

**S&P Global**

Commodity Insights

Energy Upstream

# Kingdom<sup>®</sup> 2023 Installation Guide

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# Installation and Licensing

## Overview

This manual contains the information you need to install and configure the Kingdom software. Kingdom and all other related applications can be downloaded from the [Kingdom Download](#) site, and from Sentinel EMS (Entitlement Management System) at <https://softwarelicensing.ihsmarkit.com/ems/customerLogin.html>.

---

**Note:** To log on to the EMS, you will need your company's Entitlement ID (EID) which was included in the Entitlement Certificate sent to the company primary contact.

---

|   |   |
|---|---|
| <a href="#">Planning your Installation or Upgrade</a> | This chapter provides helpful guidance about the different Kingdom software and database installations and configurations available to you.   |
| <a href="#">Downloading and installing Kingdom</a>    | Log on to the Sentinel EMS using your Entitlement ID (EID) included in your Entitlement Certificate email and download the software installation packages. You can also download from the <a href="#">Kingdom Download</a> site. To install, follow the installation wizards. |
| <a href="#">Performing Silent Installations</a>       | Silent installations use the Microsoft Installer (MSI) installation file. This is useful for companies with controlled IT environments that centrally manage and deploy software to user computers.   |
| <a href="#">Kingdom Licensing</a>                     | Kingdom has 2 types of licenses: <ul style="list-style-type: none"><li>• Network for collaborative multi-user environments</li><li>• Standalone for single users</li></ul>  |
| <a href="#">Installing Kingdom from a USB Drive</a>   | If you do not have internet connectivity and have received the physical media, you can install from the Installation Manager on the Kingdom Software USB drive.   |
| <a href="#">Installing Third Party Software</a>       | The three third-party applications are optional installations: Adobe Reader, SQL Server Express, and SQL Management Studio.   |
| <a href="#">Demo Projects</a>                         | Kingdom includes three demo projects: BEG, Sooner, and Golden. The projects require approximately 700 MB of space and use SQL Server Express for the project database   |

|  |  |
|--|--|
| <a href="#">SQL Server Express Service Configuration</a> | If you install the Kingdom version of SQL Server Express, you need to define how to configure the service according to your working environment.   |
| <a href="#">Installing the Administrator Console</a>     | The Administrator Console is intended for use by system administrators responsible for defining access permissions to Kingdom projects on an enterprise-wide scale. Used in conjunction with the Enterprise Project Selector, the Administrator Console provides system administrators with a single means of defining and communicating access to Kingdom projects for all Kingdom users. |
| <a href="#">Updating the Kingdom Software</a>            | Service Packs and Hot Fixes are available for download from the Entitlement Management System or the <a href="#">Kingdom Download</a> site.  |

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**Note:** If you need help, contact **Commodity Insights Client Services** at [ci.support@spglobal.com](mailto:ci.support@spglobal.com) or at one of the numbers below:

---

|                             |                      |
|-----------------------------|----------------------|
| Americas                    | +1 800 597 1344      |
| Asia Pacific                | +60 4 296 1125       |
| Europe, Middle East, Africa | +44 (0) 203 367 0681 |

When connected, select Option 3 (Commodity Insights) and then Option 1 for Kingdom.

Also check out [The Learning Center](#) where you will find an ever-expanding selection of product training, fundamentals training, and virtual event opportunities.

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## Planning your Installation or Upgrade

If you are performing a new installation of Kingdom, prepare for the installation by reviewing the hardware and system requirements in the [latest release notes](#). If you are upgrading a previous version of Kingdom to Kingdom 2023, be sure to read [Upgrading projects to Kingdom 2023](#) to understand the requirements and consequences of the upgrade before you continue.

Kingdom 2023 is only backward-compatible with Kingdom versions 2015 HF4 and later. It is not compatible with earlier versions of Kingdom, which will affect your ability to work in and share projects still in earlier versions.

### Installation checklist

The following checklist provides a summary of the steps and decisions required to successfully install Kingdom and any related software, such as the project database, license server, and Administrator Console, and upgrade existing Kingdom projects to the latest version:.

|                          |   |
|--------------------------|---|
| <input type="checkbox"/> | 1. Define Hardware and system requirements. For the most recent requirements, see the latest version release notes available from the Kingdom Start Page, or online <a href="#">here</a> .  |
| <input type="checkbox"/> | 2. Review <a href="#">Network and environment best practices</a> .  |
| <input type="checkbox"/> | 3. <a href="#">Choose a database</a>  |
| <input type="checkbox"/> | 4. <a href="#">Download</a> the latest software   |
| <input type="checkbox"/> | 5. <a href="#">Install the downloaded software</a> or <a href="#">install software from USB drive</a><br>You can also perform a <a href="#">silent installation</a>   |
| <input type="checkbox"/> | 6. <a href="#">Obtain software licenses</a> : <ul style="list-style-type: none"><li>- For network licenses, install the network licensing tools.</li><li>- For standalone licenses, download your feature keys from the Sentinel EMS (Entitlement Management System) and then activate the your license from Kingdom. Just start Kingdom and follow the wizard.</li></ul> |
| <input type="checkbox"/> | 7. Install and configure the database: <ul style="list-style-type: none"><li>• <a href="#">SQL Server Express</a>   <a href="#">SQL Server</a>   <a href="#">Oracle</a></li></ul>   |
| <input type="checkbox"/> | 8. <a href="#">Install Administrator Console</a> (optional)   |

---

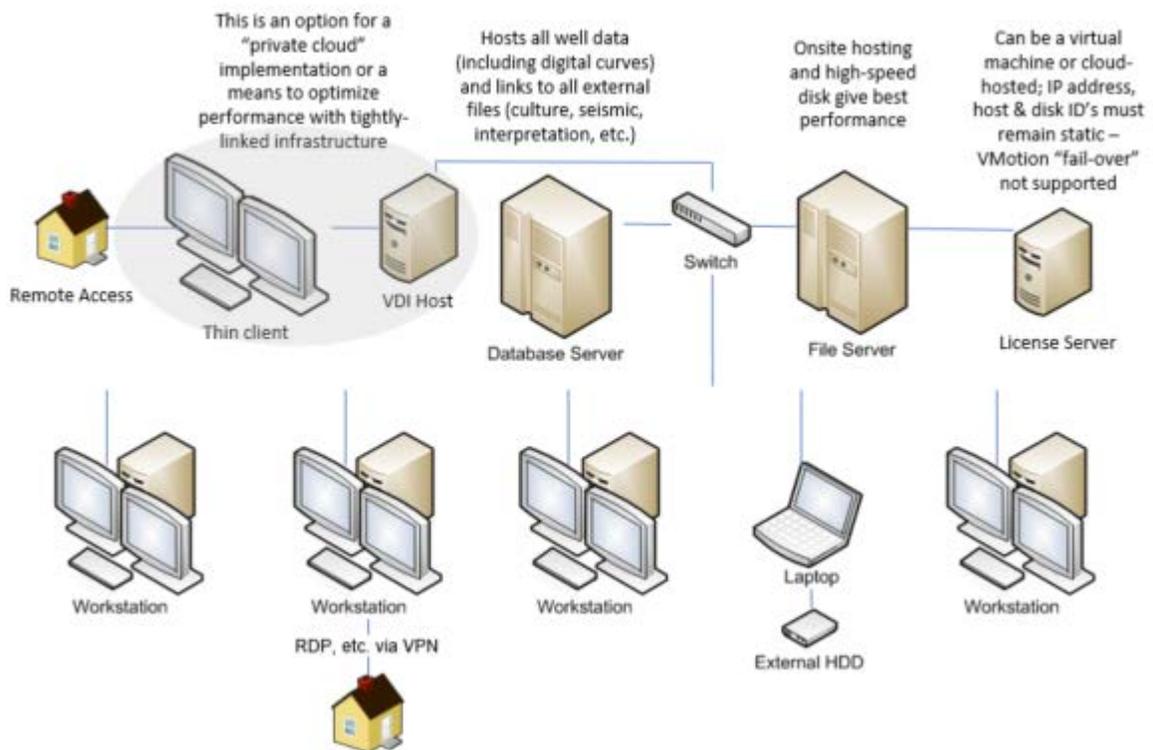
|                          |   |
|--------------------------|---|
| <input type="checkbox"/> | 9. <a href="#">Upgrade existing projects</a> to the latest version of Kingdom |
|--------------------------|---|

## Network and environment best practices

This section provides some general recommendations for how to configure Kingdom on your network for a multi-user installation and how to maintain your environment for optimal performance.

### Recommended Multi-User Configuration

The diagram below shows the recommended configuration for Kingdom in a multi-user environment.



### Maintaining the Network Environment

The following practices will help improve the performance and reliability of Kingdom:

- Exclude the Kingdom installation folder and Kingdom file types from routine virus scanning. This will help improve software performance and may eliminate problems starting Kingdom.
- Monitor available disk space on any Kingdom network file servers to be sure they don't exceed 85% capacity.
- Remove old and superfluous Kingdom project and data files. Use the Kingdom Data Management Tool to help with cleaning up old files.

## Checking the Database Error Log

If database or other errors are occurring in your project, a useful resource for troubleshooting and resolving these issues is the database error log. The log is located inside the project folder:

```
\Kingdom Project Folder\ErrorLogs\Authorname_Log.txt
```

`Kingdom Project Folder` is the name of the project in question and `Authorname` is the name of the active author in the Kingdom project when the error occurred. Kingdom creates this folder and the log file only in the event that it receives error messages from the database software. This includes SQL Server, and Oracle.

## Required database permissions

The permissions required to upgrade differ depending on the Kingdom database you are using. For projects in SQL Server and Oracle databases, you must enter your database log in credentials before upgrading a project.

| Database   | Required Permissions  |
|--|---|
| SQL Server Express<br>(Kingdom-specific version) | No special permissions required   |
| SQL Server                                       | Db_Owner<br><br>Or<br><br>Db_Ddladmin + Db_Datareader + Db_Datawriter<br>For more information, refer to the available Microsoft documentation.  |
| Oracle   | Default roles: <ul style="list-style-type: none"><li>• Connect + DBA</li></ul> Customized roles: <ul style="list-style-type: none"><li>• Read/write data for all project tables</li><li>• Make DDL statements for schema</li><li>• Execute PL/SQL statements</li></ul> For more information, refer to the available Oracle documentation. |

### Related topics

- [Installation checklist](#)
- [Choosing a database](#)

# Choosing a database

All Kingdom software features and modules support MS SQL Server Express, MS SQL Server, and Oracle databases. For more information about Kingdom database, see the [Database Administration Guide](#).

## SQL Server Express

SQL Server Express has a database size limit of 10 GB. Note that there is a 1 GB limit for the memory cache, which limits database efficiency with more than three or four users, especially when accessing projects with large amounts of well data. For more information, see [Understanding SQL Server Express](#).

## SQL Server

The SQL Server client and server need to be purchased and installed separately and works only on Windows operating systems. Theoretically, there are no limitations to the size of the database. SQL Server has multiprocessor support capability.

## Oracle

The Oracle client and server Need to be purchased and installed separately and can operate on Windows or Unix / Linux operating systems. Theoretically, there are no limitations to the size of the database. Oracle has multiprocessor support capability. Kingdom is NOT certified on Oracle Express.

## Database Comparison

| Database                      | Concurrent Users | RAM Buffer (cached records) | No. of CPUs       | Database Size     | Database Location  |
|-------------------------------|------------------|-----------------------------|-------------------|-------------------|--|
| SQL Server Express (Auto)     | ~ 4              | 1 GB                        | 1                 | 10 GB             | ProjectDatabase folder inside project folder                               |
| SQL Server Express (Manual)   | ~ 4              | 1 GB                        | 1                 | 10 GB             | Program Files\SPGlobal\Kingdom Suite folder of SQL Server Express computer |
| SQL Server (Single Project)   | ~ 80             | Limited by system RAM       | Limited by system | Limited by system | SQL Server computer  |
| SQL Server (Multiple Project) | ~ 80             | Limited by system RAM       | Limited by system | Limited by system | SQL Server computer  |
| ORACLE                        | ~ 300            | Limited by system RAM       | Limited by system | Limited by system | ORACLE server  |

### Related topics

[Installation checklist](#)

[Required database permissions](#)

## Understanding SQL Server Express

SQL Server Express (SSE) is provided free of charge and is available as an optional download from the Entitlement Management System.

Before you select which version of SQL Server Express to download:

| Know   | Understand  |
|--|---|
| SQL Server databases are not backward compatible   | When you upgrade to a later version of SQL Server Express, the existing database is automatically upgraded.<br>This upgraded database is not backward compatible to earlier versions. Your newer-versioned database will be unusable by a partner who uses an older, different version of SQL Server Express.   |
| The version of SQL Server Express others are using | We suggest that you check with your organization and partners to compare versions before choosing which version to download.<br>If you do not know which version is being used by your collaborators, you may want to select the earliest version of SQL Server Express so that it will open legacy databases without upgrading them. For older versions of SQL Server Express, select an earlier version of Kingdom and then view available SQL Server Express versions listed as available downloads. |
| Your operating system                              | Windows 10 requires SQL Server Express 2012 SP2 or later. Microsoft does not support earlier versions on this operating system.   |

### What is the Kingdom version of SQL Server Express?

This Kingdom version of SQL Server Express has a dedicated SMTKINGDOM instance with a pre-configured user name and password to simplify installation and integration with Kingdom.

### Who should use SQL Server Express?

SQL Server Express is a good database choice for small offices and individual users with no database administration experience and no database administrator on staff. It is easy to administer and automatically creates the Kingdom project database. The Kingdom version of SQL Server Express is simple to implement because it creates a default SMTKINGDOM instance with an SMTKINGDOM login (with sysadmin (sa) permissions) and the password \$ei\$micMicro. However, this standard configuration may not meet your internal security policies.

SQL Server Express can only run on Microsoft operating systems. For Linux/Unix servers, you need to install Oracle.

There are two database options available when you create a new Kingdom SQL Server Express project database:

|            |  |
|------------|--|
| Auto SSE   | Configured to be easily portable by automatically attaching and detaching the project database when you open and close Kingdom. As long as all data is contained in the project folder, when all authors are out of the project, you can copy or move the project without any tools or special operations.<br>Auto SSE is the simplest, cleanest option. |
| Manual SSE | Management of Manual SSE projects, including attaching/detaching and moving the database, is done through the <b>SSE Management Tool</b> available from the Database Administration tool (DBAdmin).<br>With this option you must use the SSE Management Tool to copy or move projects.   |

This section contains the following topics:

- [Installation requirements](#)
- [Connection requirements for Auto SSE](#)
- [How is Auto SSE different from Manual SSE?](#)
- [Managing Manual and Auto SSE Projects](#)
- [Auto SSE and backward compatibility](#)

### Installation requirements

The Kingdom version of SQL Server Express creates an SMTKINGDOM instance with a pre-configured user name and password that Kingdom uses to connect to the SQL Server Express database. Installation of this instance should not affect existing instances of SQL Server Express installed by other programs.

If multiple users are going to access your Kingdom projects, you should install SQL Server Express on a shared network computer. You must be logged onto the computer where you want to install SQL Server Express.

For optimal Kingdom performance, run SQL Server Express on a dedicated computer with at least 8 GB of physical memory.

SQL Server Express is available for download from the Entitlement Management System and the [Kingdom Download](#) site.

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**Note:** You only need to install SQL Server Express once. Reinstalling or updating Kingdom will not affect SQL Server Express.

---

### Related topics

[Understanding SQL Server Express](#)

## Connection requirements for Auto SSE

### Version compatibility

When you upgrade SQL Server Express to a newer version, the existing Kingdom database is automatically upgraded. This upgraded database is not backward compatible to earlier versions. Your newer-versioned database will be unusable by a partner who uses an older, different version of SQL Server Express. In other words, if you are on the older version of SQL Server Express, you will not be able to open the Kingdom project.

If you try to open a Kingdom project that has been opened in a newer version of SQL Server Express and therefore upgraded, you will get an error message:

To open this project, you must upgrade your version of SQL Server Express or select a different, newer instance. Expand the Details section of this dialog box to see the current (newer) version and your installed version.

