

# DB2 Text Search

Installation, configuration and upgrade



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This presentation describes the installation, configuration and upgrade of DB2® Text Search.

## Overview – DB2 Text Search

- An optionally installable component in DB2 server
- Fully integrated with installation of all DB2 server products
  - From V10.1, decoupled installation is supported
- Integrated and stand-alone Text Server setup
- One DB2 instance <---> One TS server instance service

DB2 Text Search is an optionally installable component whose installation and configuration is fully integrated with DB2 server products. From DB2 V10.1 release, stand-alone Text Search server is supported so you can have a choice of either integrated or stand-alone server setup.

In an integrated setup, DB2 and Text Search servers are located on the same machine. In a stand-alone setup, Text Search server is installed on a different machine to separate out the heavy processing indexing tasks from that of the DB2 server. Stand-alone setup is preferred in partitioned database environments.

One DB2 instance is always associated with only one Text Search server instance.

This presentation discusses the various installation, configuration and upgrade methods available for DB2 Text Search on DB2 Linux, UNIX and Windows.

It also covers installation of stand-alone server and DB2 Accessories Suite.

## Installation methods

- Windows®
  - Setup (GUI installation)
  - Response file based (Silent installation)
- Linux® and UNIX® platforms
  - db2setup (GUI installation)
  - Response file based (Silent installation)
  - db2\_install (Script based installation)

There are various methods available to install DB2 Text Search on Linux, UNIX and Windows platforms. GUI and silent installation are available on these platforms, whereas script based installation is available only on Linux and UNIX.

## Initial configuration of DB2 instance for Text Search on Linux and UNIX

- Run silent installation
- Run GUI installation
- As root user
  - Use option `-j "TEXT_SEARCH, service-name, port"` with commands
    - `db2icrt`
      - To configure Text Search for new instance
    - `db2iupdt`
      - To configure Text Search for instance being updated
    - `db2iupgrade`
      - To configure Text Search for instance being upgraded
- As non-root user
  - Use option `-j "TEXT_SEARCH, service-name, port"` with commands
    - `db2nrupdt`
      - To configure Text Search for instance being updated
    - `db2nrupgrade`
      - To configure Text Search for instance being upgraded

As a root user, use the `-j "TEXT_SEARCH"` option with the `db2icrt`, `db2iupdt` or the `db2iupgrade` command to configure Text Search.

As a non-root user, use the `-j "TEXT_SEARCH"` option with `db2nrupdt` or `db2nrupgrade` command to configure Text Search.

## Initial configuration of DB2 instance for Text Search on Windows (1 of 4)

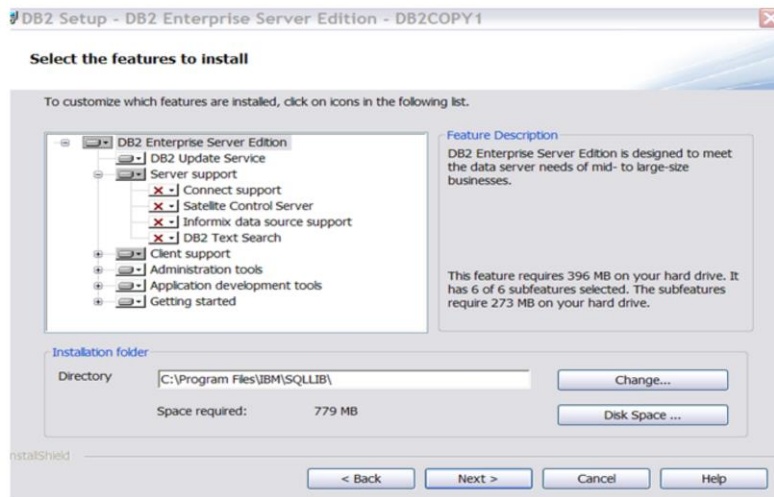
- Run silent installation
  - Add line for installation
    - "COMP= TEXT\_SEARCH"
  - Add lines for configuration
    - "<db2inst\_name>.TEXT\_SEARCH\_HTTP\_SERVICE\_NAME=db2j\_<db2inst\_name>"
    - "<db2inst\_name>.TEXT\_SEARCH\_HTTP\_PORT\_NUMBER=port\_number"

On a Windows platform, modify the DB2 response file as displayed on this slide to perform a silent installation and configuration. You should add a line "COMP=TEXT\_SEARCH" to install DB2 Text Search.

For configuration, you should add two more lines for specifying port number and service name. If you do not provide any values, default values are used for configuration if the response file keyword *db2inst\_name*.CONFIGURE\_TEXT\_SEARCH is set to YES.

