

While the Release Notes provide you with the most current information regarding SQL virtual database, the main Help gives you the detail you need to understand SQL virtual database and how it helps you access data and objects from your backup files.

You can use the [main SQL virtual database Help](#) to:

- [Configure your deployment](#)
- [Create a virtual database](#)
- [Use your virtual database](#)

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Idera SQL virtual database (SQLvdb) is a powerful one-of-a-kind solution that lets you attach SQL Server backup files and query them like real databases. With its revolutionary, patent-pending technology, you gain instant access to critical data in a backup file without spending the time and storage previously required for restore. In minutes, you can create a virtual database and then use any native SQL Server or third party tools to query and extract the data you need.

### Features

#### Virtual recovery

Provides instant, feature-rich access to all data from within SQLsafe backup and native SQL Server backup files.

#### Point-in-time selection

Provides point-in-time selection and recovery, allowing granular control over the state of the data displayed in the virtual database.

#### Native SQL Server and third-party application access

Use existing SQL Server tools such as SQL Server Management Studio and third-party applications to interact with the new virtual database as though it were an actual physical database.

#### Intuitive Console

Allows virtual databases to be quickly and easily created, edited, or removed.

#### No impact to production servers

Installs to a single non-critical server and attaches all virtual databases to a single SQL Server instance.

Database administrators are often asked to recover a backup in order to recover objects and data, compare two systems, or run a report. Previously, the only way to do this is to restore the database, a consuming activity that requires time and storage.

SQL virtual database lets you create a 'virtual database' that appears to SQL Server and third-party applications as a physical database. This virtual database provides direct access to the data without a restore. This direct access greatly reduces the time required for data recovery, increases your productivity, and reduces resource requirements.

With SQL virtual database, you can:

- Eliminate long restore times
- Access a backup file and retrieve the objects or data you need *immediately*
- Save massive amounts of storage
- Execute any query
- Use backups for reporting, data extraction, data analysis, and more
- Take the load off your production servers and experience zero impact on production databases
- Access full, differential, and transaction log backup files made by [Idera SQLsafe](#) and SQL Server

SQL virtual database is driven by a unique, patent-pending recovery technology that makes backup files behave like regular physical databases. This technology allows you to create virtual databases by directly attaching backup files to SQL Server without requiring a restore operation.

Each virtual database is hosted by the SQL Server instance you specify. All objects and data in the virtual databases are accessible to SQL Server jobs and stored procedures, T-SQL scripts, and other third-party applications.

The SQLvdb Engine, which consists of a driver and a service, manages the virtual database and services the SQL Server I/O requests to the virtual data files. As the SQLvdb Engine attaches your selected backup files and creates the virtual database, it consolidates all the transactions and presents them to SQL Server for recovery. During this process, SQL virtual database "maps" the data from the backup files. *If the data has already been "mapped"*, such as through SQLsafe or the [Map Generation utility](#), then SQL virtual database proceeds to the virtual database creation. You can create a virtual database by attaching specific data sets from multiple full, differential, and transaction log backups.

You can then use the SQLvdb Console, or any other third-party tool, to perform queries against specific virtual databases or simply check the status of your virtual databases. For more information, see our instructions on [how to use your virtual database](#), as well as [tips and tricks](#).

The product features, such as the virtual database creation, are also available through the SQLvdb CLI. For more information, see the [product component](#) descriptions.

### How does SQL virtual database work with SQLsafe?

SQL virtual database seamlessly converts SQLsafe backup files into virtual databases. You can use SQL virtual database with any backup file generated by SQLsafe 5.0 or later. For more information, see the [product requirements](#).

When you attach a backup file previously created by SQLsafe 5.0, the SQLvdb Engine performs the same steps as it does with the native SQL Server backup. To optimize performance for large databases, use the [Map Generation utility](#) to generate the required metadata before attaching the backup files.

With SQLsafe 6.0 or later, you can configure your backup operation to automatically generate the metadata. By default, this option is enabled when you perform a new manual backup or define a new backup policy. For more information, see the [SQLsafe Help](#).

### What virtual data files are created?

For each virtual database you create, several files are also created to support the new virtual database. These virtual data files are:

File	Description	Location	Can you move it?	When is it deleted?
*.xbm *.xcm *.xdm *.xtm	Files that the SQLvdb Driver creates to map the data in the selected backup files.	In the same folder where you store your backup files.	No. Moving these files will cause errors when you attempt to access the virtual database.	Never ... After you have retrieved the data you need from the virtual database, you can use the <a href="#">groom feature</a> to delete unused data files, manually delete these files, or schedule a job to periodically groom old files.
*.lcf *.mcf *.ncf	Files that the SQLvdb Service creates when reading changed	In the VDB/Sparse folder under	No, but you can specify a new location ...	When the virtual database is removed (dropped) from the SQL Server instance.

