



WinDSX SQL Upgrade

Follow these simple steps and you will be on your way to using the latest DSX SQL Software. Read through all steps in this document before proceeding. Make a Backup of your DataBase.

1. Locate the WinDSX folder on the Comm Server. Inside the WinDSX folder locate the MdbStruc subfolder, for example c:\WinDSX\MdbStruc\. Look in this folder and note the highest numbered Upgrade#.sql script file. Once the new software is loaded you will view this same folder to see what new Upgrade Script files there are to be run.
2. Close the program on all PCs. The DSXComm, DSXKey, and DSXDbas services, if found, will need to be stopped. At the Comm Server PC, navigate to the Install folder containing the new software and locate the Setup.exe. Right click and select **“Run as Administrator”**. The system will respond by displaying what version is currently installed. When prompted for “Repair or Remove” select “Remove” as this removes the program but leaves the data.
3. From the Install folder containing the new software, right click on Setup.exe and select **“Run as Administrator”** making sure to install it to the same folder the older version was installed in. **Do not Start the DBSql.exe program at this point.**
4. From the upgraded Comm Server locate the WinDSX\MdbStruc subfolder, locate the new Upgrade#.sql script files and copy them to the SQL Server. At the SQL Server run the new Upgrade#.SQL script files.
5. Back at the Comm Server right click on the DbSql.exe file and select **“Run as Administrator”**. This latest version may perform an Upgrade to the existing Access Levels the first time you login. This process could take a while but should only occur once. See the Note after step 6.

6. At each Client PC, navigate to the Install folder containing the new software and locate the Setup.exe. Right click and select **“Run as Administrator”**. The system will respond by displaying what version is currently installed. When prompted for “Repair or Remove” select Remove. This removes the program but leaves the folder and data. Right click on Setup.exe a second time and select **“Run as Administrator”** and make sure to install it to the same folder the older version was installed in. Once the software is installed locate the DbSql.exe program in the WinDSX folder. Right click on DbSql.exe and select “Run as Administrator”. Repeat this for all Client PCs.

Note /// When upgrading from 4.5.12 and lower to 4.5.13 and higher at the Comm Server, the Access Levels are upgraded. When upgrading from 4.8.50 and lower to 4.8.51 and higher at the Comm Server or DailyOps PC, the Access Levels are modified to the latest schema.

Scripts

If you failed to determine which new scripts were installed between Step 2 and 5 you can use the following guide.

When upgrading:

- From WinDSX SQL 4.0 – 4.7.15 run all scripts. Upgrade1.sql – Up
- From WinDSX SQL 4.7.16 and higher - run Upgrade6.sql – Up
- From WinDSX SQL 4.8.65 and higher - run Upgrade10.sql – Up
- **From SQL Server 2008 to SQL Server 2012 and higher - Run Upgrade to 2012.sql and Upgrade10.sql – UP**

// It is ok to run a script more than once. Ignore any errors if you do.

Permissions – In all configurations the Windows Login must have full control over the Local folder where the software is installed and to the Shared Folder (Comm Server) where the images reside.

Remote Sessions – It is always best to use remote session software on a Client PC instead of the Comm Server. To remote into the Comm Server PC the Comm Server program must be configured as a Service.

Docs/User - Located on the Flash Drive, this folder contains **DSXOrientation.ppsx** that provides an overview of the software, and **DSXMobileCommand.mp4** that shows how to use the mobile app.

Upgrading/Migrating SQL Servers

When using SQL server as the database there is still a file share (folder) where all the other objects that aren't stored in SQL are kept such as photos. That share location can be found in the WinDSX Database program under > Database Path. This path should be the same on all the WinDSX clients.

There are two SQL databases that need to move, AcsData and AcsLog. Unless we are moving to SQL 2012 or higher, (requires scripts) we can just do a backup and restore onto the new SQL server.

Once we have the databases on the new server. We go to each WinDSX client, and with the WinDSX SQL program closed, run SQLsetup.exe from within the WinDSX folder. This program will set the connection properties of the new SQL server for WinDSX SQL to use. Start the program and be sure to set the DataBase Path to the Shared Folder. UNC is preferred. Close and Restart.

Upgrading/Migrating to SQL Server 2012/14

If moving to a SQL Server 2012/14, upgrade to the latest version of WinDSX SQL. Start the program once and Cancel at the Login Screen.