When you expand the **Details** section in the message box, the text gives the internal database versions. For a current list, search online for [Microsoft SQL Server Internal Database Versions and Compatibility Levels](#)

To open the project, you will need to upgrade the version of SQL Server Express on your computer to the version the project is in.

## Your working environment: local or network

When using the Auto SSE option, successful connectivity depends on the configuration of your working environment. The following combinations are supported:

| Working Environment  | Recommended Database Configuration  |
|--|---|
| <ul style="list-style-type: none"> <li>• Kingdom projects are on your computer or on a colleague's computer</li> <li>• You are a single user or have a small work group</li> </ul>                     | <p>Install SQL Server Express on the same computer as the Kingdom project.</p> <p>Use a <a href="#">Local Project—Local database Instance</a> configuration.</p>        |
| <ul style="list-style-type: none"> <li>• Kingdom projects are on a shared resource on the network</li> <li>• The Kingdom project and SQL Server Express instance are on different computers</li> </ul> | <p>Install SQL Server Express on a network computer, not on your own computer.</p> <p>Use a <a href="#">Network Project—Network database instance</a> configuration</p> |

---

**Note:** When using Auto SSE, projects on the network cannot connect to a local SSE instance. Similarly, local projects cannot connect to an SSE instance on the network.

---

### Local Project—Local database Instance

Your project and your SQL Server Express (SMTKINGDOM) instance are both on your local computer or another computer in your work group.

This is the simplest configuration. When you close a project, it is portable.

### Network Project—Network database instance

Your project and your SQL Server Express (SMTKINGDOM) instance are both on your network - not on your computer. This configuration supports multiple projects on multiple computers connecting to a central SQL Server Express instance. Your network administrator needs to create a service account for SQL Server Express to use to access your Kingdom projects. For more information about installing SQL Server Express and creating the service account, see [About SQL Server Express](#).

## How is Auto SSE different from Manual SSE?

You have two options available to you when creating a new project database with SQL Server Express: Auto SSE and Manual SSE. Auto SSE is designed for easy project portability and Manual SSE maintains backwards compatibility with earlier versions of Kingdom. Auto SSE differs from Manual SSE in the following ways:

| Auto SSE  | Manual SSE  |
|---|---|
| <ul style="list-style-type: none"> <li>Places the project database in the Kingdom project directory.</li> </ul>   | <ul style="list-style-type: none"> <li>Places the project database in the IHS\KingdomSuite directory under Program Files on the computer where the SQL Server Express instance is installed.</li> <li>Requires a computer that is designated as the database server.</li> </ul> |
| <ul style="list-style-type: none"> <li>Automatically attaches the database when the first user opens the project.</li> <li>Automatically detaches the database when the last user exits the project.</li> </ul>   | <ul style="list-style-type: none"> <li>Does not automatically detach or attach the project database.</li> <li>Requires the <a href="#">SSE Management tool</a> to detach or attach the project database.</li> </ul>   |
| <ul style="list-style-type: none"> <li>Automatically attaches to any available SQL Server Express server if the original server is unavailable.</li> </ul>  | <ul style="list-style-type: none"> <li>Kingdom database is unavailable if the SQL Server database computer is unavailable.</li> </ul>   |
| <ul style="list-style-type: none"> <li>After all users exit the project, you can copy or move the project directory, including the database, with Windows Explorer.</li> </ul>  | <ul style="list-style-type: none"> <li>After all users exit the project, you must use the <a href="#">SSE Management tool</a> to copy or move the project directory and database.</li> </ul>  |
| <ul style="list-style-type: none"> <li>Cannot connect to Kingdom versions 8.5 or earlier.</li> </ul>  | <ul style="list-style-type: none"> <li>Is backward compatible with Kingdom versions 8.2 or later. You can attach the database using the SSE Management tool.</li> </ul>   |
| <ul style="list-style-type: none"> <li>Supports the following location combinations:                             <ul style="list-style-type: none"> <li><a href="#">Local Project—Local database Instance</a></li> <li>Network Project—Local Instance</li> <li><a href="#">Network Project—Network database instance</a></li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Supports mixed mode location combinations for your project folder and SSE instance. Your project on the network can connect to a local instance and vice versa.</li> </ul>   |

---

**Note:** Only data stored inside the project folder is included in any move or copy. Data stored outside of the project folder such as seismic files, author files, or tiff images of your raster logs, you need to copy separately.

---

For more information, see also [Understanding SQL Server Express](#)

## Managing Manual and Auto SSE Projects

Kingdom Auto SSE projects are the easiest to manage. The database files are stored in the project folder and you can perform file management tasks such as copy, move, backup, and delete using Windows Explorer.

The project database for Manual SSE projects is not located in the project folder. To perform file management tasks for Manual SSE projects you need to manage both the project database and the project files.

You can manage your Manual SSE projects with two tools:

- **Manual SQL Server Express Project Management**—available from the Kingdom Start Page, this [utility](#) provides a number of file management options for your Manual SSE projects, such as:
  - making a project portable
  - copying, moving, or deleting a project
  - backing up and restoring a project.
- **Kingdom Data Management**—a data management application with a wide range of project inventory and management tools. Kingdom Data Management requires a separate license.

The [Manual SQL Server Express Project Management tool](#) manages only the SQL Server Express database and the files in the Kingdom project folder. By default, Kingdom files are saved in the project folder, but if files such as seismic data, author folders, or raster logs have been saved in locations outside of the project folder, these files are not included. Before using the Manual SQL Server Express Project Management tool to manage your project data, move all external files into the Kingdom project folder.

---

**Caution:** Applying any of the Manual SQL Server Express Project Management tool options to an Auto SSE project changes the project to Manual SSE. The project will no longer be automatically portable, but will be compatible with Kingdom versions 8.2 and later.

---

## Auto SSE and backward compatibility

If you want to open an Auto SSE project in Kingdom 8.5 SP1 or earlier, you need to change the project to a Manual SSE project using the Manual SQL Server Express Project Management tool. Applying any of the Manual SQL Server Express Project Management tool options to an Auto SSE project changes the project to Manual SSE. The project will no longer be automatically portable, but will be compatible with Kingdom versions 8.2 and later. For specific instructions, see [Auto SSE and Backward Compatibility](#) in the Database Administration User Manual.

### Related topics

[Understanding SQL Server Express | Kingdom Project Database Conversions](#)

## Upgrading projects to Kingdom 2023

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**Important:** Always back up each project before opening it in a new release.

---

Kingdom 2023 is only backwards compatible with Kingdom versions including and after Kingdom 2015 Hot Fix 4. Once you upgrade to Kingdom 2023, any existing projects you try to open with Kingdom 2023 must be upgraded, and once upgraded, projects are no longer usable by any Kingdom version earlier than Kingdom 2015 Hot Fix 4.

You can upgrade individual Kingdom projects or you can upgrade multiple projects at the same time. We recommend that you create a full backup of any Kingdom project you plan to upgrade. The project backup needs to include a database backup as well as any other project files (for example, seismic files, grids, horizons, and faults).

|                   |  |
|-------------------|--|
| Single Project    | To upgrade a single project to Kingdom 2023, simply open the project with Kingdom 2023. Kingdom prompts you to upgrade, and performs the upgrade for you automatically..             |
| Multiple Projects | To upgrade multiple Kingdom projects to Kingdom 2023 at the same time, use the Kingdom Project Upgrade Tool. For more information, see <a href="#">Upgrading multiple projects</a> . |

### Previous version support

Kingdom 2023 cannot automatically upgrade projects from version 2015 or earlier. You must first upgrade any 2015 or earlier versions of Kingdom projects to a minimum of version 2016 before you can upgrade them to Kingdom 2023.

### Upgrading from SQL Server Express 2014 to 2016

With the 2016 instance of the Kingdom version of SQL Server Express, you cannot upgrade an existing 2014 instance (or 2012 instance) to 2016. **You must uninstall SQL Server Express 2014 first.**

In addition, SQL Server Management Studio 2014 does not work with SQL Server Express 2016 databases. We therefore recommend that you also uninstall SQL Server Management Studio 2014 before upgrading to 2016 (unless you are using SQL Server Express 2014 with a different product, in which case you can keep SSMS 2014 installed). For complete instructions see [SQL Server Express 2014 SMTKINGDOM Instance Uninstall](#)

### Multi-Project databases

If you are upgrading from a version of Kingdom prior to Kingdom 2016, there are some special considerations for Kingdom projects in a multi-project database (one database with multiple Kingdom projects) rather than a single project database (a separate database for each Kingdom project):

- Once you upgrade at least one project in a multi-project database, you can no longer create new projects in that database with prior versions of Kingdom.
- You cannot create any new projects in a multi-project database until at least one project in that database has been upgraded to the current version. However, you can open earlier versions of projects with earlier versions of Kingdom.

For more information about single and multiple project databases, see [Choosing a Database](#) in the Database Administrator Guide.

If you are using Kingdom Data Management (KDM) to copy a project, you cannot copy the project into a multi-project database unless at least one project in that database has been upgraded to the current version.

### Upgrading a project that is using role-based security

The only SQL users who can upgrade a project that is using role-based security are the following:

|                            |   |
|----------------------------|---|
| sysadmin                   | The user who has the sysadmin server role                 |
| The security administrator | The SQL user who turned the role-based security module on |

#### Related topics

[Troubleshooting failed upgrades](#)  
[Custom Coordinate Reference System \(CRS\)](#)

## Upgrading multiple projects

Kingdom provides the Project Upgrade Tool so you can upgrade multiple Kingdom projects to the latest version at the same time. This tool can expedite the upgrade process in environments with large numbers of Kingdom projects. See [Using the project upgrade tool](#) for step by step instructions.

If you are upgrading Kingdom projects with Access or SQL Server Express 2005 databases, you cannot use the upgrade tool. For more information see [Upgrading Access or SQL Server Express 2005 Projects](#)

The illustration below shows the main components of the Project Upgrade Tool window:

The screenshot displays the Project Upgrade Tool interface. At the top left, there is a 'Directories' section with a plus icon and a list of directories: 'C:\Kingdom Demo Projects (3)' and 'D:\ (90)'. A box labeled 'List of Directories' points to this list. Below the directories is a 'Status Filters' section with a plus icon and four filter buttons: 'Ready for Upgrade (30)', 'Ineligible (52)', 'Complete (10)', and 'Failed (1)'. A 'Required' icon is visible in the top right corner. The main area is a table with columns: Status, Project, Database, and Directory. A box labeled 'List of Projects' points to the table. A box labeled 'Database Credentials Required' points to a key icon in the 'Database' column of the 'JWL\_One' project row.

| Status     | Project              | Database   | Directory   |
|------------|----------------------|------------|---|
| Complete   | Teapot-Dome-2007     | Auto SSE   | D:\SMT Projects\99-Teapot-Dome-2007_ASSE\Teapot-Dome-2007.tks |
| Failed     | DC_International     | Auto SSE   | D:\SMT Projects\DC International\DC International.tks         |
| Ready      | DirectConnectTesting | Auto SSE   | D:\SMT Projects\DirectConnectTesting\DirectConnectTesting.tks |
| Ineligible | Fairfield4           | Access     | D:\SMT Projects\Fairfield4\Fairfield4.tks                     |
| Ready      | GOLDEN               | Auto SSE   | D:\SMT Projects\Golden test\GOLDEN.tks                        |
| Ready      | JR76_Conversion      | Auto SSE   | D:\SMT Projects\JR76_Conversion_RSA_SQL\JR76_Conversion.tks   |
| Ready      | JWL_One              | SQL Server | D:\SMT Projects\JWL_One\JWL_One.tks                           |
| Complete   | Salt Dome            | Auto SSE   | D:\SMT Projects\CFM Testing\Salt Dome.tks                     |
| Complete   | SMSTRAT_SQL          | Auto SSE   | D:\SMT Projects\SQL\SMSTRAT_SQL.tks                           |
| Complete   | Strat_SQL            | Auto SSE   | D:\SMT Projects\Strat SQL\Strat SQL.tks                       |

### List of directories

The list of directories shows any directories containing Kingdom projects that you have added to the Project Upgrade Tool. Any projects in these directories display in the list of projects below the directory list. You can filter the list of projects by selecting or clearing the check boxes next to the directories you want to include or exclude. Click **+** to add directories to the list or **-** to remove them from the list.

## Status Types and Filters

Project databases have four possible statuses:

|                   |  |
|-------------------|--|
| Ready for Upgrade | these databases satisfy the requirements of the Project Upgrade Tool and can be upgraded whenever you are ready.   |
| Ineligible        | these databases do not meet the requirements of the Project Upgrade Tool and cannot be upgraded by the tool (usually Access-based project databases, which can be upgraded individually).        |
| Complete          | these projects have already been upgraded to Kingdom 2023.   |
| Failed            | these projects have failed a previous upgrade attempt (you can learn more about the upgrade failure by clicking <b>Open Log Folder</b> and then opening the log file for the specific database). |

You can filter the list of projects by selecting or clearing the check boxes next to the different database statuses. Clearing a check box hides any databases with that status from the list.

### List of projects

The list of projects shows the Kingdom project databases available in the directories selected in the [list of directories](#). You can filter the project databases shown in this list by selecting or clearing the check boxes for individual directories or for the different database statuses.

The project database list shows the following information:

|                  |   |
|------------------|---|
| <b>Status</b>    | Ready for Upgrade, Ineligible, Complete, or Failed                                  |
| <b>Project</b>   | The name of the Kingdom project   |
| <b>Database</b>  | The project database type (Auto SSE, Manual SSE, SQL Server, Oracle)                |
| <b>Directory</b> | The location of the project database (click the directory link to open the project) |

Project databases that require you to provide logon credentials have a key icon  next to the project name. Click  and then enter the user name and password of an account that has sufficient permissions to update the project database. You have the option to apply these credentials to one database or to all selected databases.

### Related topics

- [Using the project upgrade tool](#)
- [Upgrading multiple projects](#)
- [Upgrading projects to Kingdom 2023](#)

### Using the project upgrade tool

The Project Upgrade tool is a separate utility that runs independently of Kingdom. We recommend that you back up any projects before you upgrade them.

#### To upgrade multiple projects:

1. From the Start menu, click **All Programs > IHS Kingdom [version] > Project Upgrade Tool**.
2. Read and acknowledge the information on the startup window, and then click **Next**.
3. Click **Add a directory to get started** to browse to a directory containing Kingdom projects that you want to upgrade. Any Kingdom projects in the directory display in the list.
4. If you want to add additional directories with Kingdom projects, click  and browse to the directory you want.
5. Select the projects you want to upgrade by selecting the check box next to each project in the list. By default all projects are already selected.
6. If you want, you can filter the list of projects by selecting or clearing the check box next to the various project status types. If you have added multiple directories, you can also filter the list by selecting or clearing directories.
7. If a project name displays a , click the key and enter the user name and password for the project database. The **Upgrade** button remains unavailable until you have provided any required database credentials.
8. Click **Upgrade**. A progress bar displays next to each project as it is being upgraded, and the status changes from Ready to Complete for successful upgrades or Failed for any failed upgrades.
9. If you want to view the error log for any failed database upgrades, click **Open Log Folder**. Each database has its own log file in the log folder.

#### Related topics

[Upgrading projects to Kingdom 2023](#)

## Troubleshooting failed upgrades

The most common reasons for a failed project upgrade include the following:

- An unsupported version of Kingdom—you cannot upgrade projects older than Kingdom 8.6.
- An unsupported version of SQL Server or SQL Server Express—you cannot upgrade projects that use SQL Server 2005 or SQL Server Express 2005.
- The project is still attached to SQL Server Express—the project may be in use by another Kingdom user or the project did not close properly.
- Invalid credentials—the database user name and password you provided during the upgrade were incorrect or did not have sufficient permissions on the database to complete the upgrade.

Other, less common errors include a missing or invalid `geocalc.dat` file, a corrupted project database, or a missing coordinate reference system.

Most common issues are easy to resolve and the error message you receive provides resolution instructions (if you are using the Project Upgrade Tool, this information is available in the log file). In those cases where an upgrade issue is not easily resolved, you can contact Customer Care. Be sure to have the upgrade log file available before you call. To locate the log file, click **Show Log File** in the Upgrade Failed error message or **Open Log Folder** in the [Project Upgrade Tool](#).