## Initial configuration of DB2 instance for Text Search on Windows (2 of 4)

- Run GUI installation
  - Run DB2 Setup wizard and select "DB2 Text Search"



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Another way of configuring an existing DB2 instance for Text Search on Windows is to perform a custom installation of DB2 by running "db2setup" and select "DB2 Text Search" from the feature list as displayed on this slide.

## Initial configuration of DB2 instance for Text Search on Windows (3 of 4)

- Provide valid service name and port number



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To automatically configure DB2 Text Search, provide a valid service name and port number.

## Initial configuration of DB2 instance for Text Search on Windows (4 of 4)

- Run db2iupdt or db2iupgrade with -J "TEXT\_SEARCH, service-name, port" option

Another way of configuring an existing DB2 instance for Text Search on Windows is to run db2iupdt or db2iupgrade with the – J "TEXT\_SEARCH" option.



## Verify DB2 Text Search installation

- db2tss folder should exist in DB2 installation directory
  - For Windows
    - "%DB2PATH%\db2tss" is the installation path, and can be determined by echo "%DB2PATH%".
    - The contents of "%DB2PATH%\db2tss"
      - "%DB2PATH%\db2tss\bin
      - "%DB2PATH%\db2tss\ddl
      - "%DB2PATH%\db2tss\lib
      - "%DB2PATH%\db2tss\resource
  - For Linux and UNIX
    - DB2DIR/db2tss is installation path and DB2DIR is installation path of DB2 copy
    - Contents of DB2DIR/db2tss
      - DB2DIR/db2tss/bin
      - DB2DIR/db2tss/ddl
      - DB2DIR/db2tss/lib
      - DB2DIR/db2tss/resource

The next few slides provide steps to validate the installation and configuration of DB2 Text Search. Verify the DB2 Text Search installation by checking the presence of the "db2tss" folder in the DB2 installation directory. The "db2tss" folder should contain the subfolders bin, ddl, lib and resource.

## Verify DB2 Text Search configuration

- Verify authentication token generated using configTool
  - ConfigTool printToken –configPath *path-to-config-folder*
  - Token is empty if Text Search is not configured
    - "IQQD0062E No token was found."
- Run configuration tool to generate token
  - configTool generateToken -configPath *path-to-config-folder* -seed *value*
- Set the port
  - configTool configureHTTPListener -configPath *path-to-config-folder* -adminHTTPPort *port-number*

This slide displays how to check whether a DB2 Text Search instance is configured properly. The configuration tool is a command line utility used to perform initial and all subsequent configurations of DB2 Text Search. Run the configuration tool and verify that the authentication token is not empty.

The communication between DB2 Text Search and the Text Search server happens by way of the authentication token and the HTTP port. If these parameter values are empty, run the configuration tool to generate the token and to set the port number as displayed in this example displayed on this slide.

## Verify the status of DB2 Text Search

- Start and stop DB2 Text Search service commands
  - db2ts start for text
  - db2ts stop for text

Verify the status of DB2 Text Search by starting and stopping the DB2 Text Search service.

## Stand-alone server

- Deployed separately from DB2 instance
- Mostly used for workload distribution (recommended for use in DPF scenario)
- Download DB2 Accessories Suite for installing stand-alone server (only supports silent installation)
  - <https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?source=swg-dm-db2accsuite>
- Edit response file per requirements and run setup file
- Verify installation is successful
- Use startup.sh/shutdown.sh for starting and stopping text server
- Rich text feature is enabled by default

The next few slides discuss the installation and configuration of stand-alone server. A stand-alone server can be deployed separately from the DB2 instance and is preferred for partitioned environments, as it avoids resource contention with the database server.

You can download the DB2 Accessories Suite for the required platform from the link displayed on this slide. Edit the response file as per the requirements and run the setup file to install the stand-alone server. Verify the installation is successful by checking the bin, lib, config, and resource folders. Use startup.sh and shutdown.sh for starting and stopping the text server.

The rich text feature is enabled by default in the stand-alone server.

## Configuring stand-alone server

- Enable database for Text Search
- Update catalog view SYSIBMTS.TSSERVERS
- Run stored procedure `sysproc.systs_configure()`
- Example
  - In host1 where the stand-alone server is deployed
    - Update configuration file parameters accordingly
    - Start server running `startup.sh / startup.bat`
  - In host22 where the db2 instance is located
    - Enable database for Text Search
    - Update view SYSIBMTS.TSSERVERS

Once the database is enabled for Text Server, update the catalog view SYSIBMTS.TSSERVERS with host name, IP, token, port, SERVERTYPE, and so on, to establish connectivity with the stand-alone Text Server.