Move the DataBases to the 2012 SQL Server and run the Upgrade to 2012.sql and then upgrade scripts 10 and up. Scripts are found in the WinDSXMdbStruc subfolder of the Comm Server.

Once the databases are on the SQL 2012/14 Server and the upgrade scripts have been run, go to the comm server and run the SQLsetup.exe from within the WinDSX folder. This program will set the connection properties of the new SQL server for WinDSX SQL to use. Start the DataBase program and set the DataBase Path to the Shared Folder. UNC is preferred. Close and Restart.

Upgrade each client and start the program. Be sure and configure the Workstation Name and Number and set the DataBase Path to the new SQL Server and to the Shared Folder (UNC preferred). Close and Restart.

SQL 2012/2014 Additional Configuration

In SQL 2012 the TCP/IP protocol and Named Pipes must be enabled. Start the SQL Server Configuration Manager on the SQL 2012 database server. Navigate to Protocols for MSSQL Server. Enable both Named Pipes & TCP/IP.

Double click on the TCP/IP protocol name. On the

TCP/IP Properties window, Click the IP Addresses tab. Scroll all the way down to the bottom. Make sure the TCP Port is set to 1433.

In SQL Server 2012 and up you must manually turn on the SQL Server Browser Service! Go to services on the server. Find SQL Server Browser. Double click the service. Change the startup type from "Disabled" to "Automatic." Click the START button.

Moving the Comm Server to a Virtual Server

To migrate the Comm Server to a Virtual Server or new PC, follow these simple steps.

1. Uninstall the software on the existing Comm Server. This leaves the WinDSX folder and all data.
2. Copy the WinDSX folder on the Comm Server and Paste it to the target drive of the Virtual Server.
3. Install the WinDSX software into that same folder. It may be necessary to adjust IP Addresses under System Parameters and Comm Ports.

Active Directory Authentication

Operator Logins can be authenticated by Active Directory instead of WinDSX. To configure this, the WinDSX SQL Operators use the same Login Name as they do in Windows™. Their Login name is entered like always under Operator Passwords. The Operator is assigned a Password Profile but is not assigned a Password. When WinDSX SQL receives a login from an Operator that does not have a password stored in WinDSX SQL, it sends the login request to Active Directory (AD) for authentication. If AD authenticates the operator, they are given access to WinDSX SQL according to the Password Profile assigned to them. To Enable AD Authentication run Upgrade Script # 9 at the SQL Server. When entering the operator in WinDSX skip the Password Fields just entering the Operator name and assigning a password profile.

Primary and Backup SQL Servers

WinDSX SQL allows for the definition of both a primary and backup SQL Server and Database Path. If the primary SQL Server fails the software can be shut down and restarted and it will connect to the backup SQL Server and Database Path. DSX does not automatically reconcile the databases when the primary returns. This feature will facilitate off site backup SQL Servers that cannot use SQL Clustering. Once the software has been upgraded, run the SQLSetup.exe program in the WinDSX folder. Each time you run it you can define a SQL Server to attach to and specify if it is the primary or backup SQL Server.

DSX Key Monitor and DSXSoftkey

Physical PC New Install and Upgrade

All New Version 6 Installations and Upgrades will require a SoftKey to be created or upgraded using the USB flash drive Installation Media from DSX.

For New Installations or upgrades on a Physical PC follow these steps.

- a) Make sure that the Comm Server PC has the .Net Framework 4.0 or higher installed.
- b) Make sure you have Administrative Privileges over this PC.
- c) Insert the DSX USB Flash Drive into a USB Port on the Comm Server PC. Make sure you can read and write to the DSX Flash Drive. Do Not unplug the drive until after step 4.
- d) Make sure you have launched the database program once to complete the installation before proceeding.
- e) If this is an upgrade make sure the existing dsxkeydata.xml file is in this WinDSX folder on the Comm Server.

1. In the C:\WinDSX folder on the Comm Server where the software was just installed, locate and launch DSX_Key_Configure.exe

2. Select the appropriate option (typically the first) and click on Load Key followed by Assign Key.

3. When a grayed out **Done** is displayed, close the program.

4. In the same WinDSX folder locate and launch DSX_Key_Monitor.exe - If you see "Status OK" your key is ready. Close the DSX Key Monitor program.

