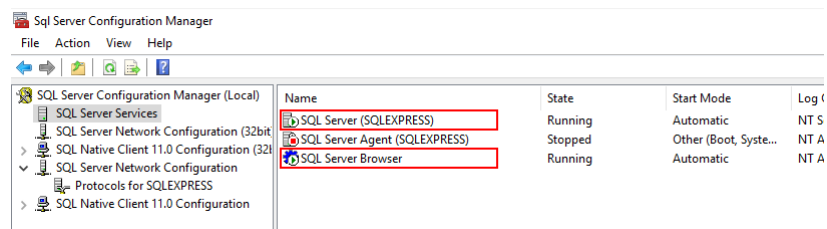


- Move to the IP Addresses tab.
- The field "TCP Dynamic Ports" must be empty.
- Enter the value 1443 in the field "TCP Port".
- Confirm the modifications with **OK**.



**Important** We recommend to use the SQL Server with the static port 1433.

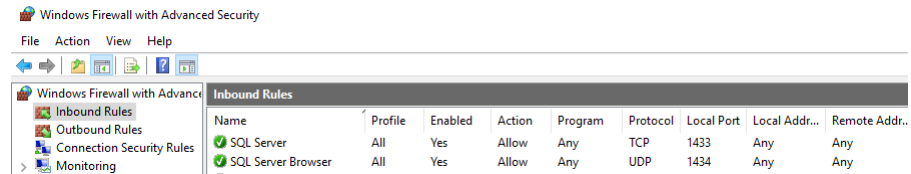
- Restart the SQL Server service using the context menu.
- Then, restart the SQL Server browser using the context menu.



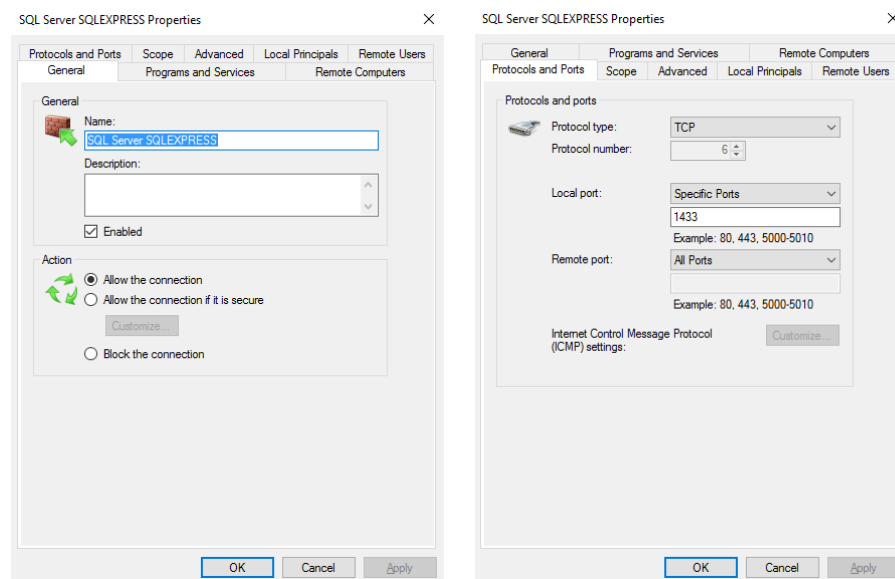
## 2.2.2 Configuration of Windows Firewall

The Windows Firewall must be adjusted in order to be able to access the SQL Server through the network.

- Open the Windows Firewall in the submenu of the incoming connections.

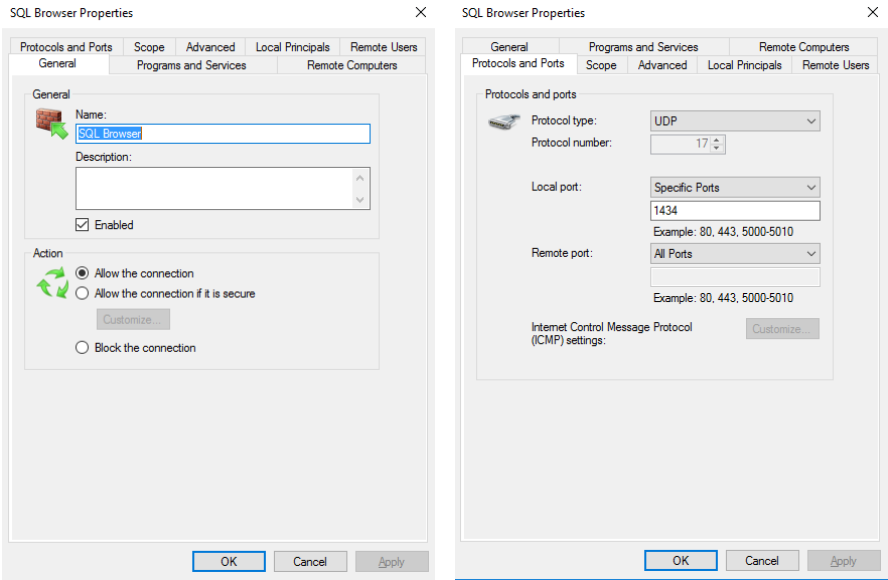


- Create a new rule with the title SQL Server.
- The rule must have been activated.
- The port (default would be 1433) for the TCP protocol must have been defined.



- Create a new rule with the title SQL Server Browser.
- The rule must have been activated.
- The port (default would be 1434) for the UDP protocol must have been defined.





**Attention** The configured ports for the SQL Server and the SQL Server browser must have been necessarily enabled for incoming connection.

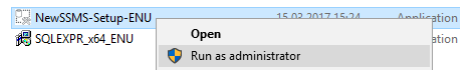
## 2.3 Installation of SQL Server Management Studio

This procedure describes the work steps to be carried out to install SQL Server Management Studio.

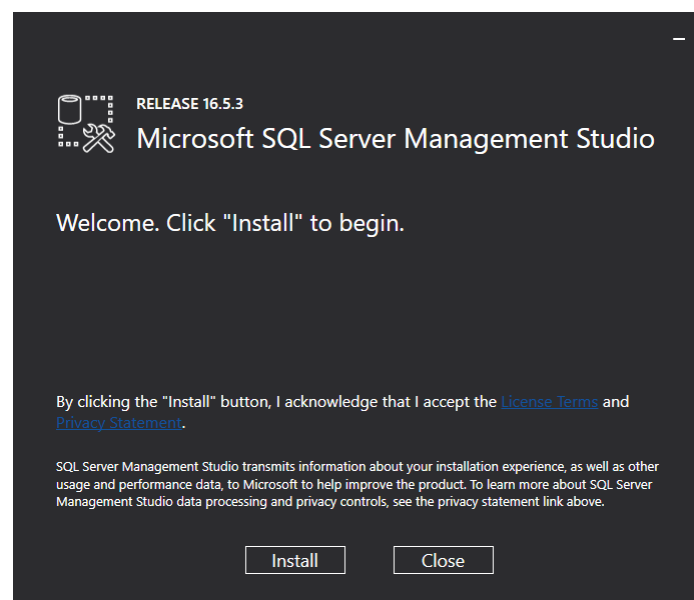
**Note** We recommend to install SQL Server Management Studio on the Columbus server.

### How to start the setup wizard

- Start the setup file [NewSSMS-Setup-ENU.exe](#) as administrator.



- Start the installation process by clicking once on "Install".



- The installation process runs to the end by itself.
- When installation is completed, exit the setup wizard by clicking on "Close".

