WIN-911 Standard/Interactive/Advanced Configuration Backup and Restore

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Introduction

WIN-911 Standard, Interactive, and Advanced store its configuration in a Microsoft SQL Server Instance. This document describes the process for backing up and restoring your configuration using Microsoft SQL Server 2014 Management Studio.

Important: The backup and restore instructions are only valid for restoring the configuration in the same host environment. The same host environment is defined as:

- The same version of WIN-911 Standard, Interactive, and Advanced
- The same set of WIN-911 Modules
- The same version of Microsoft SQL Server.

Purpose

Backing up the WIN-911 configuration is recommended to prevent data loss and should be executed on a regular basis. These instructions can be used for the following reasons, but are not limited to:

- Backing up data to prevent data loss.
- Maintaining snapshots of the configuration.
- Moving the WIN-911 installation to a new computer.
- Moving the configuration from a development machine to the production machine.
- Copying configurations from a primary WIN-911 system to the secondary WIN-911 system (hot backup configuration).
- Backing up the WIN-911 Local DB Log File.

Applicable Versions

WIN-911 Enterprise Edition, Standard, Interactive, or Advanced v.2.15.6 and newer.

Configured Passwords in WIN-911

All passwords configured within WIN-911 must be reconfigured if you are restoring the backup files on a different computer or on a formatted drive. WIN-911 uses encryption to hide the passwords that are entered in WIN-911. The encryption method that is used is
unique to the computer the backups originated from. Make sure you have all the required passwords so they can be reentered on the new WIN-911 machine.

Location of passwords that will require reentry:
- FactoryTalk A&E – Applications – Connection tab
- CIMPLICTY – Projects – Project tab
- iFIX – Source – Source tab
- System Platform – Galaxies – Connection Details tab
- Email – Gateway – Outgoing Server tab & Incoming Server tab
- Voice – Gateway – General tab – Voice Hardware (SIP/VOIP only)
- SMS – Gateway – Gateway tab – Connection Type (Telnet only)

Preparing the Database for Backup/Restore

You will need to shut down WIN-911 or temporarily restrict access to its configuration to prevent errors during the backup and restore process. There are two different ways to fully shutdown the WIN-911 system. Both options are described below.

Option 1: Stop Internet Information Services

1. The easiest way to stop all WIN-911 Runtime Services and Application Pools is to simply stop the World Wide Web Publishing Service from the Windows Services applet. Stopping this service will stop all WIN-911 Application Pools as well as all WIN-911 Runtime Services.

   Note: Stopping World Wide Web Publishing Service will stop ALL websites published in Internet Information Services (IIS). If this is a problem, follow the procedures in Option 2 below.

2. GE iFIX Users Only: In addition to stopping the World Wide Web Publishing Service the iFIX Runtime Application, must be stopped manually. If the WIN-911 iFIX module is running, the runtime icon will be in the Windows System Tray. Right-click and select Exit.
3. **Wonderware InTouch Users Only**: In addition to stopping the World Wide Web Publishing Service the **InTouch Runtime Application**, must be stopped manually. If the WIN-911 InTouch module is running, the runtime icon will be in the Windows System Tray. Right-click and select **Exit**.

4. **Wonderware System Platform Users Only**: In addition to stopping the World Wide Web Publishing Service the **System Platform Runtime Application**, must be stopped manually. If the WIN-911 System Platform module is running, the runtime icon will be in the Windows System Tray. Right-click and select **Exit**.