Warning: *This key can only be assigned once, make sure the Computer you assign it to is on the network domain where the system will be used. You cannot move keys from one **system** (domain) to another. The Key belongs on the Comm Server but can be moved to a Virtual Comm Server or as hardware is replaced to a new Comm Server as long as it's in the same Domain.*

Virtual Server New Install and Upgrade

If you are going to use DSX in a Virtual Environment follow these instructions:

1. For new Installations select a Physical PC that is on the same Domain as the virtual server. For an upgrade the PC does not have to be on a Domain. Install the software on this physical client PC and make sure that items "a-e" under "Physical PC New Installs" to the left have been done.

2. If this is an upgrade, copy the dsxkeydata.xml file from the WinDSX folder on the virtual server to the WinDSX folder on this physical client PC. In this case the PC does not have to be on the same Domain.

3. In the C:\WinDSX folder on this Client PC locate and launch DSX_Key_Configure.exe .

4. Select the appropriate option (typically the first) and click on Load Key followed by Assign Key.

5. When a grayed out **Done** is displayed, close the program.

6. In the same WinDSX folder locate and launch DSX_Key_Monitor.exe - If you see "Status OK" your key is ready. Close the DSX Key Monitor program.

7. Copy the dsxkeydata.xml file to the WinDSX folder on the Virtual Server where the software has been installed or upgraded.

DSX Key Monitor Operational Notes:

- There is a 30 second delay between the DSX program (Comm Server) being started and the DSX_Key_Monitor program allowing access into Card Holders.

- The DSX_Key_Monitor.exe program will be started and stopped by the Comm Server program. Once you close DSX on this PC, the DSX_Key_Monitor program will also close. If you configure Comm Server to run as a service it will start the DSX_Key_Monitor.exe program without configuring the key monitor program to run as a service.

- The DSX-USB Flash Drive contains a copy of your DsxKeyData.xml Softkey. If needed, it can be copied onto a new computer in the same system (domain).

Comm Server as a Service

The Communications Server program typically runs as a process in the background and is usually started by the launching of the workstation program (ws.exe) and is terminated when the workstation program is closed.

The Comm Server program can run as a service without having a user logged into the Windows operating system.

Below are the steps involved with setting the Communications Server program up as a service.

1. You must be logged in as Administrator.
2. Make sure Comm Server is fully operational communicating with controllers and with Client Workstations before configuring it to be a Service. Close the Program.
3. Copy the InstSrv.exe, SrvAny.exe, and CS as a Service3.10.exe programs from the Utilities folder on the distribution CD and paste them into the DSX directory where the software was just installed on the Comm Server PC.
4. Right click on "CS as a Servicev3.10.exe" and select "Run as Administrator". Select "This PC should do daily operations" unless you are setting another workstation to perform DailyOps.
5. Click on "Create Registry Values". Click on "OK" when finished.
6. In Windows go to Services and verify that the DsxComm service was added. It should appear in the list of services.
7. Right click on DSXComm and select properties. Change the "Startup Type" to: Automatic (Delayed Start). Go to the Log on Tab and change the "Log On As" to a valid account that has the appropriate privileges for your system. Click OK to save the changes. Close Services.
8. If you are going to use a shared directory on some other PC you will have to enter the database path using UNC. You cannot use a shared drive letter to refer to the database path. This also applies to the path for database backups in the Access version of Software.

9. Start the DataBase and Workstation programs. Workstation should show "Comm Loss" in Red in the bottom right corner. This is correct.
10. Start the DSX Comm Service. Within seconds the Workstation program should show "Primary Online" in the lower right corner in place of "Comm Loss".

AES 256 Comm Encryption

DSX communications can now be secured using AES 256-bit Encryption. The encryption can be implemented between the Communication Server and the field controllers and between Communication Server and Workstations. This feature requires firmware version 3181 or higher in all controllers and that the feature be enabled in the DSX SoftKey.

Each Location can have an Encryption Key entered to encrypt the communications between the Comm Server and that Location's controllers. The AES 256-bit Encryption propagates itself from the Master Controller to all subsequent controllers at power up.

For Controllers (Location)

To enable encryption enter up to 32 keyboard characters in the "Encryption Key" field on the General Tab of each Location. The key cannot be viewed once entered. Starting at the Master Controller power each Controller down and back up.

For Client PCs (workstations)

To enable encryption between the Comm Server and the Client PCs edit the System Parameters at the Comm Server and go to the Communications Server Tab. Enter up to 32 keyboard characters in the Encryption Key field. Close and restart the program and close and restart the DSX Comm Service. Restart the program on all Client PCs.