SERVERTYPE should be zero for integrated server and one for stand-alone server. Run the stored procedure `sysproc.systs_configure()` to update the Text Search catalog. Consider a sample scenario with two hosts, host1 where stand-alone server is deployed and host2 where DB2 instance is located.

On host1, use the configTool to review and configure a minimum of DB2 Text Search server port, host name, authentication token and default Data Directory parameters.

The server can be started by running startup and shutdown scripts located in the `db2tss/bin` directory.

On host2, enable the database for Text Search and update the view SYSIBMTS.TSSERVERS for connecting to the remote stand-alone server.

All the text index collection files are located on host1.

## Upgrade scenarios

- Upgrade for root or administrator installation
  - Text Search was NOT configured
  - Text Search was configured
- Upgrade for non-root installation (Linux and UNIX)
  - Text Search was NOT configured
  - Text Search was configured
- Upgrade for multi-partition instance without Text Search
  - DPF was not supported by TS before DB2 V10.1
  - Text Search was not configured for multi-partition instance

You should upgrade your DB2 Text Search instance to obtain the latest functionality. There are several upgrade scenarios possible like upgrading DB2 instance where Text Search may or may not be previously configured.

The upgrade can be started by either root or non-root user.

Text Search supports the Database Partitioning Feature, or DPF, starting with DB2 V10.1, so it is possible to upgrade the multi-partition instance while configuring it for Text Search the first time.

## Upgrading Text Search (root or administrator)

- Install new DB2 copy along with Text Search
- Issue *configTool upgradeConfig* command
- Issue *db2iupgrade* command
- Issue *DB2 UPGRADE DATABASE* command
- Verify upgrade successful
  - Start DB2 Text Search instance service
  - Check version of text server
- Detailed steps of upgrade in Information Center
  - Upgrading DB2 Text Search for administrator or root installation
  - <http://pic.dhe.ibm.com/infocenter/db2luw/v10r5/topic/com.ibm.db2.luw.admin.ts.doc/doc/t0058559.html>

Install a new copy of the DB2 version and perform a custom installation. Ensure the Text Search component is selected. Upgrade the Text Search server configuration information by issuing the *configTool upgradeConfig* command.

Upgrade your instances by issuing the *db2iupgrade* command and upgrade the existing databases by issuing the *DB2 UPGRADE DATABASE* command.

Verify that the upgrade was successful by starting the DB2 Text Search instance service and by checking the version of Text Server, ensure that it is updated to the latest version shipped with the upgraded DB2 copy.

For detailed steps of upgrading, see the Information Center link provided on this slide.

## Upgrading Text Search (non-root)

- Install new DB2 copy with upgrade option
- Select Text Search component to upgrade
- Issue *db2 upgrade db* command
- Issue *configTool upgradeConfig* command
  
- **Note**
  - During a new installation, if you specified *-f nobackup* and the installation failed, you need to upgrade the instance manually
    - *db2nrupgrade -b <backup-dir> -j "text\_search"*
- Detailed steps of upgrade in Information Center
  - Upgrading DB2 Text Search for non-root installation (Linux and UNIX):
  - <http://pic.dhe.ibm.com/infocenter/db2luw/v10r5/topic/com.ibm.db2.luw.admin.ts.doc/doc/t0058560.html>

Install a new DB2 copy with the upgrade option and select the Text Search component to upgrade. Upgrade all the databases owned by the instance by running the command *db2 upgrade db*. Upgrade the Text Search server configuration information by issuing the *configTool upgradeConfig* command.

It is important to note that during the new installation, if you specified *-f nobackup* and the installation failed, you need to upgrade the instance manually using the *db2nrupgrade -b <backup-dir> -j "text\_search"* command.

For detailed steps of upgrading, see the Information Center link provided on this slide.



## Upgrading a multi partition instance without DB2 Text Search

- Install new DB2 copy along with DB2 Text Search
- Issue *db2iupgrade* command
- Issue *db2 upgrade db* command
- For each upgraded database, update Text Search server information manually
- Detailed steps of upgrade in Information Center
  - Upgrading a multi-partition instance without DB2 Text Search
  - <http://pic.dhe.ibm.com/infocenter/db2luw/v10r5/topic/com.ibm.db2.luw.admin.ts.doc/doc/t0058800.html>

To upgrade a multi-partition instance without DB2 Text Search, install a new DB2 copy selecting the DB2 Text Search component. Upgrade your instances by issuing the *db2iupgrade* command with the `-j "TEXT_SEARCH"` option. Upgrade all existing databases by running the *db2 upgrade db* command. For each upgraded database, update Text Search server information manually.