### Option 2: Stop each individual WIN-911 component

1. If you do not stop the **World Wide Web Publishing Service**, you will need to manually stop each individual WIN-911 Module. For each module, there is a corresponding Application Pool and Runtime Service. The modules may differ for each system since all WIN-911 modules are not required to be installed. Here is the list of all possible modules with their corresponding Application Pools and Runtime Services:

<table>
<thead>
<tr>
<th>WIN-911 Module</th>
<th>Application Pool</th>
<th>Runtime Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIMPLICITY</td>
<td>CimAppPool</td>
<td>WIN-911 Cimplicity Runtime</td>
</tr>
<tr>
<td>Dispatcher</td>
<td>DispatcherAppPool</td>
<td>WIN-911 Dispatcher Runtime</td>
</tr>
<tr>
<td>Email</td>
<td>EmailAppPool</td>
<td>WIN-911 Email Runtime</td>
</tr>
<tr>
<td>FTAE</td>
<td>FTAEAppPool</td>
<td>WIN-911 FTAE Runtime</td>
</tr>
<tr>
<td>iFIX</td>
<td>iFIXAppPool</td>
<td><strong>No Service (runs as application)</strong></td>
</tr>
<tr>
<td>InTouch</td>
<td>InTouchAppPool</td>
<td><strong>No Service (runs as application)</strong></td>
</tr>
<tr>
<td>System Platform</td>
<td>ArchestrAApPool</td>
<td><strong>No Service (runs as application)</strong></td>
</tr>
<tr>
<td>Mobile-911</td>
<td>Mobile911AppPool</td>
<td>WIN-911 Mobile-911 Runtime</td>
</tr>
<tr>
<td>OPC DA</td>
<td>OpcDaAppPool</td>
<td>WIN-911 OPC DA Runtime</td>
</tr>
<tr>
<td>Reporting</td>
<td>ReportingAppPool</td>
<td>WIN-911 Reporting Runtime</td>
</tr>
<tr>
<td>SMS</td>
<td>SMSAppPool</td>
<td>WIN-911 SMS Runtime</td>
</tr>
<tr>
<td>Voice</td>
<td>VoiceAppPool</td>
<td>WIN-911 Voice Runtime</td>
</tr>
</tbody>
</table>

2. To stop all WIN-911 Application Pools, open **Internet Information Services (IIS) Manager**. In the Connections pane on the left, open the local server and click on **Applications Pools**. Select each WIN-911 Application Pool, click “Stop”.
3. To stop all WIN-911 Runtime Services, open **Windows Services**. Select each WIN-911 Runtime Service, click “Stop”.

4. **GE iFIX Users Only**: The WIN-911 iFIX Module is running as a Windows application, instead of a Windows service. If the WIN-911 iFIX module is running, the runtime icon will be in the Windows System Tray. Right-click and select **Exit** to stop the **WIN-911 iFIX Runtime Application**.

5. **Wonderware InTouch Users Only**: In addition to stopping the World Wide Web Publishing Service the **InTouch Runtime Application**, must be stopped manually. If the WIN-911 InTouch module is running, the runtime icon will be in the Windows System Tray. Right-click and select **Exit**.
6. **Wonderware System Platform Users Only:** In addition to stopping the World Wide Web Publishing Service the **System Platform Runtime Application**, must be stopped manually. If the WIN-911 System Platform module is running, the runtime icon 🔄 will be in the Windows System Tray. Right-click and select **Exit**.

**Backing up the WIN-911 Configuration Databases**

SQL Server Management Studio will be used to back up the WIN-911 configuration databases. You must log in to the SQL Server host machine as the WIN-911 user or a user with privileges to the WIN-911 database Instance. If you allowed WIN-911 to install SQL Server locally, the WIN-911 host system will have the tools required for this process.

**Select a Database for Backup**

1. Open **SQL Server 2014 Management Studio** found in your Start menu.
2. After connecting to the appropriate instance of the Microsoft SQL Server Database Engine (‘WIN911’ by default), in **Object Explorer**, click the server name to expand the server tree.
3. Expand **Databases**, and select one of the WIN-911 Module databases. Database are named by default after the name of the machine they reside on and their module name, e.g. SRV1-V8-Default.Dispatcher.
4. Right-click the database, point to **Tasks**, and then click **Back Up**. The **Back Up Database** dialog box appears.
5. Simply clicking **OK** will generate the backup file to the location defined under **Destination**.