### Related topics

[Upgrading projects to Kingdom 2023](#)  
[Custom Coordinate Reference System \(CRS\)](#)

## Upgrading Access or SQL Server Express 2005 Projects

The Project Upgrade Tool cannot upgrade Kingdom projects using an Access, SQL Server 2005, or SQL Server Express 2005 database. You can upgrade Access projects individually, or you can migrate your Access projects to another database such as SQL Server Express or SQL Server, and then use the Project Upgrade Utility to upgrade them. You must upgrade any SQL Server 2005 or SQL Server Express 2005 project databases to SQL Server 2008 R2 or later before you can upgrade the projects to Kingdom 2023. Projects using Access, SQL Server 2005, or SQL Server Express 2005 have a status of Ineligible in the Project Upgrade Tool.

## Custom Coordinate Reference System (CRS)

### Project > Projection

Previous versions of Kingdom did not provide the complete list of EPSG coordinate reference codes, which often required users to create their own custom versions. Kingdom versions 2015 and later provide the complete list. We recommend that you select a standard CRS before using a custom one. If your project still requires a custom CRS, go to Project > Projection > [Create Custom Coordinate System](#).

### Related topics

[Upgrading projects to Kingdom 2023](#)

[Troubleshooting failed upgrades](#)

# Kingdom Licensing

## Overview

Want fewer details? See the [Quick Start Guide](#).

Licenses for Kingdom and Kingdom Data Management support two types of licenses:

|                            |  |
|----------------------------|--|
| <a href="#">Network</a>    | <p>Network licenses allow multiple users to access the same project (as different authors in the project) at the same time.</p> <p>A network license requires a dedicated computer to act as the license server, and the installation of two network licensing tools: one to install and manage the network licenses, and a service to provide applications access to the installed licenses. If you are the license administrator, see <a href="#">Downloading and installing the network licensing tools</a> for more information.</p> <p>A network license is required to employ CITRIX and Terminal server applications. Through these applications users can access the software remotely via a high-speed Internet connection.</p> <p>With a network license users can check out <a href="#">commuter licenses</a> to enable work outside of the company network or when offline.</p> <p>See also <a href="#">Requirements and Recommendations</a> for network licenses.</p> |
| <a href="#">Standalone</a> | <p>A standalone license is for a single user only and does not support simultaneous access to a project from different computers, even access by a network license. Projects can be shared only when all parties have a network license.</p> <p>A standalone license can run multiple projects concurrently on the same computer, but cannot be run remotely via a virtual desktop.</p>  |

---

**Important:** For both standalone and network licenses, the licenses are tied to a physical machine. To move the licenses to a different machine, you must first deactivate the licenses on the first computer, and then activate them on the second computer. You will need your EID (see below) to activate/deactivate licenses.

Always activate / deactivate licenses through the License Manager for network entitlements, and through the application (Kingdom) for standalone entitlements. Please do not activate licenses using the EMS Customer Portal unless instructed to do so by a customer care representative.

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- **New Customers**—when your Kingdom software account is set up, the primary contact at your company will receive an **Entitlement Certificate** email. The certificate contains a list of the products in your company’s entitlement, and an Entitlement Id (**EID**) which is required to download the software and get the license(s).
- **Existing Customers**—if you have renewed an existing account, you will use the original Entitlement Id.

---

When you start the application for the first time, you need to select which type of license you have:

- Standalone—you will need your **EID** to download the software and activate your licenses.
- Network—you will need the IP address or DNS name of the license server.

The base licenses required to run Kingdom are one or more of the following: Geology, Geophysics, (Advanced or Core) or LoadPAK (for the data loader).

The process for [downloading and installing Kingdom](#) is the same for both network and standalone licenses.

## Downloading and installing Kingdom

Kingdom, Kingdom Data Management, GeoSyn, and all related applications are available for download from the [Kingdom Download page](#) and from [Sentinel EMS](#). The software needs to be installed on each user's computer for both standalone and network licenses.

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**Note:** The software can also be pushed out as a silent installation by an administrator. See [Performing Silent Installations](#) in the Installation Guide for more information.

---

### To download Kingdom from the Kingdom Download page (link is above):

1. Select Kingdom as the product in the left pane.
2. Select the version from the dropdown list.
3. Click Download.
4. Wait for the download to complete. This takes a couple of minutes. The file is saved to your Downloads folder.
5. To install, when the download is complete, extract all files and double-click on `The Kingdom Software [version] (64-bit).exe`.
6. Follow the installation wizard. That's it. You are done.

### To download Kingdom from EMS (link is above):

1. Log on to Sentinel EMS using your EID. Your EID is in the Entitlement Certificate email that you or an administrator received from S&P Global.
2. Click **Downloads** in the upper-right corner.

The Download page contains all of the products in your entitlement. Each license is listed separately, but you only need to download Kingdom once. The Kingdom download includes add-on modules. Note that each product has a drop down with the same related documents and installers.

3. Click the download link beside Kingdom [version] (or Kingdom Data Management). The download file for Kingdom is `Kingdom [version].zip`.
4. To install, when the download is complete, extract all files and double-click on `The Kingdom Software [version] (64-bit).exe`.
5. Follow the installation wizard. No custom settings are required.

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**Note:** The default installation directory for application data (colorbars, templates, and scripts) is now `C:\ProgramData\SPGlobal\KingdomSuite`. When prompted, you can change this directory during installation. For example, some organizations may have a more centralized location for shared colorbars. See [Application data directory](#) for more information.

---

## Downloading and installing Kingdom

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When the software is installed, you need to obtain your license(s):

|            |  |
|------------|--|
| Network    | If your company has a network license, you need to connect to the license server the first time you start Kingdom. See <a href="#">User workflow—Connecting to the license server</a> .                  |
| Standalone | If you have a standalone license, you need to activate your license the first time you start the application. See <a href="#">Activating/deactivating standalone licenses</a> for detailed instructions. |

## Application Data Directory

The second window of the Kingdom installation wizard, **Destination Folders**, allows you to specify a custom directory for the following:

|                        |  |
|------------------------|--|
| Kingdom Software       | The default directory is <code>C:\Program Files\SPGlobal\KingdomSuite</code> . This location is written to the registry.   |
| Application data files | The default directory is <code>C:\ProgramData\SPGlobal\KingdomSuite</code> . This location is written to the registry and is the source for all users on the computer, unless a user overrides the registry location for Application data in User Preferences > General. |

The application data files include:

|           |   |
|-----------|---|
| Colorbars | Standard Kingdom color bars and possibly saved custom color bars.   |
| Templates | Kingdom Analytics Spotfire Templates—installed with Kingdom Analytics<br>SeismicDirect Templates—installed with Kingdom<br>Templates—saved templates (*.tpl files). The folder is installed with Kingdom. |
| Scripts   | Scripts, installed and saved, for Logs > User Scripts   |
| Patterns  | Imported lithology patterns. This folder is created on import of the custom lithology patterns.   |

After the Kingdom installation, you can change the application data directory from the following:

|  |   |
|--|---|
| <a href="#">The Kingdom Configuration Tool</a> | You must have administrative privileges. The directory location is written to the registry and applies to all computer users.   |
| User Preferences                               | A user can change the directory on the General tab in User Preferences. This setting applies only to the current user. The entered directory overrides the registry entry for this user only. |

## The Kingdom Configuration Tool

The Kingdom Configuration Tool allows an administrator on the computer to copy [application data files](#) from earlier versions of Kingdom (for example, saved color bars and templates) to the new data directory. The respective directories for the application data files are:

|                          |   |
|--------------------------|---|
| Kingdom 2019 and earlier | <code>C:\Program Files\SPGlobal\KingdomSuite</code> |
|--------------------------|---|

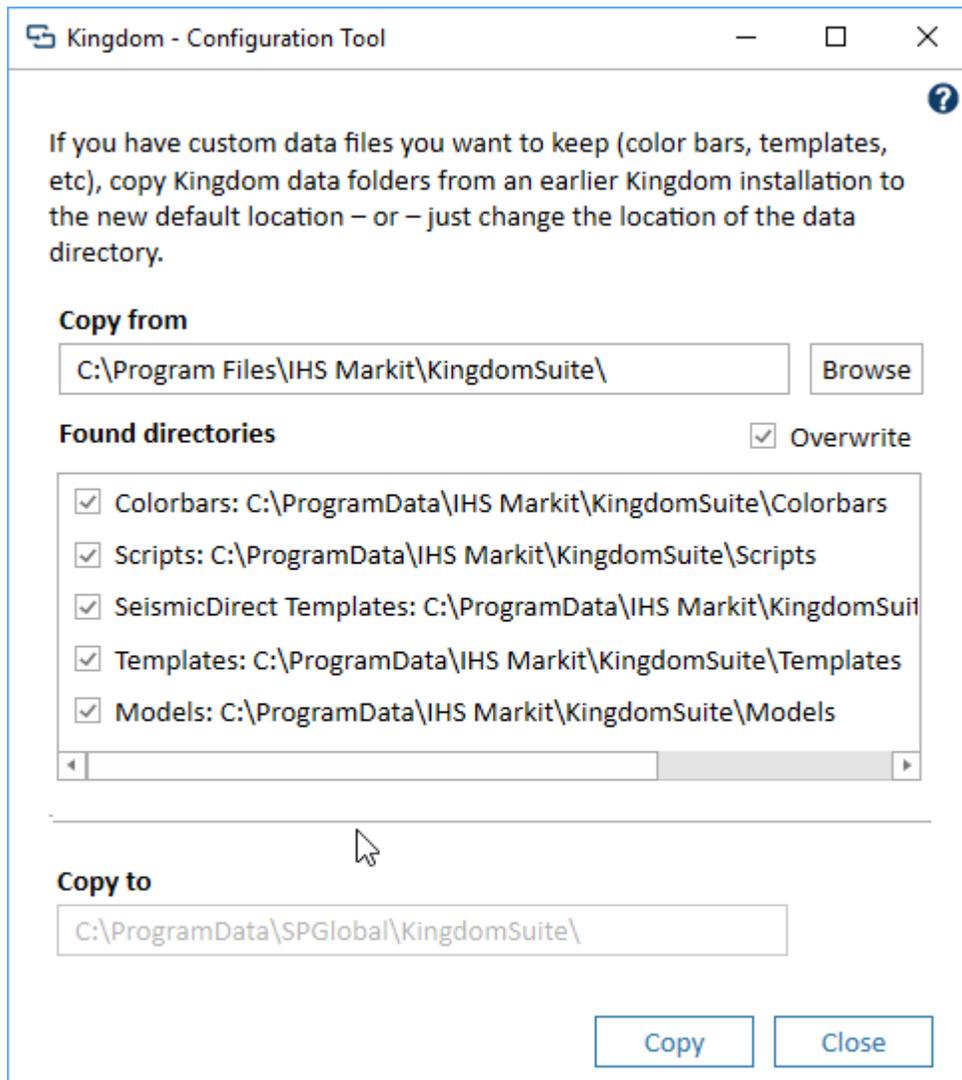
## Downloading and installing Kingdom

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|                        |                                      |
|------------------------|--------------------------------------|
| Kingdom 2020 and later | C:\ProgramData\SPGlobal\KingdomSuite |
|------------------------|--------------------------------------|

This tool only opens during installation IF earlier versions of Kingdom have been installed on the computer.

After installation, a computer administrator can open the tool (Run as administrator) from the Start menu to copy saved files and/or change the data directory. If you are not a computer administrator, you can still open the tool and copy saved application data files to the new location, but you cannot change the location.



In the figure above, the user is an administrator, so the option **Change current data directory**, is active. If the user is not an administrator, this option is grayed out and cannot be selected.

You can also change the location of the data directory for your Windows login only from **User Preferences** on the **General** tab. You do not need to be an administrator to set your directory

for you only. However, other users will still use the directory set by the administrator through the Configuration Tool.

## Network licenses

The licensing system includes the following features:

- Provides a common licensing platform for multiple products including Kingdom, Kingdom Data Management, Harmony, and Petra.
- Allows you to check out commuter licenses from a network license server

With a network license, the following two license tools need to be downloaded and installed:

|                 |   |
|-----------------|---|
| License Service | <p>Install the license service on the computer designated as the license server.</p> <p>The License Service (Sentinel RMS License Manager) administers the network licenses for S&amp;P Global applications.</p> <p>If you have other software products that use the Sentinel RMS License Manager, we recommend that you install the licensing software on another server to avoid compatibility issues.</p> <hr/> <p><b>Note:</b> If you have network licenses for both Kingdom and Petra, see <a href="#">Requirements and Recommendations</a> for license server requirements.</p> <hr/> |
| License Manager | <p>The License Manager can be installed on multiple computers with connectivity to the license server.</p> <p>The License Manager is the interface to the License Service, where you can activate/deactivate licenses and monitor license usage.</p>  |

See the [License Manager](#) help for best practices and more details.

## What this means to you

|                                |   |
|--------------------------------|---|
| Network license administrators | <p>If you are the license administrator responsible for retrieving the licenses, log on to Sentinel EMS (Entitlement Management System) using your Entitlement ID (EID) and then download and install the Network Licensing Tools.</p> <p>See <a href="#">Downloading and installing the network licensing tools</a> for detailed instructions.</p> |
| Kingdom users                  | <p>When you start Kingdom for the first time you will be asked for the name of the license server. If you do not have this information, contact your license administrator.</p> <p>See <a href="#">User workflow—Connecting to the license server</a>.</p>  |

## Requirements and Recommendations

- Identify one computer on your network as the license server. For performance reasons, we do not recommend installing Kingdom on the computer designated as the license server. The server can be located on any Windows based computer. See Hardware, System and Database Requirements in the latest [release notes](#) for supported operating systems.
- If you already have a license server for Kingdom versions 2017 and earlier, you need to designate a different computer to be the license server for Kingdom versions 2018 and later. The two licensing systems cannot be on the same computer.
- If you are installing the License Service on a virtual machine, ensure that VMotion is **not** in use. The license is tied to a physical machine.
- The license service on the license server must be up and running for users to access licenses.
- To move the network license server to a different machine, you must first deactivate all licenses. All commuter licenses must also be checked in. You will need the EID to connect to the EMS to deactivate. See [Activating/deactivating network licenses](#) for details.
- Kingdom must be installed locally on each user's computer.
- TCP Port 443** is required to activate/deactivate licenses. Open the port and provide connectivity to <https://softwarelicensing.ihsmarkit.com/ems>. This connection is only required during (de)activation. Port 443 can be closed once (de)activation is successful.
- Once licenses are successfully installed on the license server, **UDP Port 5093** needs to be open between the client (e.g. Kingdom) and the license server in both the incoming and outgoing direction.
- Kingdom versions 2017 and earlier also use port 5093 for the license service. Therefore, you need a different license server for 2018 (v. 9.1.0) or later versions of the License Service. See the table below for examples:.

|  |  |
|--|--|
| Kingdom 2019 or later   Kingdom 2018               | Can be on the same license server                          |
| Kingdom 2017*   Kingdom 2018                       | Requires separate license servers                          |
| Kingdom 2017*   Petra 2018                         | Requires separate license servers                          |
| Kingdom 2018   Petra 2018                          | Can be on the same license server                          |
| Petra 2017*   Petra 2018                           | A separate license server is recommended but not required. |
| * Version 2017 signifies version 2017 and earlier. |  |

**Important:** Always activate / deactivate licenses through the License Manager for network entitlements, and through the application (Kingdom) for standalone entitlements.

## Network licenses

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Please **do not** activate licenses using the EMS Customer Portal unless instructed to do so by a customer care representative.

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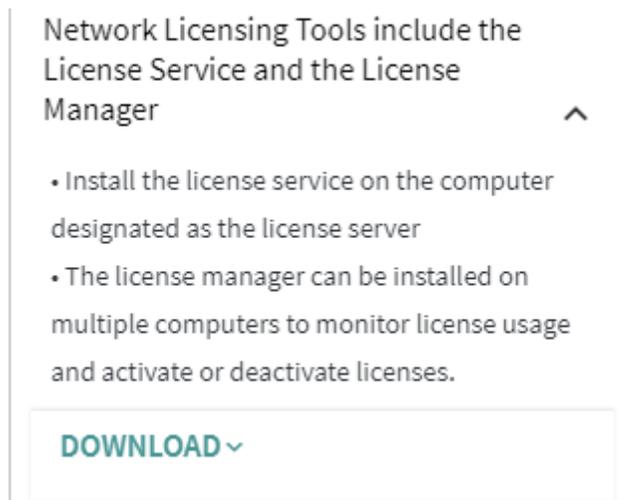
## Downloading and installing the network licensing tools

This document is for the **network license administrator** who installs the license tools, obtains the product feature keys, and communicates with end users on how to obtain their product licenses.