Before you can configure Encryption you will need to email DSX Technical Support the DSXKeyData.xml file from your system. Encryption will be enabled and the file sent back to you.

DSX Mobile Service Instructions

Prerequisites

The DSX Mobile Service can be configured on the Comm Server or Client PC. It must have a full WinDSX software installation where it is to reside. If it is not on the Comm Server, it will still need access to the DataBase (shared folder and/or SQL Server) and to the Comm Server program just like any Client PC running the WinDSX Workstation program (WS.exe). The program is easily configured to run as a service (DSX Mobile Service). .Net 4.5.1 is required.

IP Configuration

The DSX Mobile Service requires an IP Address and two TCP ports. The IP Address could be the PC's address that the Mobile Service is running on, but it is more likely that it will be a public access address for the network the Mobile Service PC is attached to. This Access Point will route any IP traffic meant for the Mobile Service to the client PC or Comm Server where the Mobile Service is running. The Default Port is 60001 which means the program requires 60001 and 60002. The Port can be changed to any port desired, but it still requires a second port that is one number higher.

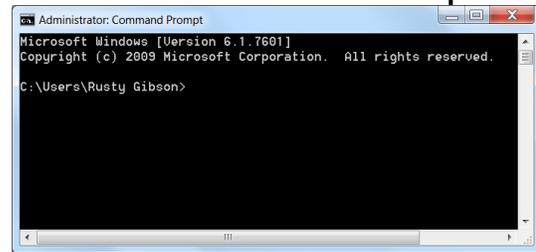
If you change the port number to 62000 you must change it on the Mobile Device, in the Mobile Service configuration file and make sure that the DSX Mobile Service has port 62000 and 62001 available. The Firewall may require an adjustment to make the two ports available to the Mobile Service.

DSX-Mobile Service Configuration

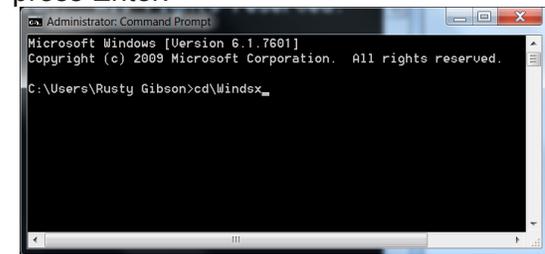
Use these instructions to load and configure the DSX Mobile Service.

1. Install WinDSX as normal. Build a database and get the system up and running and communicating with a Controller. Decide where you are going to run the Mobile Service from. If you are running from a PC other than the Comm Server get the software loaded and working on that PC. Make sure you can run the DataBase program and access the data and that the Workstation program is connected to the Comm Server.
2. Open an Administrative Command Prompt like below. Go to Start and find "Command Prompt" right click on it and select "Run as Administrator"

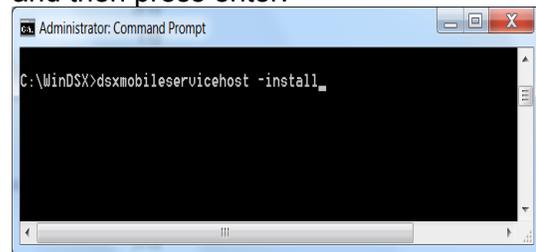
Notice at the top of the screen it says - **Administrator: Command Prompt**



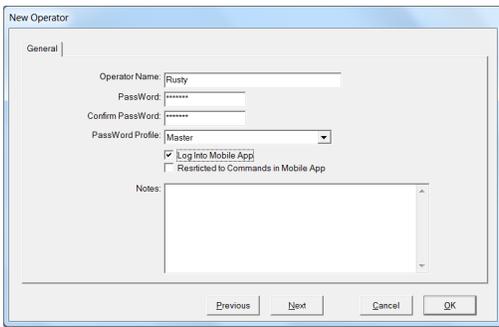
3. Change to the WinDSX folder or to the location where the DSX software is loaded and configured. For example, Type - **cd\WinDSX** and press Enter.



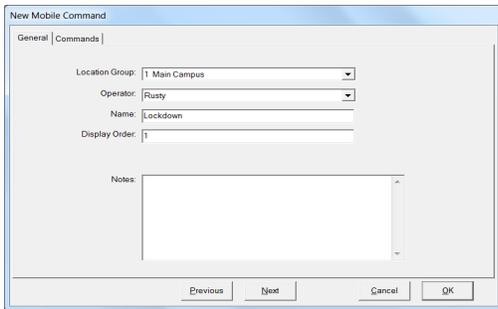
4. From the WinDSX command prompt type the following: **dsxmobileservicehost -install** and then press enter.