6. Please note the default settings under **Media Options**. To view or select the media options, click **Media Options** in the **Select a page** pane.
7. The options of the **Overwrite media** panel control how the backup is written to the media. There are two options to choose from under the **Back up to existing media set** selection:
   - Append to the existing backup set
   - Overwrite all existing backup set

8. **Append to the existing backup set** will preserve any prior backups. This option is selected by default. This will be useful if you are interested in keeping a series of backups. Using this option will allow you to select a specific backup at a given point of time to restore. Restoring from a specific time point will be discussed more in the [Restoring the WIN-911 Configuration Databases](#) section. Please note your backup files will continue to grow every time a backup is performed.

9. **Overwrite all existing backup sets** will overwrite any previous backups stored in the destination location. This means the backup file will only contain the most recent backup. Do not select this option if you are wanting to keep a series of existing backups.

**Repeat for all Modules**

You have now successfully backed up the configuration of a single WIN-911 Module. This process must be repeated for all modules of the WIN-911 system to ensure system wide data integrity.

**Backing up the WIN-911 LocalDB Log Files**

WIN-911 stores its notification log files in a SQL Server Local Database file (.MDF). The .MDF file can be copied straight from Windows Explorer. The log file may be backed up to preserve data or could be moved to a new WIN-911 system. Log file backups are not required to preserve the WIN-911 configuration.

1. Open **Windows Explorer** by using the **Windows key + E** or type **explorer** in the search bar of the Start menu.
2. Browse to C:\Program Data\WIN-911 Software to find the log file. If you do not see the Program Data folder under the C:\ drive, use the View menu to enable Hidden Items.

![Windows Explorer Windows Explorer](image)

3. Make a copy of both the **Log.mdf** and **Log_log.ldf**. Save these files in the location of your choice.
Restart WIN-911 Services and Application Pools

After you have backed up each module’s database, as well as the WIN-911 log file, you can now restart the WIN-911 Runtime Services and Application Pools.

1. To restart the WIN-911 Runtime Services, open the Windows Service applet and start each of the WIN-911 Runtime Services. See section – Preparing the Database for Backup/Restore, for a complete list of the WIN-911 Runtime Services.
2. If you stopped the World Wide Web Publishing Service, you must restart this service.
3. If you chose to not stop the World Wide Web Publishing Service, but instead, you manually stopped each WIN-911 Application Pool, open Internet Information Services (IIS) Manager. In the Connections pane on the left, open the local server and click on Applications Pools. Select each Application Pool click Start. See section – Preparing the Database for Backup/Restore, for a complete list of the WIN-911 Application Pools.

Restoring the WIN-911 Configuration Databases

Restoring a WIN-911 Configuration will fall under two categories: 1) Restoring existing backups to the same WIN-911 machine, 2) Restoring a WIN-911 configuration to a different WIN-911 system. Restoring a WIN-911 backup on the same WIN-911 machine could be used to go back to an older configuration. Restoring a WIN-911 backup to a different WIN-911 machine could be used in several scenarios: 1) Moving the WIN-911 installation to a new computer, 2) Reinstalling WIN-911 on a formatted hard drive, 3) Moving the configuration from a development machine to the production machine, or 4) Copying configurations from a primary WIN-911 system to the secondary WIN-911 system in a hot backup environment.

SQL Server Management Studio will be used to restore the WIN-911 configuration databases. You must log in to the SQL Server host machine as the WIN-911 user or a user with privileges to the WIN-911 database Instance. If you allowed WIN-911 to install SQL Server locally, the WIN-911 host system will have all the tools required for this process.

Preparing the WIN-911 System for Restore

Restoring the WIN-911 Configuration backup files will require you to shut down all running WIN-911 Services and Application Pools. Please refer to the section at the beginning of this document – Preparing the Database for Backup/Restore, for the details on how to stop WIN-911.

Restoring on the same WIN-911 machine

This method would be used to restore a previous database backup on the existing WIN-911 system. Please be aware this restore will overwrite the existing database.

1. Open SQL Server 2014 Management Studio found in your Start menu.
2. After connecting to the appropriate instance of the Microsoft SQL Server Database Engine (‘WIN911’ by default), in **Object Explorer**, click the server name to expand the server tree.