The network licensing tools are available for download from the [Kingdom Download page](#) and from [Sentinel EMS](#).

### To download network licensing tools from the Kingdom Download page (link is above):

1. On the download page, select Kingdom as the product in the left pane.
2. Select the version from the dropdown list.
3. Under **Related Apps**, click the down arrow beside Network Licensing Tools and click **Download > Network Licensing**.



4. Wait for the download to complete. The zipped folder contains the installation packages for both tools.
  - License Service
  - License Manage.
5. Now continue at **step 4** below.

### To download and install the network licensing tools from EMS (link is above):

1. Log on to the EMS using your EID. Your EID is in the Entitlement Certificate email that your company received from S&P Global.
2. Click **Downloads** in the upper-right corner.

The Download page contains all of the products included in the entitlement, including the required network licensing tools. Note that each product has a drop down with the same related documents and installers. You only need to download the network licensing tools once.

## Network licenses

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3. Click the download link beside **Network Licensing Tools** to download a zipped folder with the installation packages for both tools.
  - License Service
  - License Manager
4. Extract the files from the zipped folder:
5. Save the License Service folder to the computer designated as the license server.

---

**Note:** This computer must be a different computer than the license server used for earlier versions of Kingdom.

---

6. On the license server, open the folder and double-click the `setup.exe` to begin the installation. Follow the installation wizard. No custom settings are required.

We recommend creating a system environment variable on the license server to record extended usage logs. You need to restart the service after creating the variable:

- Variable name: LSERVOPTS
  - Variable value: -extended-log
7. Copy the License Manager folder to the same computer and/or other computers with connectivity to the license server.
  8. Open the folder and double-click the executable `IHSMarkitLicenseManager.exe` to begin the installation.
  9. Follow the installation wizard. No custom settings are required.

Kingdom users will need the computer name or IP address of the license server to check out their licenses.

## Activating/deactivating network licenses

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**Note:** **TCP Port 443** is required to activate/deactivate licenses. Open the port and provide connectivity to <https://softwarelicensing.ihsmarkit.com/ems>. This connection is only required during (de)activation. Port 443 can be closed once (de)activation is successful.

---

This workflow is for the network license administrator, not the end user.

### To activate network licenses on the license server:

1. Open the Network License Manager:
    - If you are on the license server, click **Connect** to connect to the localhost.
    - If you are on a different computer on the network, enter the full IP address or DNS name of the license server and click **Connect**.
  2. Select **SOFTWARE** and enter the Entitlement ID (EID) from your entitlement certificate email into the **Entitlement Id** field at the top of the page. Click **Connect**.
  3. Still on the **SOFTWARE** page, select the products you want to activate and click **Activate**. The selected items are removed from this tab and are listed on the **LICENSES** tab.
- 

**Note:** When a network user checks out an advanced base feature (GeophysicsAdvanced or GeologyAdvanced) a core license is also checked out. For this reason, the number of core Geophysics and Geology licenses on the **LICENSES** tab may be larger than you expect. See [Number of licenses](#) for an explanation.

---

4. Send the full IP address or the DNS name of the license server to the Kingdom users. When they start Kingdom they will need to enter this information in the **Kingdom Network** field.

### To deactivate a network license:

If you want to move your network license(s) from one server to another, you need to first deactivate all licenses, so that they can be activated on the other server.

---

**Note:** You can only deactivate a network license if it is not currently in use. Also, all commuter licenses must be checked in.

---

1. Start the License Manager and connect to your network license server.
  2. Select **SOFTWARE** and enter the Entitlement ID (EID) from your entitlement certificate email into the **Entitlement Id** field at the top of the page. Click **Connect**.
  3. Click the **Deactivate** sub-tab, select the products you want to move to a new server, and click the **Deactivate** button. Note that you can only deactivate licenses that have no occupied seats or commuters.
-

4. The products are now displayed in the Activate sub-tab and can be activated on a new server.

When the deactivation process completes, a dialog box opens indicating whether the process was successful or not. If the network experiences an interruption during the deactivation, a “Complete Partial Deactivation” button may appear. When the network is restored, clicking this button cleans up any artifacts caused by the interruption, and then the button disappears.

See [Network License Manager](#) for detailed information.

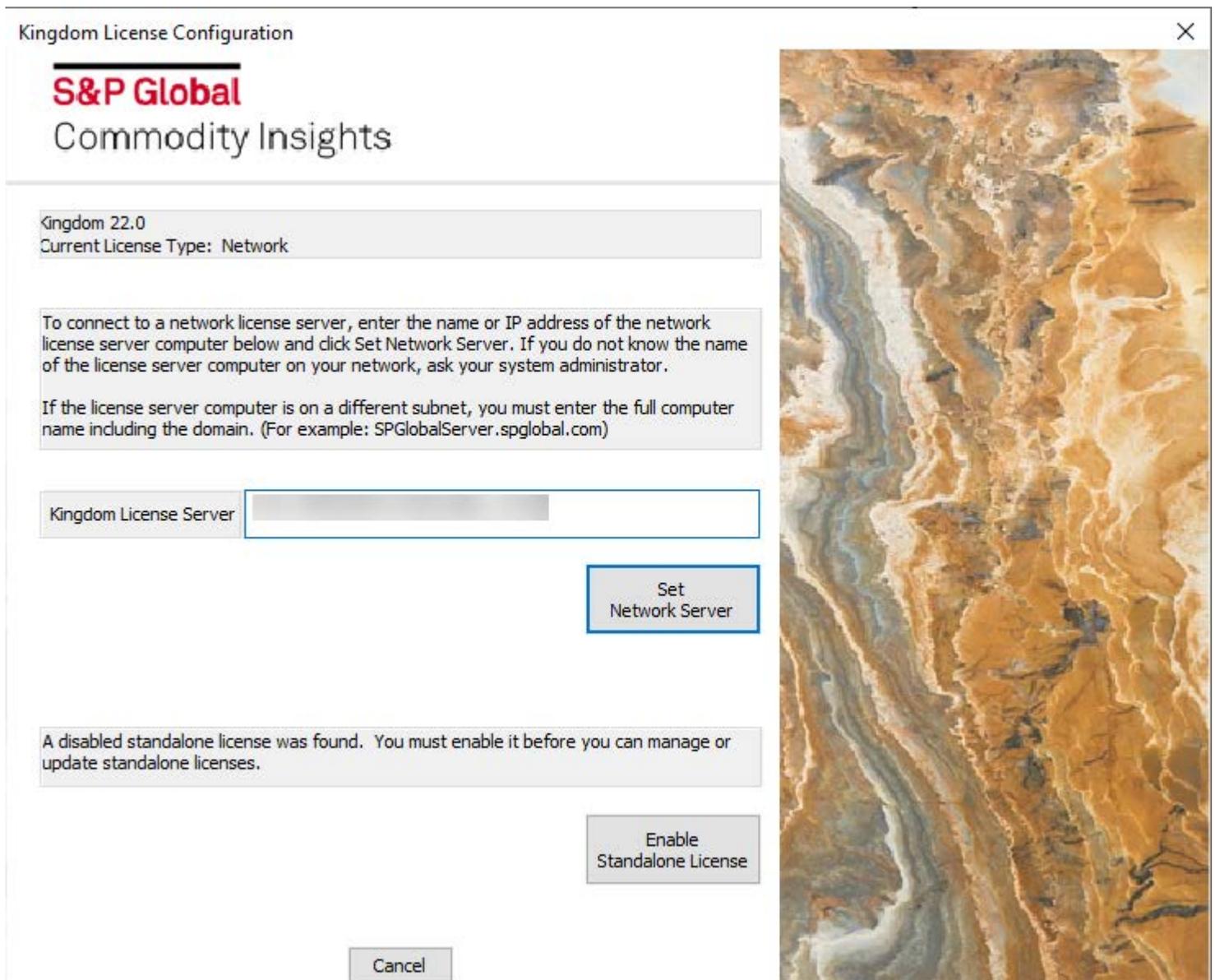
## User workflow—Connecting to the license server

The following instructions are for Kingdom. For Kingdom Data Management, simply replace the application name. The steps are the same.

### To connect to you network license server:

1. Start Kingdom.
2. Enter the full IP address or the DNS name of the Kingdom License Server provided by the network license administrator.

If the Kingdom License Server field is already populated, simply click **Set Network Edition**, unless the license administrator has sent a different server name.



Kingdom License Configuration

**S&P Global**  
Commodity Insights

Kingdom 22.0  
Current License Type: Network

To connect to a network license server, enter the name or IP address of the network license server computer below and click Set Network Server. If you do not know the name of the license server computer on your network, ask your system administrator.

If the license server computer is on a different subnet, you must enter the full computer name including the domain. (For example: SPGlobalServer.spglobal.com)

Kingdom License Server

Set Network Server

A disabled standalone license was found. You must enable it before you can manage or update standalone licenses.

Enable Standalone License

Cancel

3. Kingdom opens and you are ready to go.

**Related topics**

[Licensing Overview](#)  
[Commuter licenses](#)

## Monitoring license status

Open the **License Status** tab from the Kingdom Start Page. If you are in a Kingdom project, you can select Project > License Status, but the Kingdom project needs to close. The content below is for a network license. See [Standalone License Control Panel](#) for the standalone version.

The License Status tab for a network license displays the base feature you are using, the available features, available versions (in the left panel), and the users that have licenses checked out.

Note: The license status shown below doesn't update automatically. To update the status, click on "Refresh".

Click '+' to view licenses

| Feature Name:                                  | Available Licenses: | Total Licenses: |
|--|---------------------|-----------------|
| <input type="radio"/> Geophysics-Geology (ADV) |                     |                 |
| <input type="radio"/> Geophysics (ADV)         | 193                 | 200             |
| <input checked="" type="radio"/> Geology (ADV) | 191                 | 200             |
| <input type="radio"/> Geophysics-Geology       |                     |                 |

License Information

Product Version: Kingdom [version]

License Type: Network

Server Information

Server Name/IP: [redacted]

Feature Information

Feature Name: [redacted] Version: [redacted]

Starts On: [redacted] Expires: [redacted]

Number of Licenses In Use: [redacted] Total Number of Licenses: [redacted]

User Information

User/Machine Name: [redacted]

Check out time: [redacted]

Commuter Information

Release Commuter License

Commuter Duration: 67 days

Remaining Duration: 67 days

Refresh Close Help

All Kingdom modules require a base feature license. Kingdom base features include Geology Advanced, Geophysics Advanced, Geology (Core), Geophysics (Core), and LoadPAK.

In the image above, User 1 has a Geology Advanced and a Geophysics Advanced license checked out. The license server has a total of 5 Geophysics Advanced and 5 Geology Advanced licenses, so there are 3 more of each available to be checked out. The license server also has additional core licenses available, 5 Geology and 5 Geophysics. No core licenses are currently checked out.

## Network licenses

---

If you wanted to return your advanced licenses to the server, you could select Geophysics-Geology instead of Geophysics-Geology (ADV). You will need to restart Kingdom for these changes to take effect.

To check out a commuter license, click Get Commuter License. See [Commuter licenses](#) for more information.

The status of the feature selected in the License Tree does not update automatically. Click **Refresh** to update the status of a selected feature.

---

**Note:** Previous versions of Kingdom did not support core and advanced base features on the same license server.

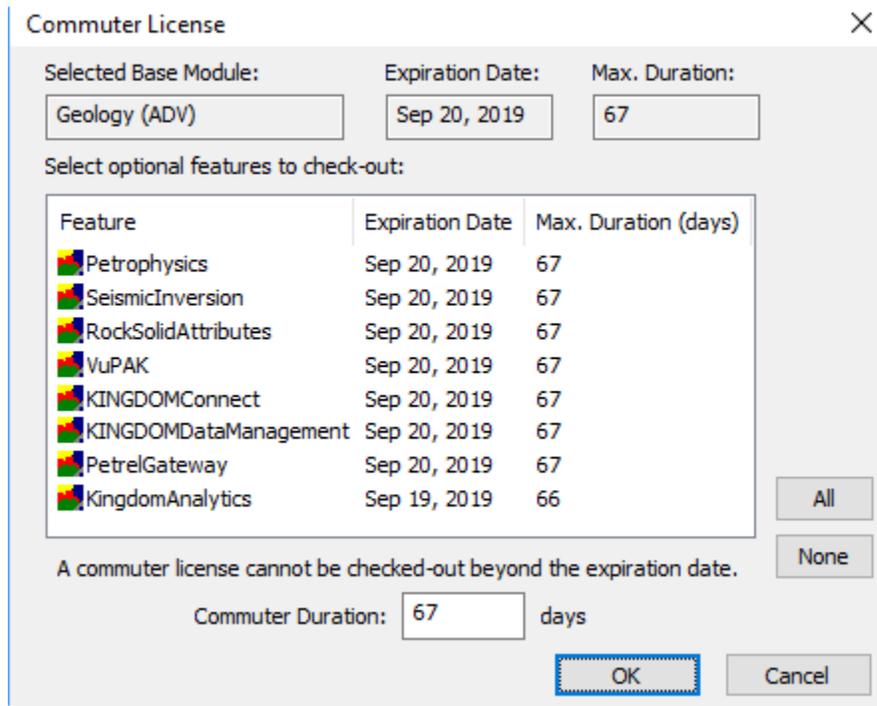
---

## Commuter licenses

Commuter licensing allows you to temporarily use a network Kingdom license on a computer that is not connected to the network. The maximum commuter duration is 90 days.

### To check out a commuter license:

1. On the Kingdom Start Page click **License Status/Feature Key Maintenance** to open the Network License Status dialog box. If you are in a Kingdom project, you can select **Project > License Status**, but the Kingdom project needs to close.
2. In the **Network License Status** dialog box, click **Get Commuter License**.
3. In **Commuter Duration** enter the number of days you want the license for.
4. In the **Commuter License** dialog box, select any additional features that you want to check out. Your base feature(s) are checked out automatically.

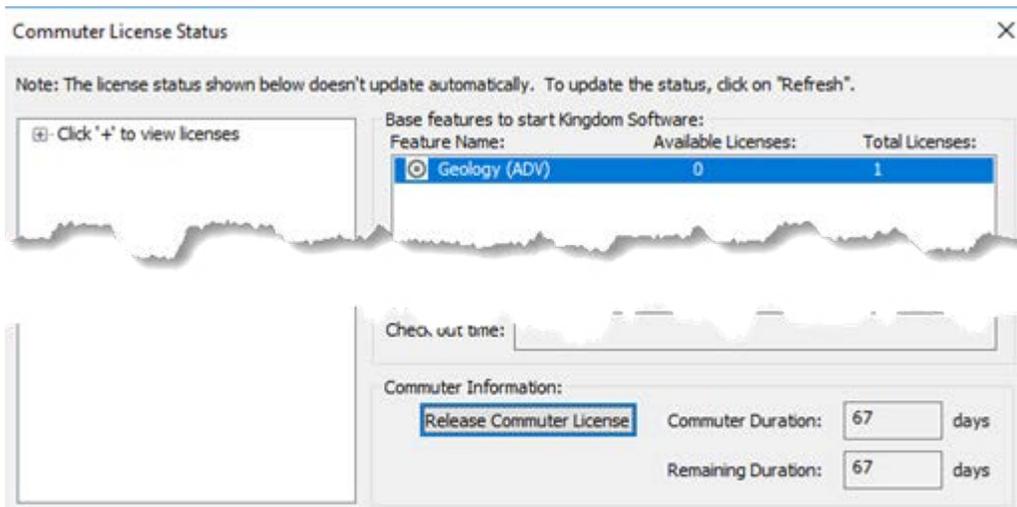


- After you check out the commuter license, the License Status dialog box updates to list only the modules you have checked out. Other users are not displayed.