File	Description	Location	Can you move it?	When is it deleted?
	pages from the transaction log for the selected backup files.	the Program Files directory on the client computer.	Moving these files when the virtual database is attached will cause errors when you attempt to access its data.  To choose a different location for these files, delete your virtual databases, and then <a href="#">specify a new directory path</a> . When you create the next virtual database, the SQLvdb Engine will use the new path.	
*.lxf *.mxf *.nxf	Virtualized versions of the .lcf and .mcf files associated with the selected backup set.	None ... These files are placeholders for SQL Server.	No, these files do not exist on your disk.	When the virtual database is removed (dropped) from the SQL Server instance.
*.vdb	An XML file that contains the configuration information for the virtual database.	In the Repository folder under the Program Files directory on the client computer.	No. Moving these files will cause errors when you attempt to access the virtual database.	When the virtual database is removed (dropped) from the SQL Server instance.

### How much disk space should I allocate for the virtual data files?

The amount of disk space consumed by the virtual data files depends on the size and content of your backup files. For more information, see the [recommended disk space allocations](#).

**TIP** The size for these files may display incorrectly in tools such as Management Studio. To see the correct size, use Windows Explorer to navigate to the file and then view the file properties.

This documentation set includes a comprehensive online Help system as well as additional resources that support you as you install and use the product. You can also search the Idera Solutions knowledge base, available at the [Idera Customer Service Portal](http://www.idera.com/support) ([www.idera.com/support](http://www.idera.com/support)).

Please contact us with your questions and comments. We look forward to hearing from you. For support around the world, please contact us or your local partner. For a complete list of our partners, please see our Web site.

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This Help system can be accessed either through the Help menu or by pressing F1 on your keyboard while on the window you would like more information.

To search for topics that explain the specific information you need, select the Search tab, type in the keyword in the space provided, and click List Topics for a list of all the topics that contain the keyword you entered.

### How do I print the Help?

1. Select the top-level node in the table of contents and click the **Print** button.
2. Check the **Print the selected heading and all subtopics** box to open your print dialog.

Idera documentation uses consistent conventions to help you identify items throughout the printed online library.

Convention	Specifies
<b>Bold</b>	Window items
<i>Italics</i>	Book and CD titles Variable names New terms
Fixed Font	File and directory names Commands and code examples Text typed by you
Straight brackets, as in [value]	Optional command parameters
Curly braces, as in {value}	Required command parameters
Logical OR, as in value 1   value 2	Exclusively command parameters where only one of the options can be specified

At Idera, we have engineered a new generation of tools for managing and administering the world's fastest growing database management system - Microsoft SQL Server. Headquartered in Houston, Texas, Idera boasts numerous systems and database management industry veterans devoted to bringing proven solutions to you, the database professional. We provide products that install in minutes, configure in hours and deploy worldwide in days to dramatically increase the performance, availability and efficiency of SQL Server operations, and the productivity of database administrators.

Our tools are engineered to scale - from managing a single server to enterprise deployments with thousands of servers. Idera products combine ease of use with a design that installs in minutes, configure in hours, and deploy worldwide in days. To learn more about Idera products, visit <http://www.idera.com/products>.

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SQL virtual database helps you quickly and easily access data and objects from your backup files without performing costly restore operations or impacting your production servers.

- [Review issues fixed by this build](#)
- [See known issues](#)
- [Learn about key new features in this release](#)

SQL virtual database 1.5 provides the following new features and fixed issues.

### 1.5 new features

- There are no new features in SQL virtual database 1.5.

### 1.5 fixed issues

- The Attach Multiple Backups wizard now allows you to select multiple log files without forcing the use of the most closely-related full backup file. You can select an appropriate full backup file, and then freely select from the other available log files that are part of the same LSN chain.

This build includes many fixed issues, including the following previous updates.

#### 1.4 Service Pack 1

- A backup of a virtual database can now be successfully restored or used to create another virtual database.
- The Map Generation utility now correctly generates virtual data files for native backups of SQL Server 2008 instances.
- The SQLvdb production license now allows you 14 days to activate the license key before it expires.
- SQLvdb now correctly handles page validation when creating virtual databases.

#### 1.4 Build 44

- The SQL virtual database Map Generation utility now supports compressed native backups of SQL Server 2008 databases.

#### 1.4

This release contains the following fixed issues:

- The SQLvdb Engine now correctly detects and handles non-data pages, such as pages containing full-text data, when attaching and searching backup files.
- You can now create a virtual database from a full backup and multiple transaction log backups that belong to an unbroken LSN chain, even when additional full backups were performed during the same time frame as the transaction log backups.