For detailed steps of upgrading, see the Information Center link provided on this slide.

## DB2 Text Search Accessories Suite - Rich text feature

- Rich text document
  - Contains text and formatting instructions such as bold, italics, font types, font sizes, spacing, and more
  - Microsoft Office, Open Document, pdf, and more
- Example
  - db2ts “CREATE INDEX mytextindex FOR TEXT ON mytable(mycolumn) **FORMAT INSO**”
  - db2ts “UPDATE INDEX mytextindex FOR TEXT”
  - db2 “SELECT column FROM mytable WHERE CONTAINS(mycolumn,'keyword')=1”

This slide describes the DB2 Accessories Suite. The DB2 Text Search Accessories Suite enables indexing and searching of documents with rich text features and proprietary formats. Examples of document formats are Microsoft Office, pdf, odp, and so on.

The text index should be created with **FORMAT INSO** to enable this feature. The example provided on this slide shows how to setup a rich text index in DB2 Text Search.

## DB2 Accessories Suite

- Download DB2-AS for stand-alone server and rich text feature
  - <https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?source=swg-dm-db2accsuite>

Supported Platform	DB2-AS for Stand-alone server	DB2-AS for Rich text
NT32	db2_v105_nt32_accsuite_ts_standalone.zip	db2_v105_nt32_accsuite_ts.zip
NT64	db2_v105_nt64_accsuite_ts_standalone.zip	db2_v105_nt64_accsuite_ts.zip
Linux AMD64	db2_v105_linuxia64_accsuite_ts_standalone.tar.gz	db2_v105_linuxia64_accsuite_ts.tar.gz
Linux32	db2_v105_linuxia32_accsuite_ts_standalone.tar.gz	db2_v105_linuxia32_accsuite_ts.tar.gz
AIX64	db2_v105_aix64_accsuite_ts_standalone.tar.gz	db2_v105_aix64_accsuite_ts.tar.gz
SUN64	db2_v105_sun64_accsuite_ts_standalone.tar.gz	db2_v105_sun64_accsuite_ts.tar.gz
SUNAMD64	NA	db2_v105_sunamd64_accsuite_ts.tar.gz
HPIP64	NA	db2_v105_hpip64_accsuite_ts.tar.gz

Download stand-alone server (included with rich text feature by default) and rich text feature for integrated setup from the link provided on this slide.

The stand-alone server is supported for NT32, NT64, Linux AMD64, Linux32, AIX64 and SUN64. Rich text feature for integrated setup is supported also for these platforms and SUNAMD64 and HPIP64.

## Setup DB2 Accessories Suite – Rich text feature

- Unzip downloaded package
- Two installation modes
  - Console install
    - Run `installAccSuiteV10.bin/installAccSuiteV10.exe`
    - Follow instructions to complete installation
  - Silent install
    - Modify response file as required
    - `installAccSuiteV10.bin/installAccSuiteV10.exe -i silent -f installer.properties`
- Enable rich text document support
- Detailed steps of installation in Information Center
  - Installing DB2 Accessories Suite for DB2 Text Search:
    - <http://pic.dhe.ibm.com/infocenter/db2luw/v10r5/topic/com.ibm.db2.luw.admin.ts.doc/doc/t0054804.html>

This slide describes the steps for installing and enabling the rich text feature. Extract the downloaded DB2 Accessories Suite package and run it in either console or silent installation mode.

In console installation mode, run `installAccSuiteV10.bin/installAccSuiteV10.exe` from the package's directory. Follow the instructions to accept the license agreement, providing the path for the `db2tss` directory and complete the installation.

In silent installation mode, modify the response file to set `LICENSE_ACCEPTED` as true and assign the correct installation path. Run the installer in silent mode, that is `installAccSuiteV10.bin/installAccSuiteV10.exe -i silent -f installer.properties`.

Run `richtextTool` with "enable" option to enable rich text document support.

For detailed steps of installation, see the Information Center link provided on this slide.

## Additional resources

- IBM Education Assistant modules
  - DB2 Text Search - [Overview](#)
  - DB2 Text Search - [Indexing](#)
  - DB2 Text Search - [Search features](#)
  - DB2 Text Search - [Administration commands](#)
  - DB2 Text Search - [Command line tools](#)
- IBM Information Center
  - DB2 Text Search:
    - <http://pic.dhe.ibm.com/infocenter/db2luw/v10r5/topic/com.ibm.db2.luw.admin.ts.doc/doc/c0051296.html>

This slide displays additional IBM Education Assistant modules related to DB2 Text Search and it provides the link to the IBM Information Center.

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