**To check in the commuter license:**

When you are back on the network, open the License Status dialog box and click **Release Commuter License**.

Your commuter license expires at the end of the set duration, and is automatically released back to the license server.



## Network licenses

### Number of licenses

This information is primarily for the license administrator who activates or deactivates licenses through the Network License Manager.

**Important:** When a network user checks out a GeologyAdvanced or GeophysicsAdvanced seat, a core seat (Geology or Geophysics) is also checked out. The core licenses required for the Advanced features are included in the seat numbers on the LICENSE tab after you activate the licenses.

For example, in the figure below, the software purchased was the following:

- 5 Geophysics Advanced modules and 5 Geophysics core modules.
- 5 Geology Advanced modules and 5 Geology core modules

The license server is also managing Harmony and Petra licenses. See the [Licenses tab](#) topic in the License Manager help for more details.

Note that the license manager has Geology and Geophysics with 10 seats each instead of 5, because 5 of each will be checked out with the corresponding Advanced feature.

| Product and Module     | Version | Seats | Seats In Use | Commuters In Use | Max # Commuters | Max Commuter Days | Start Date   | Expiry Date |
|------------------------|---------|-------|--------------|------------------|-----------------|-------------------|--------------|-------------|
| Harmony   FORECAST     | ALL     | 5     | 0            | 0                | 5               | 90                | Mar 29, 2018 | M           |
| Status                 |         | Seats |              | Start Date       |                 | Expiry Date       |              |             |
| Active                 |         | 5     |              | Mar 29, 2018     |                 | Mar 29, 2019      |              |             |
| Inactive               |         | 5     |              | Mar 28, 2019     |                 | Mar 28, 2020      |              |             |
| Inactive               |         | 5     |              | Mar 29, 2017     |                 | Mar 29, 2018      |              |             |
| Kingdom   Geology      | ALL     | 10    | 0            | 0                | 5               | 90                | Mar 29, 2018 | M           |
| Kingdom   GeologyAdva  | ALL     | 5     | 0            | 0                | 10              | 90                | Mar 28, 2018 | M           |
| Kingdom   Geophysics   | ALL     | 10    | 0            | 0                | 10              | 90                | Mar 28, 2018 | M           |
| Kingdom   GeophysicsAd | ALL     | 5     | 0            | 0                | 10              | 90                | Mar 28, 2018 | M           |
| Petra   PETRA          | ALL     | 10    | 0            | 0                | 10              | 90                | Mar 28, 2018 | M           |

For example, if a network user selected to check out a Geophysics-Geology (ADV) license in the License Status dialog box that opens when Kingdom is started, the following seats would be used:

- 1 GeophysicsAdvanced + 1 Geophysics

- 1 GeologyAdvanced + 1 Geology

The number of licenses that the network user sees in the License Status dialog box does not show the extra core licenses.

See [Monitoring license status](#) for an example.

# Activating/deactivating standalone licenses

Standalone licenses do not require a license manager. With a standalone license, the license feature keys are retrieved from the Sentinel EMS (Entitlement Management System) and saved to the computer where the application is installed.

---

**Important:** You need your **Entitlement ID (EID)** to connect to EMS. Your EID was included in the Entitlement Certificate email you received from S&P Global. If you do not have this information, contact your license administrator or S&P Global representative.

---

If you have not downloaded the software, see [Download and install the software](#).

### Activating a standalone license:

1. Start Kingdom.
2. In the **Install Kingdom License** dialog box, select **Standalone Edition**.
3. In the **Standalone License Control Panel**, click **Activate**.
4. In the **Online License Activation or Deactivation** dialog box, enter your EID and click **Connect**. You are now connected to EMS.
5. Click on the Activate tab. Select product(s) and click **Activate**.
6. Exit the Online Activation or Deactivation dialog.
7. Your Standalone License Feature Keys will be displayed in the text box on the Standalone License Control Panel.

If the computer that the software is installed on is not connected to the internet, You can retrieve the license file from another computer that is connected to the internet. See [Obtaining the license file from a different computer](#) for details.

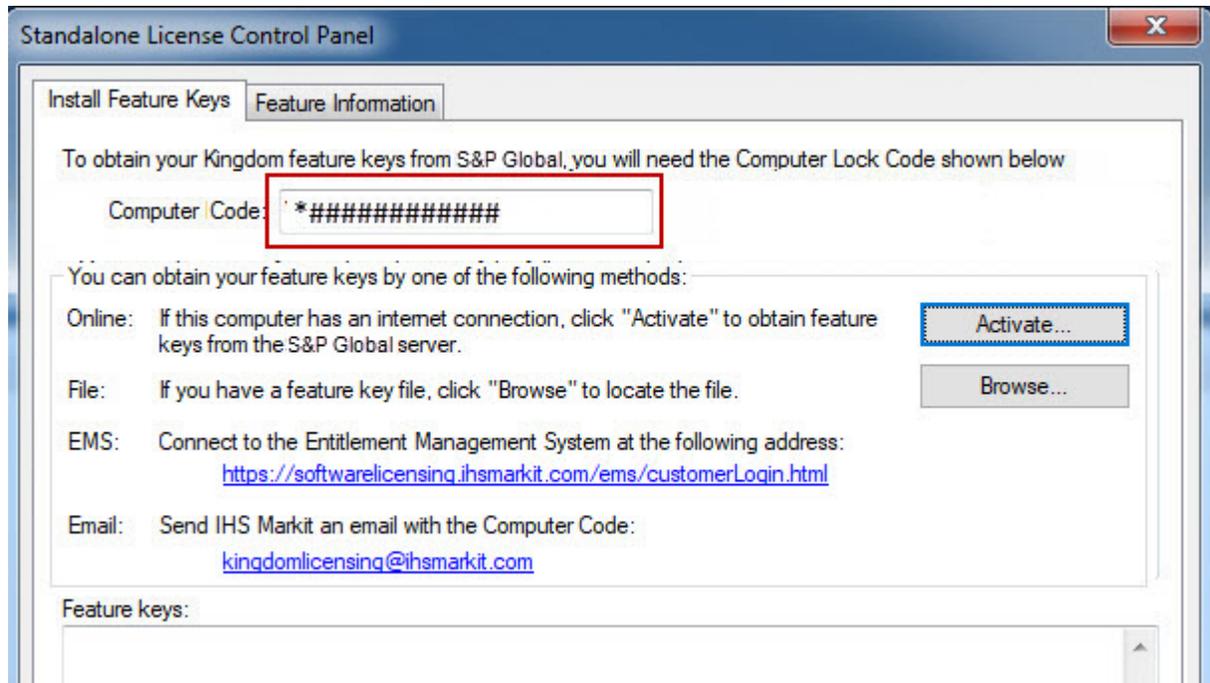
### Deactivating a standalone license:

1. Start Kingdom.
2. In the Kingdom Start Page select **Project > License Status**
3. In the **Standalone License Control Panel**, click **Activate**.
4. In the **Online License Activation or Deactivation** dialog box, enter your EID and click **Connect**. You are now connected to EMS.
5. Click on the Deactivate tab. Select product(s) and click **Deactivate**.
6. Exit the Online Activation or Deactivation dialog.

## Obtaining the license file from a different computer

If the computer on which Kingdom is installed does not have internet access, you can retrieve the license file from a different computer that has internet access, and then move the license file to the computer where the software is installed. The **Standalone License Control Panel** has the following additional options:

|       |   |
|-------|---|
| File  | <p>Use this option if you have obtained a feature key file from Customer Care.</p> <ol style="list-style-type: none"> <li>1. Save the feature key file (<code>lsercsrc.zip</code>) to your computer and extract it.</li> <li>2. Click <b>Browse Feature Key File</b>, browse to the extracted file and click <b>Open</b>. Your feature keys populate the Feature key box.</li> <li>3. Click Apply.</li> <li>4. Verify your licenses on the <b>Feature Information</b> tab.</li> </ol> <hr/> <p><b>Note:</b> You can also copy the feature keys from the text file and paste into the Feature Key box.</p> <hr/> |
| EMS   | <p>Use this option if the computer with Kingdom installed is not online. This method requires:</p> <ul style="list-style-type: none"> <li>• a different computer with online access</li> <li>• EID from the Entitlement Certificate email</li> <li>• Computer Code from the computer with Kingdom installed (outlined in red below)</li> <li>• The EMS URL displayed in the Standalone License Control Panel<br/>See <a href="#">Retrieving a license file from the Sentinel EMS</a> for instructions.</li> </ul>   |
| Email | <p>Copy your <b>Computer Code</b> (outlined in red in the figure below). Then click the email link, <a href="mailto:customercare@ihsmarkit.com">customercare@ihsmarkit.com</a>. Paste the computer code into the subject field and send. Customer Care will send you your feature key <code>lserverc</code> file. Follow the steps for connecting by <b>File</b> above.</p>   |



### Feature Information Tab

After you have installed your feature keys, click the **Feature Information** tab of the Standalone License Control Panel to verify the features licensed as well as the start and expiration dates of each feature.

## Retrieving a license file from the Sentinel EMS

If you retrieve your licenses by connecting directly to the Sentinel EMS, the system will generate a license file (`lserverc`). You can then use this file in the Standalone License Control Panel to install the feature keys.

You may need to use this option, rather than the Online Activation option, if the computer where Kingdom is installed is not connected to the internet. To use this option, you need a computer with online access and the following:

|                  |  |
|------------------|--|
| Sentinel EMS URL | <a href="https://softwarelicensing.ihsmarkit.com/ems/customerLogin.html">https://softwarelicensing.ihsmarkit.com/ems/customerLogin.html</a>      |
| EID              | Included in the Entitlement Certificate email  |
| Computer Code    | From the Standalone License Control Panel on the computer where Kingdom is installed:<br><b>Kingdom Start Page &gt; File &gt; License Status</b> |

1. On the computer connected to the internet, connect to Sentinel EMS.
2. On the **Customer Login** page, select **EID** as the login name, enter the Entitlement ID, and click **Login**.
3. In **Sentinel EMS** window, select the products you want to activate and click **Activate**.
4. In the **Activate Product(s)** window, enter the Computer Code into the field outlined in red in the image below.
5. Click **Activate**.
6. The EMS generates the License String. You have 3 options:

|                |   |
|----------------|---|
| Save to File   | The license string is saved to a file named <code>lserverc</code> .   |
| Append to File | If you are adding modules to an existing file, browse to the <code>lserverc</code> file and click <b>OK</b> . |
| E-mail         | Specify an email address, and the <code>lserverc</code> file will be sent to that address.                    |

7. Copy the `lserverc.zip` file received from the EMS to the computer where Kingdom is installed and extract the file. This file can be deleted after the licenses have been activated.
8. Start Kingdom.
9. In the Standalone License Control Panel, click **Browse Feature Key File**.
10. Browse to and select the `lserverc` file and click **Open**.
11. The license string (Feature keys) populate the Standalone License Control Panel. Click **Apply**.
12. Verify your licenses on the **Feature Information** tab.

## Activating/deactivating standalone licenses

### Activate Product(s)



EID : #####-#####-#####-#####-#####

▼ Enter Quantity

| Product                     | Remaining Quantity | Quantity | External ID          |
|-----------------------------|--------------------|----------|----------------------|
| EarthPAK Perp (STA-ADV) ALL | 1                  | 1        | <input type="text"/> |

► Custom Attributes

EarthPAK Perp (STA-ADV) ALL

User Activation Data:

Activation for Own use :

Activatee E-mail Address :

Add if not already available.

Computer code criteria: Disk ID+CPU Info String+UUID

\*Computer code:

Remarks :

Activate

Cancel

## Changing your license configuration

The License Configuration dialog box allows you to change the license server, and/or switch between network and standalone if your company has both. However, remember that a commuter license acts as a standalone license, so you should not need to switch from network to standalone.

These workflows assume that a standalone license has been activated on the user's computer, and that the user also has the IP address or name of a valid license server. See the following topics for details on activating/deactivating:

- [Activating/deactivating standalone licenses.](#)
- [Activating/deactivating network licenses.](#)

---

**Note:** If you have a commuter license checked out, you need to release the commuter license before you can switch to a standalone license.

---

### To switch from a network license to a standalone:

1. On the Kingdom Start Page select **Project > License Configuration**.
2. Click **Enable Standalone License**. The application must shut down for the changes to take effect.
3. Start Kingdom.

In the License Configuration dialog box, the license server name remains in the License Server field, which you can edit if needed when going back to a network license.

### To switch from standalone to network:

1. On the Kingdom Start Page select **Project > License Configuration**
2. Click **Disable Standalone License**. The application must shut down for the changes to take effect.
3. Start Kingdom. A network license is checked out from the license server.

To confirm which base license you are using, from the Start Page, select **Project > License Status**.

---

**Note:** Disabling a standalone license only disables the standalone license on that machine to allow you to temporarily use a network license. It does not return it to the server for another user to activate. See steps 1-5 below on how to deactivate a standalone license.

---

### To transfer a standalone license to another computer:

1. On the Kingdom Start Page select **Project > License Status**.
2. Click **Online Activation**. If you did not select Remember Me previously, you will need to enter your EID from the Entitlement Certificate email.

## Changing your license configuration

---

3. In the **Online License Activation or Deactivation** dialog box, select the **Deactivate** tab.
4. Select the licenses you want to deactivate and click **Deactivate**.
5. Exit the dialog box and close Kingdom.
6. On the other computer, follow steps 1-2 above.
7. In the **Online License Activation or Deactivation** dialog box, select the **Activate** tab.
8. Select the licenses you want to activate and click **Activate**.

---

# Performing Silent Installations

## Overview

Kingdom and Kingdom Data Management provide the ability to perform silent installations using the Microsoft Installer (MSI) installation file. Kingdom also provides the ability to perform silent patch updates using the Microsoft Patch (MSP) file. These silent installations and patches are useful for companies with controlled IT environments that centrally manage and deploy software to user computers.

|     |   |
|-----|---|
| MSI | <p>Use the MSI file (<code>The Kingdom Software 2023 (64-bit).msi</code>) with the Microsoft Windows Installer application (<code>msiexec.exe</code>), including all the available command line options available to the installer.</p> <p>For more information about the Microsoft Windows Installer and its command line options, refer to the available Microsoft documentation. Before installing Kingdom 2023 using the MSI file, you must first install the software prerequisites. For more information, see <a href="#">Installing prerequisites</a>.</p> |
| MSP | <p>Use the MSP file (<code>TKS_[Kingdom Version]_[Patch Version].msp</code>) with the Microsoft Windows Installer application (<code>msiexec.exe</code>).</p>   |

## Microsoft Windows installer service

The Microsoft Windows Installer Service (`msiexec.exe`) is a service provided by Microsoft and included in most Microsoft operating systems. This is the service you use to perform software installations with MSI and MSP files.

## Command Line options and properties

For a list of the command line options available to the Microsoft Windows Installer Service (`msiexec.exe`), see the following article available from Microsoft:

<http://msdn.microsoft.com/en-us/library/Aa367988>.

## MSI Properties

The Microsoft Windows Installer Service has many properties for which you can define values. An important property you are likely to use is the `INSTALLDIR` property, which defines the installation directory for the silent installation of an application. For example:

```
INSTALLDIR="C:\Program Files\SPGlobal\KingdomSuite"
```

The `DATADIR` property is optional. This directory holds Kingdom files such as colorbars and templates. The default location for `DATADIR` is

```
C:\ProgramData\SPGlobal\KingdomSuite]
```

```
DATADIR="C:\MyData\KingdomSuite"
```

You use properties at the command line for silent installations. Keep in mind that property names are case sensitive.

## Sample command lines

Here are some sample command lines for the silent installation of Kingdom. These are provided for reference only. Your own command line requirements may differ significantly.