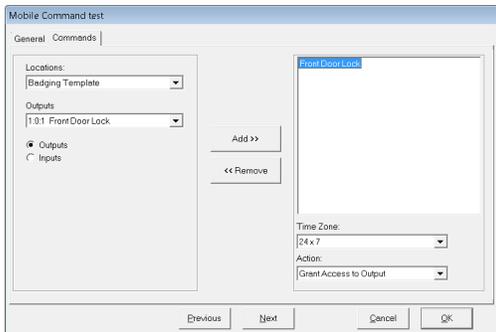
5. Once the Service has been created go to Services and locate the "**DSXMobileService**" and right click and select Properties. Make sure the Startup type is set to "**Automatic (Delayed Start)**". Go to the Log on Tab and change the "Log On As" to a valid account that has the appropriate privileges for your system. Click OK to save the changes. Close Services.
6. Start the DSX DataBase program and add a Mobile Operator. Do Not Enable Mobile for the Master password. Add a new Operator and password. It's ok to assign the "Master Profile". Select "**Log into Mobile App**". After testing the Mobile App you can always select "**Restricted to Commands in Mobile App**" to keep the Mobile Operator from doing anything except executing the Custom Commands.



- From the Operator Tab in Database select **Mobile Command** and add at least 1 command into the database to facilitate testing. Select the Location Group that this command will be associated with. Inputs and Output associated with this command can come from any Location in the Group. Give it a name (what it does) and if you have several commands assign a display order that determines how they are listed on your mobile device. 1 is at the Top of the list.

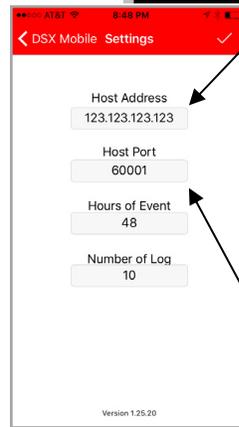
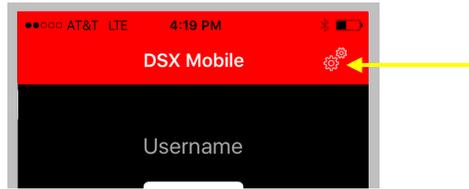


- Select the **Commands Tab** to finish programming the Custom Command. Select the Location the Output belongs to that you want to test. Select the **Output** and then click on Add. Once the Output is shown on the right, click on it so it is highlighted. Once the Output is chosen select the **Time Zone** that determines when this command can be executed and the **Action** that should be taken with the point and then Click on OK. Multiple Inputs and Outputs can be placed in the same Command. Outputs from different Locations can be placed in the same Command. Multiple Commands can be created with the same or different Outputs. The same outputs can be placed in different Commands with different Actions.



Note /// If you are wanting to do a "Lockdown" please read the EmergencyLockdown.pdf document for more information on how to engineer a proper lockdown application.

- Once you have downloaded the APP from iTunes™ or Google Play™ loaded the app on your mobile device, launch it and you will see the login screen. Click on the Settings Icon to configure the IP address and Port Number.



- The Host IP Address or Name is the address the application must reach to get to the mobile server. This may be the address of the PC the DSX Mobile Service is running on, or may be the public access address of the network that the PC running the DSX Mobile Service is attached to.
 - The Host Port is 60001 by default. The protocol is TCP. This means both 60001 and 60002 must be open and reserved for

DSX Mobile. The Port can be changed. If it is changed it has to be changed here and in the DsxMobileServiceHost.exe.config file located in the WinDSX folder. Use Notepad to edit the file. Locate both instances of 60001 in the file and change them to the same desired port number. Save and Close the file and restart the DSX Mobile Service. No Matter what port you choose the next higher port number has to be available also.

- *Hours of Event* is how many hours a Search can go back into History.

- *Number of Log* is how many events can be shown as a result of a Search.

To Save your settings touch the Check Mark at the top right of the screen.

- Once the Settings have been configured, and the DSX Mobile Service has been restarted you are ready to Login to DSX Mobile. Enter the User Name and Password configured earlier in these instructions.