#### 1.3

This release contains the following fixed issue:

- SQLvdb now successfully attaches a backup file that had been created when the target database was growing. This issue was most likely to occur when the transactions that caused the database growth affected a GAM page. For more information about GAM pages and database growth, see SQL Server Books Online.

#### 1.2

This release contains the following fixed issue:

- When creating virtual databases, the SQLvdb Engine now correctly handles:
  - any LOP\_BUF\_WRITE transactions in the selected backup files
  - timeout errors when creating or accessing the virtual data files

#### 1.1 Build 1118

This build contains the following fixed issue:

- The SQLvdb configuration files are now encrypted.

#### 1.1

This release contains the following fixed issues:

- This build provides improved performance and greater stability when creating and querying virtual databases.
- You can now delete a previously attached virtual database using the Console or CLI.

- You can now use an LSN (log sequence number) range to specify a point in time when attaching transaction log backups through either the Console or the CLI.
- The SQLvdb Console now displays the full filename of the selected backup when prompting for the encryption password.
- SQL virtual database now provides improved descriptions for events written to the application event logs.

Idera strives to ensure our products provide quality solutions for your SQL Server needs. The following known issues are described in this section. *If you need further assistance with any issue*, please contact [Support](http://www.idera.com/support) (www.idera.com/support).

### Installation and configuration considerations

- **Virtual SQL Server support**

You can now deploy SQL virtual database to virtual SQL Server instances located on the nodes of a Windows 2003 or Windows 2008 Server Cluster.

- **Windows Server 2000 support**

You cannot install SQL virtual database on computers running Windows Server 2000. For more information, see the [product requirements](#).

- **TSM support**

SQL virtual database does not support attaching backup files written to a Trivoli Storage Manager (TSM) device. However, you can extract the data files to disk, and then attach the copied data files.

### Known issues in version 1.5

There are no new known issues.

### Previous known issues

- **Attaching backup files located on mapped drives**

You cannot attach a backup file located on a mapped drive or a hard drive that is not mapped to an admin share. To avoid this issue, specify the full UNC path (`\\servername\sharename`) instead of the drive letter.

- **Attaching file or filegroup backups**

You cannot attach file or filegroup backups. For more information about which backup types are supported, see the product requirements. For more information about file and filegroup backups, see SQL Server Books Online.

- **Attaching SQLsafe backup files from version 4.9 or earlier**

SQL virtual database supports backup files created by SQLsafe version 5.0 and later. Attaching a backup file created by SQLsafe 4.9 or earlier will result in an error.

- **Creating a virtual database that contains a large number of transactions**

SQL virtual database may require more time to create a virtual database when the selected backup files contain a large number of transactions. Because you can select full, differential, and multiple transaction log backups, a significant number of transactions may need to be recovered before the virtual database can be created. This issue is more likely to occur if the corresponding physical database incurred transactions during the backup operation.

For more information about virtual database creation, see [how SQL virtual database works](#).

- **Full-text catalog support**

SQL virtual database does not support the SQL Server full text catalog feature. Although you can create a virtual database that has full text catalog enabled, you cannot use this function when accessing the data.

- **Modifying your virtual database**

Modifying the virtual database, such as executing write statements to specific tables in the virtual database, may cause errors.

- **Slow performance when attaching backup files from a network share**

You may experience slower performance when attempting to attach a large SQLsafe backup file located on a network share.

- **Slow performance when attaching backup files that contain multiple data sets**

You may experience slower performance when attaching backup files that contain multiple data sets. This issue is more common when attaching SQL Server backups.

- **Query running DBCC CHECKDB command returns error**

When running a query that attempt to execute a DBCC CHECKDB command on a virtual database, you may receive an error. To resolve this issue, use the `tablock` option, as in `dbcc CHECKDB with tablock`. This option locks the tables instead of the internal database snapshot. For more information, see Microsoft SQL Server Books Online.

- **Restoring a backup of a virtual database**

After you restore a backup of a virtual database, you must change the extensions of all associated data files to the default SQL Server extensions (such as `.mdf`, `.ndf`, and `.ldf`). Otherwise, you will experience incompatibility issues with that database.

- **Autogrowth settings are not preserved in virtual databases (10440)**

- **SQL Server 2008 support limitations**

You cannot create virtual databases from backup files for SQL Server 2008 databases that contain data sets for databases that use FILESTREAM to manage unstructured data.

Idera strives to ensure our products provide quality solutions for your database needs. Idera Solutions have been recently added to the knowledge base at our [Customer Service Portal](http://www.idera.com/support) (www.idera.com/support).

Solution Number	Solution Title
4012	Error "There is already an object named 'sysnsobjs' in the database." when attempting to mount a SQL 2000 master database onto a 2005 instance
4019	Why does loading a striped native SQL backup take significantly longer than loading from a single file?