---

**Note:** The command needs to be run from the command prompt or a process with administrative privileges.

---

### Kingdom

|                                  |   |
|----------------------------------|---|
| Install to default location      | <code>msiexec.exe /i "&lt;path to msi&gt;\The Kingdom Software 2023 (64-bit).msi" /quiet</code>   |
| Install to custom location       | <code>msiexec.exe /i "&lt;path to msi&gt;\The Kingdom Software 2022 (64-bit).msi" INSTALLDIR="C:\MyApps\KingdomSuite" DATADIR="C:\MyData\KingdomSuite" /quiet</code>            |
| Install patch                    | <code>msiexec /p TKS_[Kingdom Version]_[Patch Version].msp REINSTALLMODE=vomus REINSTALL=ALL /quiet</code>  |
| Install patch to custom location | <code>msiexec /p TKS_[Kingdom Version]_[Patch Version].msp INSTALLDIR="C:\MyApps\KingdomSuite" DATADIR="C:\MyData\KingdomSuite" REINSTALLMODE=vomus REINSTALL=ALL /quiet</code> |

### Kingdom Components

|                                  |   |
|----------------------------------|---|
| Install to default location      | <code>msiexec.exe /i "&lt;path to msi&gt;\The Kingdom Software 2022 Components.msi" /quiet</code>   |
| Install to custom location       | <code>msiexec.exe /i "&lt;path to msi&gt;\The Kingdom Software 2022 Components.msi" INSTALLDIR="C:\MyApps\KingdomSuite" /quiet</code>           |
| Install patch                    | <code>msiexec /p TKSC_[Kingdom Version]_[Patch Version].msp REINSTALLMODE=vomus REINSTALL=ALL /quiet</code>                                     |
| Install patch to custom location | <code>msiexec /p TKSC_[Kingdom Version]_[Patch Version].msp INSTALLDIR="C:\MyApps\KingdomSuite" REINSTALLMODE=vomus REINSTALL=ALL /quiet</code> |

---

## Kingdom Petrophysics

After installing Kingdom, you need to install Kingdom Petrophysics. This component is required:

|                                   |  |
|-----------------------------------|--|
| Install to default location       | <code>KP.exe /VERYSILENT /NORESTART /LOG /CLOSEAPPLICATIONS /FORCECLOSEAPPLICATIONS /NOICONS /DIR="C:\Program Files\SPGlobal\KingdomSuite\TKS 2022\KP"</code>        |
| Install to custom location        | <code>KP.exe /VERYSILENT /NORESTART /LOG /CLOSEAPPLICATIONS /FORCECLOSEAPPLICATIONS /NOICONS /DIR="C:\MyApps\KingdomSuite\TKS 2020\KP"</code>                        |
| Install patch to default location | <code>KP_Update.exe /VERYSILENT /NORESTART /LOG /CLOSEAPPLICATIONS /FORCECLOSEAPPLICATIONS /NOICONS /DIR="C:\Program Files\SPGlobal\KingdomSuite\TKS 2022\KP"</code> |
| Install patch to custom location  | <code>KP_Update.exe /VERYSILENT /NORESTART /LOG /CLOSEAPPLICATIONS /FORCECLOSEAPPLICATIONS /NOICONS /DIR="C:\MyApps\KingdomSuite\TKS 2022\KP"</code>                 |

## Kingdom ML Models

|                             |   |
|-----------------------------|---|
| Install to default location | <code>msiexec.exe /i "&lt;path to msi&gt;\Kingdom ML Models [MajorVersion.MinorVersion].msi" /quiet</code>                                  |
| Install to custom location  | <code>msiexec.exe /i "&lt;path to msi&gt;\Kingdom ML Models [MajorVersion.MinorVersion].msi" DATADIR="C:\MyData\KingdomSuite" /quiet</code> |

## Log files

The Microsoft Windows Installer creates log files for each installation in the installing user's Temp directory: `C:\Users\<UserID>\AppData\Local\Temp\nnnnnnnn.log`. The log file name is automatically generated and is different for each installation.

## Related topics

[Extracting the MSI file](#)

[Extracting the MSP file for patch updates](#)

[Extracting the Harmony Connection Add-on \(HCA\) prerequisite package](#)

## Extracting the MSI file

The Kingdom, and Kingdom Data Management (KDM) MSI files are contained in the standard installation executables and must be extracted before you can use them for silent installations. The standard installation executables for each application are available for download from the IHS Kingdom website at [kingdom.ihs.com](http://kingdom.ihs.com) as well as on the Kingdom USB drive:

|         |   |
|---------|---|
| Kingdom | <USBdriveRoot>\KingdomSoftware\Kingdom\x64\The Kingdom Software 2023 (64-bit).exe |
| KDM     | <USBdriveRoot>\KingdomDM\x64\Kingdom Data Management 2023 (64-bit).exe            |

To extract the Kingdom or Kingdom Data Management MSI file:

1. Download the installation executable from the Kingdom Download page or copy the installation executable from the installation USB drive.
1. At a command prompt, change directories to the location of the application executable (.exe) file.
2. Type one of the following, depending on the program you want to extract:
  - "The Kingdom Software 2023 (64-bit).exe" /stage\_only
  - "Kingdom Data Management 2023 (64-bit).exe" /stage\_only
3. Press **Enter**.
4. When prompted, select a destination folder where you want to extract the MSI file.
5. Click **Finish** to complete the extraction.

The MSI extraction creates several folders with different GUIDs. These folders contain the Kingdom or Kingdom Data Management MSI as well as MSI and .exe files for all the prerequisite software.

You can move these files to any location you need to perform silent installations.

---

**Note:** You can also extract the MSI file directly from the installation USB drive without needing to copy the installation executable to a computer. Here is a sample command line for extracting the Kingdom MSI file from the USB drive:

```
"<USBdriveRoot>\KingdomSoftware\Kingdom\x64\The Kingdom Software 2023 (64-bit).exe" /stage_only
```

---

If you need more information about extracting content from the installation executable, refer to the [InstallShield support documentation](#).

### Related topics

[Installing prerequisites](#)

## Extracting the MSP file for patch updates

The Kingdom MSP file is contained in the standard installation executable and must be extracted before you can use it for silent upgrade. The standard upgrade executable is the following:

|         |   |
|---------|---|
| Kingdom | <Path to patch installer>\TKS_[Kingdom Version]_<patch version>.exe |
|---------|---|

---

**Note:** The patch can only be extracted on the system with the base release installed.

---

To extract the Kingdom MSP file:

1. Download the installation executable from the EMS portal or the [Kingdom Download page](#).
1. At a command prompt, change directories to the location of the application executable (.exe) file.
2. Type `"TKS_[Kingdom Version]_<patch version>.exe" /stage_only`
3. Press **Enter**.
4. When prompted, select a destination folder where you want to extract the MSP file.
5. Click **Finish** to complete the extraction.

The extraction folder contains the Kingdom MSP file and the KP\_Update.exe file.

You can move these files to any location you need to perform silent patch updates.

If you need more information about extracting content from the patch executable, refer to the [InstallShield support documentation](#).

### Related topics

[Installing prerequisites](#)

## Extracting the Harmony Connection Add-on (HCA) prerequisite package

The Harmony prerequisite installer files, which allow Spatial Explorer to open Harmony projects, are included in the standard installation executable and must be extracted before you can use it for silent upgrade.

---

**Note:** the HCA package is only required when the Kingdom users want to open Harmony projects in Spatial Explorer on a computer that does not have Harmony installed.

---

The standard upgrade executable is the following:

|                          |  |
|--------------------------|--|
| Harmony Connection Addon | <Path to patch installer>\Harmony Connection Addon.exe |
|--------------------------|--|

### To extract the Harmony Connection Add-on prerequisite package:

1. Download the installation executable from the EMS portal or the [Kingdom download page](#).
2. At a command prompt, change directories to the location of the application executable (.exe) file.
3. Type `"Harmony Connection Addon.exe" /stage_only`
4. Press **Enter**.
5. When prompted, select a destination folder where you want to extract the prerequisite files to.
6. Click **Finish** to complete the extraction.

The extraction folder contains the prerequisite installer files. You can move these files to any location you need to perform silent patch updates.

If you need more information about extracting content from the patch executable, refer to the [InstallShield support documentation](#).

### Related topics

[Installing prerequisites](#)

## Installing prerequisites

Kingdom and Kingdom Data Management have several software prerequisites that must be in place to successfully install either application. The standard installation executables include these prerequisites, but they are not installed if you perform a silent installation with an MSI file. You must install each prerequisite prior to installing Kingdom or Kingdom Data Management. When you extract the MSI file from the standard installation executable, the prerequisite software is also extracted. For more information, see [Extracting the MSI file](#).

### Prerequisites for Kingdom

| Prerequisite  | Sample Command Line   |
|---|---|
| Microsoft .NET Framework 4.8<br>(ndp48-x86-x64-allos-enu.exe)                                     | <code>ndp48-x86-x64-allos-enu.exe "/q:a / C:\\"install /q /norestart\" /norestart"</code> |
| Microsoft OLE DB Driver for SQL Server 18.3.0.0 (x64)<br>(msoledbsql_x64.msi)                     | <code>msiexec.exe /i msoledbsql_x64.msi IACCEPTMSOLEDBSQLLICENSETERMS=YES /qn</code>      |
| Microsoft SQL Server Management Objects 10.00.2531 (x64)<br>(SharedManagementObjects_amd64.msi)   | <code>msiexec.exe /i SharedManagementObjects_amd64.msi /qn / passive</code>               |
| Microsoft SQL Server System CLR Types 10.00.2531 (x64) or greater<br>(SQLSysClrTypes_amd64.msi)   | <code>msiexec.exe /i SQLSysClrTypes_amd64.msi / qn /passive</code>                        |
| Microsoft Visual C++ 2010 SP1 Redistributable Package (x64)<br>(vcredist2010SP1_x64.exe)          | <code>vcredist2010SP1_x64.exe /q /norestart</code>  |
| Microsoft Visual C++ 2012 Update 4 Redistributable Package (x64)<br>(vcredist2012Update4_x64.exe) | <code>vcredist2012Update4_x64.exe /q /norestart</code>                                    |
| Microsoft Visual C++ 2015 Update 3 Redistributable Package (x64)<br>(vcredist2015Update3_x64.exe) | <code>vcredist2015Update3_x64.exe /q /norestart</code>                                    |

## Prerequisites for Kingdom Data Management

| Prerequisite   | Sample Command Line  |
|--|--|
| Microsoft .NET Framework 4.8<br>(NDP48-x86-x64-AllOS-ENU.exe)                                      | ndp48-x86-x64-allos-enu.exe "/q:a /<br>C:\"install /q /norestart\" /norestart" |
| Microsoft OLE DB Driver for SQL Server<br>18.3.0.0 (x64)<br>(msoledbsql_x64.msi)                   | msiexec.exe /i msoledbsql_x64.msi<br>IACCEPTMSOLEDBSQLLICENSETERMS=YES /qn     |
| Microsoft SQL Server Management Objects<br>10.00.2531 (x64)<br>(SharedManagementObjects_amd64.msi) | msiexec.exe /i<br>SharedManagementObjects_amd64.msi /qn /<br>passive           |
| Microsoft SQL Server System CLR Types<br>10.00.2531 (x64) or greater<br>(SQLSysClrTypes_amd64.msi) | msiexec.exe /i SQLSysClrTypes_amd64.msi /<br>qn /passive                       |
| Microsoft Report Viewer 2010 Redistributable<br>(ReportViewer.exe)                                 | ReportViewer.exe /q /norestart   |

## Prerequisites for Harmony Connection Add-on

| Prerequisite   | Sample Command Line  |
|--|--|
| Microsoft Visual C++ 2015-2019<br>Redistributable (x64)<br>(VC_redist.x64.exe) | VC_redist.x64.exe /install /quiet /<br>norestart                       |
| ODBC Driver 17 for SQL Server<br>(msodbcsql.msi)                               | msiexec.exe /i msodbcsql.msi<br>IACCEPTMSODBCSQLLICENSETERMS=YES /qn   |
| SQL Server 2019 Express LocalDB<br>(SqlLocalDB.msi)                            | msiexec.exe /i SqlLocalDB.msi<br>IACCEPTSQLLOCALDBLICENSETERMS=YES /qn |

---

## Related Apps and Resources

### Overview

Kingdom, Kingdom Data Management, and all related applications are available for download from the Entitlement Management System (EMS).

The download process is the same for all applications and document sets.

---

**Note:** You need the Entitlement ID (EID) to log on to the EMS. The EID was included in the Entitlement Certificate sent to the primary contact at your company. If you do not know the name of the primary company contact, call Customer Care.

---

The following related applications are available from the EMS. The name of each installation package that you download is included::

| Related Apps                                   |  |
|--|--|
| <a href="#">SQL Server Express</a>             | IHS Kingdom SQL Server [version] Express Installer.exe<br>SQL Server Express is a free, lightweight version of SQL Server with a specific configuration to work with Kingdom.                      |
| SQL Server Management Studio                   | SQLManagementStudio_x64_ENU.exe<br>SQL Server Management Studio is an integrated environment for accessing, configuring, managing, administering, and developing all components of SQL Server.     |
| <a href="#">Demo Projects</a>                  | Kingdom_Demo_Projects_[version].zip<br>The default installation directory for the demo projects is C:\Kingdom Demo Projects.<br>The demo projects use SQL Server Express for the project database. |
| Kingdom Gateway [version] for Petrel [version] | IHSKingdomGatewayInstaller[version].[version].zip<br>Provides direct connectivity between Kingdom and Petrel software.   |
| <a href="#">Administrator Console</a>          | KingdomAdminConsoleSetup.exe<br>Allows an administrator to specify access to Kingdom projects based on Active Directory permissions.   |
| <a href="#">Frac Explorer Database</a>         | Frac_Explorer_Database.bak<br>The Frac Explorer database provides the required database schema for your completions data.  |

|  |  |
|--|--|
| <a href="#">Frac Data Web Service</a>                  | IHS Markit Frac Data Web Service [version].exe<br>The Frac Data web service enables connectivity between the Frac Explorer application and the Frac Explorer database.                                       |
| <b>Resources</b>                                       |  |
| Installation Guide                                     | Guidance for what database to select and detailed instructions for installing and updating Kingdom and other related applications. It also includes information about licensing requirements and management. |
| What's New   | Details about the new features and enhancements in the latest version.   |
| Quick Start Guide                                      | Brief instructions on how to obtain and activate your licenses for the latest version. A full version of the same instructions is available in the Kingdom Installation Guide.                               |
| Documentation (PDF versions)                           | Printable versions of all available Kingdom software user guides. This information is also available through the Help menu of each application.  |
| Which version of SQL Server Express should I download? | Information to help you select the best version of SQL Server Express. SQL Express databases are not backward compatible so it is important to review this information before installing or upgrading.       |

### To download and install:

1. Log on to the EMS using your EID at <https://softwarelicensing.ihsmarkit.com/ems/customerLogin.html>.
2. Click **Downloads** in the upper-right corner.  
The Download page contains all of your entitlements. Each license is listed separately. All related applications and resources are listed under each entitlement, but you only need to download once.
3. Click the **Download** link beside the related application or resource that you want to download.
4. When the download is complete, extract all files (if zipped) and double-click on the executable.
5. Follow the installation wizard. No custom settings are required.

---

## About the Kingdom Demo Projects

The demo projects require approximately 700 MB of space. The demo projects use SQL Server Express for the project database, so you need to install SQL Server Express 2014 or later to open the demo projects.

The following projects and data are available:

|             |   |
|-------------|---|
| BEG         | This Bureau of Economic Geology project contains the Stratton Field 3D seismic survey with wells and requires approximately 142 MB.                     |
| Golden      | This Golden Geophysical project contains one 3D survey and four 2D line and requires 160 MB.  |
| Sooner      | This US Department of Energy and Diversified Operating Corporation reservoir management project contains one 3D survey with wells and requires 220 MB.  |
| Data        | This folder contains the various data items that can be used with the data loading tutorials and for general data loading practice and requires 183 MB. |
| Shape Files | This folder contains culture layers for the Sooner Project and requires 142 MB of space.  |

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**Note:** The demo projects have SQL Server Express databases. You need to install SQL Server Express on your machine before you can open the Demo Projects. For Kingdom version 2022, the demo projects are using SQL Server 16 Express. See [About SQL Server Express](#) for details.

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## Installing Kingdom from a USB Drive

The information in this chapter applies if you plan to install Kingdom or Kingdom Data Management from the USB drive and includes the following:

- [Kingdom software contents](#)
- [Kingdom Installation Manager](#)

The default installation directory is `C:\Program Files\SPGlobal\KingdomSuite`. Each product has its own subfolder within the KingdomSuite folder.

Please note that the fastest and easiest method to obtain and install the latest Kingdom update is to download it from the Entitlement Management System (EMS). You will need your Entitlement ID (EID) to log on. Licenses are only available from the EMS. See [Kingdom Licensing](#) for more information.

## Kingdom software contents

The Kingdom Software USB drive contains the installation files for the following applications and files:

|                       |  |
|-----------------------|--|
| AdministratorConsole  | The installation files for the Kingdom Administrator Console.  |
| InstallPages          | Files and images used by the Kingdom Installation Manager  |
| KingdomDM             | The installation files for Kingdom Data Management   |
| KINGDOMSoftware       | The installation files, installation documentation, and demo projects for the Kingdom software.  |
| Product Documentation | PDF files of the user manuals for all products. These files are copied to your computer during the Kingdom installation. You can read PDF files with Adobe Acrobat Reader. <a href="#">Download</a> for free from Adobe.   |
| SupportFiles          | Contains the installation and supporting files for the following applications: <ul style="list-style-type: none"> <li>• <b>Microsoft</b>—includes .NET, Report Viewer, and Microsoft SQL Server - Express edition.</li> <li>• <b>SQLExpress</b>—The Kingdom installer for Microsoft SQL Server - Express edition.</li> </ul>   |
| AUTORUN.INF           | Contains setup information for the installer.  |
| Release Documents     | Contains the following product documentation: <ul style="list-style-type: none"> <li>• <b>QuickReferenceGuide.pdf</b>—a brief version of how to obtain and activate your licenses for the latest version.</li> <li>• <b>ReleaseNotes.pdf</b>—important information about installation, compatibility, configuration, enhancements, fixed bugs, and known problems.</li> <li>• <b>WhatsNew.pdf</b>—an introduction to the new features and functionality in Kingdom and Kingdom Data Management.</li> </ul> |
| Setup.exe             | The application executable. Double-click to start the Kingdom Installation Manager.  |
| TKS.config            | Configuration file for the installation.   |

### Related topics

- [Kingdom Installation Manager](#)
- [Installing Kingdom from a USB Drive](#)

## Kingdom Installation Manager

Use the Kingdom Installation Manager to install Kingdom, Kingdom Data Management, related Kingdom applications, and all third party software from the Kingdom USB drive.

The Kingdom Installation Manager contains the following tabs:

|  |   |
|--|---|
| <a href="#">Install Kingdom</a>              | Install Kingdom and the Kingdom Demo Projects.  |
| <a href="#">Install Kingdom DM</a>           | Install Kingdom Data Management or request a trial license.   |
| <a href="#">View Resources</a>               | View product release and Help documentation   |
| <a href="#">Install Third Party Software</a> | Install AppSight, Adobe Reader, SQL Server Express, and SQL Management Studio.  |
| Applications                                 | <p>Install any of the following related applications.</p> <ul style="list-style-type: none"> <li>• <b>License Service</b>—required for network licenses<br/>See <a href="#">Network licenses</a> for more information.</li> <li>• <b>License Manager</b> —required for network licenses</li> <li>• <a href="#">The Administrator Console</a></li> </ul> |

### Related topics

[Kingdom software contents](#)  
[Installing Kingdom from a USB Drive](#)

## Install Kingdom

The **Install Kingdom** tab includes the following items:

|                                       |  |
|---------------------------------------|--|
| Install Kingdom Software              | Click to start the installation wizard. Before you can run Kingdom, you need to obtain and install the feature keys that control the licensing. See <a href="#">Kingdom Licensing</a> for details. |
| <a href="#">Install Demo Projects</a> | Click to start the installation wizard for the demo projects included with Kingdom.  |
| View Installation Guide               | The installation guide is in PDF format and requires a PDF viewer.   |
| Request a Trial License               | Click to connect to the <b>Product Evaluation</b> page. Enter the required information and send the form to us.  |

## Install Kingdom Data Management (Kingdom DM)

Kingdom DM is a data management and data transfer tool that allows you to work more efficiently when managing data.

Your Kingdom and Kingdom DM versions must match. For example, if you have installed Kingdom 2023 64-bit, you must install Kingdom DM 2023 64-bit.

The **Install Kingdom DM** tab includes the following items:

|                         |   |
|-------------------------|---|
| Install Kingdom DM      | Click to start the installation wizard. Kingdom DM requires a separate license.                                 |
| View Installation Guide | The installation guide is in PDF format and requires Adobe Reader.  |
| Request a Trial License | click to connect to the <b>Product Evaluation</b> page. Enter the required information and send the form to us. |

### Related topics

[Kingdom Data Management](#)  
[Kingdom Installation Manager](#)

## View Resources

The **View Resources** tab provides quick access to release documents and the full product documentation, all in PDF format.

|                       |  |
|-----------------------|--|
| Release Notes         | Provides important information about the current version including fixed bugs, known issues, and installation information. Please read this document before installing or reinstalling the software. |
| What's New            | Includes details the new features and enhancements in the latest version.  |
| My Account            | Links to the many resources available to you on the Entitlement Management System and the Kingdom <a href="#">web site</a> .   |
| Product Documentation | Provides PDF versions of all available Kingdom Software user manuals. This information is also available through the Help menu of each application: <b>Help &gt; Help Center</b> .                   |

## Install Third Party Software

Three third party applications are available from the **Install Third Party Software** tab.

|                                       |   |
|---------------------------------------|---|
| <a href="#">Microsoft SQL Express</a> | Installs Kingdom's customized version of SQL Server - Express edition.                                |
| SQL Management Studio                 | The Management Studio provides tools to access, configure, manage, and administer SQL Server Express. |

### Related topics

[Kingdom Installation Manager](#)



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# Installing Third Party Software

## Overview

Three third-party applications are available from the Entitlement Management System and from My Account at [kingdom.ihs.com](http://kingdom.ihs.com):

- the Kingdom configured version of SQL Server Express
- Microsoft SQL Server Management Studio

For SQL Server Management Studio and Adobe Reader, please see the product's documentation.

## About SQL Server Express

The Kingdom version of SQL Server Express includes an SMTKINGDOM instance which is pre-configured with a user name and password that Kingdom uses to access the database.

---

**Important:** Before installing SQL Server Express, read [Understanding SQL Server Express](#).

---

Installation of this instance should not affect existing instances of SQL Server Express installed by other programs.

The Default installation location is:

```
C:\Program Files\Microsoft SQL Server
```

If you select an alternate destination location, the folder SMTKINGDOM\_DATA is not automatically created. First create this folder in the desired location and then direct the InstallShield Wizard to this folder.

When installation of the instance is complete, the SQL Server Express Service Configuration dialog box opens. Read the contents of this dialog box carefully to determine whether you want a local or a network configuration. You can also refer to [SQL Server Express Service Configuration](#) for more information.

## Network database Instance

If you decide to install your SMTKINGDOM instance of SQL Server Express on your network to support access for multiple Kingdom users to a single instance, you or your network administrator need to create a service account for SQL Server Express to use to access the Kingdom projects on network computers. This is not necessary if you plan to install SQL Server Express on the same computer where you have your Kingdom projects. For detailed instructions on configuring SQL Server Express on your network, see [Network Project—Network Database Instance](#).

---

## Troubleshooting

This section addresses common problems you may encounter when connecting to the SQL Server Express database or starting the SQL Server Express service:

- [Connecting to your SQL Server Express database](#)
- [Unable to start the SQL Server Express service](#)

### Connecting to your SQL Server Express database

The following information gives troubleshooting tips for a database migration to SQL Server Express. These tips also apply to problems opening an existing SQL Server Express Kingdom project.

[My Kingdom SSE instance is not listed](#)—when creating a project, you cannot see your SQL Server Express instance in the list of available instances.

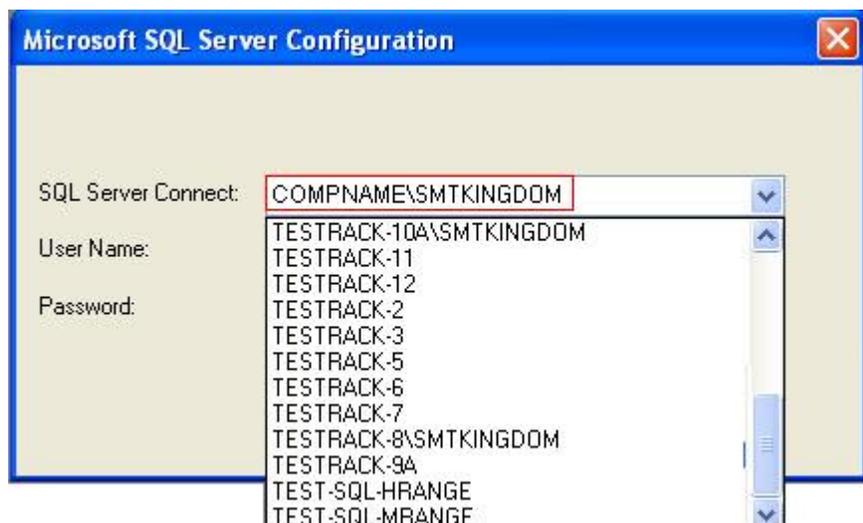
[Error occurred connecting to the database](#)—a general error message when trying to create or open a SQL Server Express project could be caused by a number of reasons.

[Connection requirements for Auto SSE](#)—if you received an error message when creating an Auto SSE project stating that the instance did not have adequate permission to read/write to the project database file, you may need to change permissions on the project directory or change the log on account of the SQL Server (SMTKINGDOM) service.

#### My Kingdom SSE instance is not listed

If you have already installed the SMTKINGDOM instance of SQL Server Express, and you still cannot see your instance in the drop down list as in the figure below, there are several possible causes.

Before troubleshooting, try typing the installed SQL Server Express instance into the **SQL Server Connect** field. Remember, the instance will have \SMTKINGDOM at the end.



Click **OK** to continue.

---

If you receive an error message see [Error occurred connecting to the database](#)

### [Error occurred connecting to the database](#)

If you get “**An error occurred connecting to the database. Would you like to try again?**”, Click **No** and try the following solutions:

#### **Problem 1: One of the SQL Server services is not running.**

**Solution 1:** Open the Administrative Tools on the computer where SQL Server Express is installed and start the SQL Server service(s). The steps below are for a computer running Windows 7. There may be slight differences for different Windows operating systems.

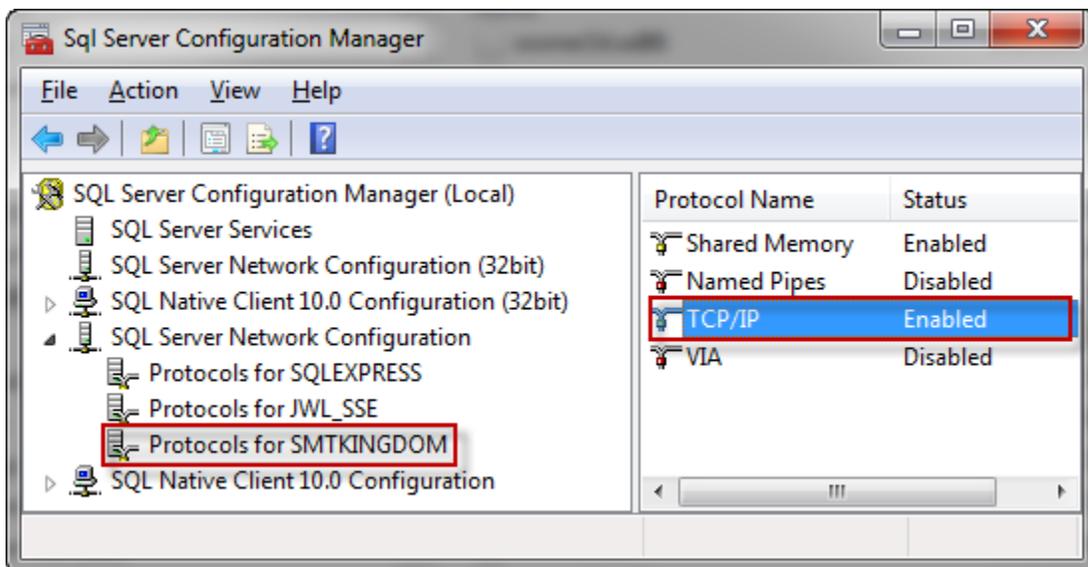
1. Click **Start > Control Panel > Administrative Tools**.
2. Double-click **Services**.
3. Scroll down to locate the SQL Server services. Check that SQL Server (SMTKINGDOM) and the SQL Server Browser services are started.
4. To start a service, right-click the service in the Status column and select **Start**.
5. Try opening the Kingdom project again.

#### **Problem 2: The TCP/IP protocols is not enabled.**

If the SQL Server Express instance is not local (on your computer), the TCP/IP protocol on the remote database instance must be **enabled**. If the SQL Server Express instance is on your machine, this is not an issue.

**Solution 2:** On the computer where SQL Server Express is installed, open the SQL Server Configuration Manager and enable the TCP/IP protocol:

1. Click **Start > Programs > Microsoft SQL Server 2008 R2 > Configuration Tools > SQL Server Configuration Manager**.



2. Under SQL Server Network Configuration, select **Protocols for SMTKINGDOM**.

- 
3. In the right panel, check if the TCP/IP protocol is enabled. If it is disabled as in the figure above, right click Disabled and select **Enable**.
  4. Restart the database service:
    - a. In the same Configuration Manager, select **SQL Server Services** in the left panel.
    - b. In the right panel right click **SQL Server (SMTKINGDOM)** and select **Restart**.
- 

**Note:** The default status for this protocol is enabled.

---

## Unable to start the SQL Server Express service

There are a number of reasons why the SQL Server Express service is unable to start. Microsoft returns 24 possible reasons. However, the following are the most common:

|  |  |
|--|--|
| The user password is not valid   | Re-enter the password in the <b>Server Configuration</b> dialog box and retry.   |
| The user has not been granted local "logon as a service" rights                  | If prompted that the user be added to the local "logon as a service" group, click <b>OK</b> .  |
| The domain user is not a member of a Group that has "logon as a service" rights. | Contact your domain administrator. See <a href="#">Network Project—Network Database Instance</a> for detailed steps.                           |
| The user is not in the Administrator group on the local computer                 | <a href="#">Add the service account user to the computer where the SQL Server Express instance is installed and add to Administrator Group</a> |
| The user logged in to the computer is not a local administrator                  | You must be a member of the Administrator group on the computer. Contact your domain administrator for assistance.                             |

---

# SQL Server Express Service Configuration

## What is your Working Environment?

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**Note:** You must be an **administrator** on your computer to run the service configuration application.

---

One of the following configuration options is **required** for the Auto SQL Server Express configuration and is highly recommended for the Manual configuration:

### Local

|                            |   |
|----------------------------|---|
| Projects                   | Kingdom projects are on your computer or on a colleague's computer.   |
| Users                      | You are a single user or have a small work group.   |
| SQL Server Express Service | Install SQL Server Express on the same computer as the Kingdom projects. Accept Local as the configuration. Click <b>OK</b> in the SQL Server Express Service Configuration dialog box to exit. |

Other users in a work group or network that have permissions to access this computer can also work in the Kingdom projects.

### Network

|                            |  |
|----------------------------|--|
| Projects                   | Kingdom projects are on a shared resource on the network.  |
| Users                      | The Kingdom projects and SQL Server Express instance may be on different machines. Multiple users may connect to the same SQL Server Express instance.                           |
| SQL Server Express Service | Install SQL Server Express on a network computer - not on your workstation.<br>This configuration requires a <a href="#">Network Project—Network Database Instance</a> solution. |

You need to get service credentials from your domain administrator before continuing.

See [Unable to start the service](#) for troubleshooting tips if you get an error message after trying to start the service with the entered log on credentials.

---

**Note:** If you need help, contact **Commodity Insights Client Services** at [ci.support@spglobal.com](mailto:ci.support@spglobal.com) or at one of the numbers below:

---

|                             |                      |
|-----------------------------|----------------------|
| Americas                    | +1 800 597 1344      |
| Asia Pacific                | +60 4 296 1125       |
| Europe, Middle East, Africa | +44 (0) 203 367 0681 |

When connected, select Option 3 (Commodity Insights) and then Option 1 for Kingdom.

Also check out [The Learning Center](#) where you will find an ever-expanding selection of product training, fundamentals training, and virtual event opportunities.

---

## Network Project—Network Database Instance

You are in a network environment when your project and your SQL Server Express (SMTKINGDOM) instance are both on your network - not on your workstation. This configuration supports multiple projects on multiple computers connecting to a central SQL Server Express instance.

See [What is your Working Environment?](#) for local and network criteria.

Your network administrator needs to do the following:

1. [Create user \(service account\)](#).
2. [Add the “Log on as a service right” to the user account](#).
3. [Grant the service account Full Control privileges to Kingdom project directories](#).
4. [Add the service account user to the computer where the SQL Server Express instance is installed and add to Administrator Group](#).
5. [Set the service account as the Log On account for the SQL Server \(SMTKINGDOM\) service](#).

### [Create user \(service account\)](#)

Prerequisites:

- Microsoft Administrative Tool Pack is installed on a machine in the domain or you have access to the domain controller.
- You have a domain administrator account or service account with permissions to create users and modify the default domain policy to create the service account.

Create the user (service account)

1. On a [Windows Domain Controller](#), open Administrative Tools and click **Computer Management**.
2. Expand **Your Domain**.
3. Right click **Users** and select **New User**.
4. Enter the user account information and click **Next**.
5. Enter a password and confirm the password.
6. Select **Password never expires**.
7. Click **Create** and then **Close**.

### [Add the “Log on as a service right” to the user account](#)

1. On a Windows Domain Controller, open Administrative Tools and select **Domain Security Policy**.
2. In the console tree, expand **Local Policies** and then **User Rights Assignment**.
3. In the details pane, double-click **Log on as a service**.

- 
4. If this security setting has not yet been defined, select the **Define these policy settings** check box.
  5. Click **Add User or Group** and then add the user (service) account you created.

### [Grant the service account Full Control privileges to Kingdom project directories](#)

Add the service account to the group(s) that have Full Control access to the Kingdom project directories—or—share the Kingdom project directories to the user account and give Full Control access. For the second option, see [How do I share my project directories?](#)

Add the service account to the group(s) that have Full Control access

1. On the Windows Domain Controller, select **Start > Programs > Administrative Tools > Active Directory Users and Computers**.
2. Click **Groups** to display existing groups.
3. Right click the selected group and select **Add to Group**.
4. Click **Add**.
5. Make sure **Service Accounts** is displayed under **Select this object type** and that your Domain is displayed under **From this location**.
6. Enter the name of the service account that you created and click **Check Names**.
7. When the account is returned, select **OK** and **OK** again.

### [Add the service account user to the computer where the SQL Server Express instance is installed and add to Administrator Group](#)

This step can be done by the domain administrator remotely or by any user that is an administrator on the computer where SQL Server Express is installed.

---

**Tip:** You can use the same service account for other instances of SQL Server Express.

---

The following procedure is for adding the service account on the computer where SQL Server Express is installed

1. From the Start menu, select **Control Panel > Administrative Tools**.
2. Double-click **Computer Management** to open the Computer Management MMC console.
3. Expand **Local Users and Groups**.
4. Right click on **Users** and select **New User**.
5. Type the user name and password for the service account you created. These must match the service account exactly.
6. Clear the option **User must change password at next logon**.
7. Select the option **Password never expires**.
8. Click **Create**, and then click **Close**.
9. In the left pane, click **Groups**

- 
10. In the right pane, double-click **Administrators**.
  11. In the Administrator Properties dialog box, click **Add**.
  12. In the **From this location** field, confirm that the location is the local computer, not the domain.
  13. Type the name of the service account and click **Check Names** to confirm you have selected the correct account.
  14. Click **OK**.
  15. If successful, the service account user name displays in the **Members** list. Click **OK**.

### [Set the service account as the Log On account for the SQL Server \(SMTKINGDOM\) service](#)

---

**Note:** This step can be done by the SQL Server Express Service Configuration tool installed with the instance. The user installing the instance only need the user name and password of the service account.

---

You must be a local administrator on the computer to set the Log On account.

1. Log in to the network computer where SQL Server Express is installed.
2. From the Start menu, select **Control Panel > Administrative Tools**.
3. Double-click **Services**.
4. Right click the **SQL Server (SMTKINGDOM)** service and select **Properties**.
5. Click the **Log On** tab.
6. Select **This account** and then click **Browse**.
7. In the **Select User** dialog box, click **Locations**.
8. Expand **Entire Directory** and select the company domain (network) name. Click **OK**.
9. Type the name of the service account and click **Check Names** to confirm you typed the correct name.
10. Click **OK** to return to the **Log On** tab.
11. Enter and confirm the service account password and click **OK**.
12. Click **Yes** in the two messages and **OK** again in the Log On tab.
13. Restart the service. In the Services list, right click the SQL Server (SMTKINGDOM) service and click **Restart**.

The SQL Server (SMTKINGDOM) service now be able to access the database files located in the Kingdom project folders.

The Kingdom project directories must be shared to the SQL Server (SMTKINGDOM) service Log On account (service account). The Log On account must have Full Control permissions to the project directories.

---

## How do I share my project directories?

You must share your project folder on your computer to the Log On account for the SQL Server (SMTKINGDOM) service and give this account Full Control permissions.

1. Contact your network administrator and request the name of the service account that was created for the SQL Server (SMTKINGDOM) service.
2. Share your project folder to this service account and give it Full Control permissions.
  - a. Right click the project folder on your computer and select **Properties**.
  - b. Click the **Sharing** tab and click **Share**.
  - c. Type the service account name and click **Add**. If a matching domain account is found, the domain\service account name appear in the list.
  - d. Under **Permission level**, click the down arrow and select **Read/Write**. Click **Share**.

Your folder is now shared to the service account. Click **Done** to exit.

## Windows Domain Controller

On Windows Server Systems, a domain controller (DC) is a server that responds to security authentication requests (logging in, checking permissions, etc) within the Windows Server domain. Windows 2000 and later versions introduced **Active Directory**.

## Unable to start the service

There are a number of reasons why the service is unable to start. Microsoft returns 24 possible reasons. However, the following are the most common:

|  |  |
|--|--|
| The user password is not valid   | Re-enter the password in the Server Configuration dialog box and retry.  |
| The user has not been granted local "logon as a service" rights                  | If prompted that the user be added to the local "logon as a service" group, click OK.  |
| The domain user is not a member of a Group that has "logon as a service" rights. | Contact your domain administrator. See <a href="#">Network Project—Network Database Instance</a> for detailed steps.                           |
| The user is not in the Administrator group on the local machine                  | <a href="#">Add the service account user to the computer where the SQL Server Express instance is installed and add to Administrator Group</a> |
| The user logged in to the computer is not a local administrator                  | You must be a member of the Administrator group on the computer. Contact your domain administrator for assistance.                             |



---

## The Administrator Console

This chapter explains how to install the Administrator Console, including the Kingdom Enterprise Service and Administrator Console database. If you are using only the SeismicDirect Access utility, you only need to install the Administrator Console. You do not need to install the Kingdom Enterprise service or the Administrator Console database. These components are only required for the Project Access utility.

If you are using the Project Access utility, there is a recommended installation order for all the required components. Although you can install the various components of the Administrator Console in any order, following the recommended installation sequence will simplify the installation process.

If you are installing the components required by the Project Access utility, these installation instructions assume you are familiar with the following:

- Microsoft Internet Information Services (IIS) version 6 or greater
- Microsoft SQL Server 2008 R2 or greater
- Creation and configuration of service accounts
- Active Directory users and groups

### System Requirements

The following table shows the minimum software and permissions required by the various components of the Kingdom Administrator Console.

| Component                  | Requirement   |
|----------------------------|---|
| Console                    | .NET Framework 4.5  |
| Database                   | SQL Server 2008 R2  |
| Kingdom Enterprise Service | <ul style="list-style-type: none"><li>• IIS 6.0 or greater</li><li>• .NET Framework 4.5</li></ul>   |
| Service Account            | <ul style="list-style-type: none"><li>• Read-only permissions to Active Directory</li><li>• Read-only permissions to all Kingdom project directories</li><li>• Read/write permissions to the root folder of web site</li><li>• Member of Windows Authorization Access group</li></ul> |

### Installation Sequence

Install the components of the Kingdom Administrator Console in the following order:

1. Administrator Console
2. Administrator Console Database
3. Kingdom Enterprise Service

---

If you are using only the SeismicDirect Access utility, you do not need to install the Administrator Console database or the Kingdom Enterprise Service. You can always install these components later if you choose to use the Project Access utility at a later time.

### **Related topics**

[Configuring the Enterprise Project Selector](#)

## Installing the Administrator Console

Whether you are using the Project Access utility, the SeismicDirect Security utility, or both, the first component you need to install is the Administrator Console. For the SeismicDirect Security utility, this is the only component you need to install. You do not need to install the Kingdom Administrator Console on a computer where Kingdom is installed.

The Project Access utility will not work until you install the Kingdom Enterprise Service and console database. However, you install the Administrator Console first so it is available to test connectivity to the database and proper access to Active Directory with the service account.

### To install the Kingdom Administrator Console:

1. If you are installing from the web, download the Kingdom Administrator Console from the [Kingdom download site](#).

If you are installing from the Kingdom USB drive, insert the Kingdom USB drive, click the Applications tab in the Installation Manager, and then click Kingdom Administrator Console.

2. Follow the instructions in the installer to complete the installation.

### Related topics

[Installing the Administrator Console Database](#)  
[Installing the Kingdom Enterprise Service](#)

# Installing the Administrator Console Database

Follow these steps to install the Administrator Console Database. You only need to perform the database installation one time. The Administrator Console database requires SQL Server 2008 R2 or later.

1. Start SQL Server Management Studio.
2. If it is not already connected, connect to the SQL Server database where you want to install the Administrator Console database.
3. From the menu, select **File > Open > File**, and then browse to the `\install\SQL` folder in the Kingdom Administrator Console installation directory (by default, `C:\Program Files\KINGDOMSuite\KingdomAdminConsole\`).
4. Open the `install` folder and then the `SQL` folder.
5. Open the `EpsDataModel.sql` file.
6. Execute the query. This creates the KingdomEnterprise database in SQL Server.

### Related topics

[The Administrator Console](#)

[Installing the Kingdom Enterprise Service](#)

## Installing the Kingdom Enterprise Service

The Administrator Console uses the Kingdom Enterprise Service to browse Active Directory for users and groups and to store permissions information in the SQL database. The Kingdom Project Selector uses the service to query the database for information about access to Kingdom projects based on the credentials of the logged on user where the Kingdom Project Selector is running.

### Creating the Service Account

The Kingdom Enterprise Service requires a service account that has read-only access to any directories where you have Kingdom projects and that also has read-only access to Active Directory. This service account also requires read/write access to the root folder of the web server where you are installing the service. You can either create a new service account with these permissions or use an existing service account that has the needed permissions.

### Creating the Application

Follow these steps to create the Kingdom Enterprise Service application on your web server. These steps are specific to Internet Information Services (IIS) version 7. There may be slight differences in this process if you are using a different version of IIS.

1. Browse to the `\install\Web\KingdomEnterpriseService` folder in the Kingdom Administrator Console installation directory (by default, `C:\Program Files\KingdomSuite\KingdomAdminConsole\`).
2. Copy this folder to the root directory of your web server (for example, `C:\inetpub\wwwroot\`).
3. Start Internet Information Services Manager.
4. In the Connections pane, click **Application Pools**.
5. In the Actions Pane, click **Add Application Pool**.
6. In the **Name** field, type the name of the application pool you want to add (for example, `KingdomEnterpriseService`).
7. In the .NET Framework version list, select .NET version 4.0.
8. Click **OK**.
9. In the list of application pools, click the application pool you just created (for example, `KingdomEnterpriseService`).
10. In the Actions pane, click **Advanced Settings**.
11. In the Process Model group, select the **Identity** property and click **[...]** to open the Application Pool identity dialog box and browse for a service account to use for the application pool.
12. On the Application Pool Identity dialog box, select **Custom account**, and then click **Set**.

13. Enter the user name and password of the service account you want the Kingdom Enterprise Service to use, and then click **OK**.
14. Click **OK** twice to close the open dialog boxes.
15. In the Connections pane, right-click the KingdomEnterpriseService folder (in the Sites\Default Web Site folder) and click **Convert to Application**.
16. In the Add Application dialog box, click **Select**.
17. From the list, select the application pool you just created (for example, KingdomEnterpriseService), and then click **OK** twice.

## Configuring the Database Location and Credentials

In the `KingdomEnterpriseService` folder you copied to the root directory of your web server, open the `Web.config` file in a text editor. Update the `ConnectionStrings` element to include the server name, database name, user ID, and password for the Administrator Console database you created previously.

## Testing the Installation

To test whether the Kingdom Enterprise Service is installed and running, open up a web browser and type in the following URL:

`http://localhost/KingdomEnterpriseService/ProjectSelector/ProjectDiscoveryService.svc`

If you are not testing the service on the web server itself, you will need to provide the name of the web server in the URL listed above rather than using `localhost`.

If the service is running, you will see a page with instructions about how to configure metadata publishing. Otherwise check to see that you performed the installation correctly. In some cases, you may see a 404.3 error, "The page you are requesting cannot be served because of the extension configuration." Refer [Troubleshooting](#) for more information about how to resolve this issue.

### Related topics

[The Administrator Console](#)

[Installing the Administrator Console Database](#)

## Configuring the Enterprise Project Selector

As a system administrator, you may want to pre-configure the Enterprise Project Selector for your users so they do not have to specify the location of the Kingdom Enterprise Service. To do this, you can modify the `Kingdom Administrator Console.exe.config` file and distribute this modified file to each user installation of the Enterprise Project Selector.

To modify the `Kingdom Project Selector.exe.config` file, follow the steps below:

1. Open a copy of the `Kingdom Project Selector.exe.config` file in a text editor (this file is located in the root Kingdom installation folder (for example, `C:\Program Files\KingdomSuite\TKS88\`).

2. Make the following changes:

Replace

```
<appSettings>
  <add key="ServiceLocation" value="" />
</appSettings>
```

With

```
<appSettings>
  <add key="ServiceLocation" value="http://companyServerHere/
  KingdomEnterpriseService" />
</appSettings>
```

Where the value is the URL where you installed the Kingdom Enterprise Service.

3. Save your changes in the copied file.
4. Replace users' copies of the `Kingdom Project Selector.exe.config` file with the modified version of the file.

### Related topics

[The Administrator Console](#)  
[Defining Project Access](#)



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# Updating the Kingdom Software

## Download and apply

For updates for Kingdom versions before 2018 please [Contact Us](#).

Updates for Kingdom versions 2018 and later are available for download from the [Kingdom Downloads](#) page and the [Entitlement Management System \(EMS\)](#). To access the EMS, you need the Entitlement ID (EID) that was included in the Entitlement Certificate sent to the primary contact at your company. For more information about accessing the EMS, see the Licensing [Overview](#).

### To download Kingdom updates from the Kingdom Download page (link is above):

1. Go to the [Kingdom Downloads](#) page .
2. Select Kingdom as the product in the left pane.
3. Select the version from the dropdown list.
4. Under Updates, hover over the update you want to install. The Download button will activate  .
5. Click the Download button.
6. Wait for the download to complete. This takes a couple of minutes. The file is saved to your Downloads folder.
7. To install, when the download is complete, double-click on `TKS_version.msp`:
8. Follow the installation wizard. That's it. You are done.

### To download and apply the software updates from the EMS:

1. Log on to the EMS using your EID:  
<https://softwarelicensing.ihsmarkit.com/ems/customerLogin.html>.
2. Click **Downloads** in the upper-right corner.  
The Download page contains all of your entitlements. Each license is listed separately, but you only need to download the update package once.
3. Click the **Download** link beside the update. The download file is `TKS_[version]_[update].msp`.
4. Double-click the update file (\*.msp) to start the Update Wizard and then follow the wizard to complete the installation.

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**Note:** If you are updating a version of Kingdom 8.8 or earlier, the update package is a zip file. Update instructions are included.

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