3. Expand **Databases**, and select one of the WIN-911 Module databases.

4. Right-click the database, point to **Tasks**, then point to **Restore**, then click **Database**. The **Restore Database** dialog box appears.

5. Simply clicking **OK** will restore the latest backup file, overwriting the existing database.
6. If you would like to restore to an older backup, click the **Timeline** button. The **Backup Timeline** dialog box appears. **Last backup taken** is selected by default. Click **Specific date and time** to manually select an older backup from a specific point in time.

![Backup Timeline dialog box](image)

### Restart WIN-911 Services and App Pools

After you have restored all databases, you must restart the WIN-911 Runtime Services and WIN-911 Application Pools.

1. To restart the WIN-911 Runtime Services, open the Windows Service applet and start each of the WIN-911 Runtime Services. See section – **Preparing the Database for Backup/Restore**, for a complete list of the WIN-911 Runtime Services.
2. If you chose to stop the “World Wide Web Publishing Service”, you must start this service.
3. If you chose to not stop the “World Wide Web Publishing Service”, but instead, you manually stopped each WIN-911 Application Pool, open Internet Information Services (IIS) Manager. In the Connections pane on the left, open the local server and click on Applications Pools. Select each Application Pool click Start. See section – **Preparing the Database for Backup/Restore**, for a complete list of the WIN-911 Application Pools.
Restoring on a different WIN-911 machine

This method would be used to restore a WIN-911 configuration on a different WIN-911 system. Restoring a WIN-911 backup to a different WIN-911 machine could be used in several scenarios: 1) Moving the WIN-911 installation to a new computer, 2) Reinstalling WIN-911 on a formatted hard drive, 3) Moving the configuration from a development machine to the production machine, or 4) Copying configurations from a primary WIN-911 system to the secondary WIN-911 system in a hot backup environment.

Note: Restoring a backup configuration to a new WIN-911 system is only valid for the same host environment. The same host environment is defined as:

- The same version of WIN-911 Standard, Interactive or Advanced
- The same set of WIN-911 Modules
- The same version of Microsoft SQL Server.

1. Open SQL Server 2014 Management Studio found in your Start menu.
2. After connecting to the appropriate instance of the Microsoft SQL Server Database Engine (‘WIN911’ by default), in Object Explorer, click the server name to expand the server tree.
3. Expand Databases, and select one of the WIN-911 Module databases.
4. Right-click the database, point to Tasks, then point to Restore, then click Database. The Restore Database dialog box appears.

5. If the backup is taken from a different server, the destination server will not have the backup history information for the specified database. In this case, select Device to manually specify the backup file to restore. Click the [...] button. The Select backup devices dialog box will appear.
6. Select the backup media type where the database backup resides, File is selected by default. Click the Add button. The Locate Backup File dialog box will appear.
7. Browse for the specific database’s backup file (.bak) that will be restored. Click **OK**.

8. Once the backup database has been selected, you must edit the destination database name to match the current system. WIN-911 uses the computer name inside each modules database name. In this example, the backup database was taken from a system named STEVE-SURFACE. The backup database will be restored to a new computer named DESKTOP-JRITA2S.
9. Change the destination database name to match the current system, as shown below.

10. Next, click **Options** in the **Select a page** pane. **Overwrite the existing database (WITH REPLACE)**, must be selected. If this option is not checked, an error will appear when attempting to restore the database. Click **OK** to initiate the restore.

11. You should receive a message box showing the restore was successful.
12. This process will need to be repeated for each module you are wanting to restore. Once all database backups have been restored, a few configuration changes must be made within the WIN-911 software before you have completed the system restore. Please follow the remaining instructions to complete the restore.

**Repeat for all Modules**

You have now successfully restored the configuration of a single WIN-911 Module. This process must be repeated for any other modules that need to be restored.

**Restart WIN-911 Services and Application Pools**

After you have backed up each module’s database, as well as the WIN-911 log file, you can now restart the WIN-911 Runtime Services and Application Pools.

1. To restart the WIN-911 Runtime Services, open the Windows Service applet and start each of the WIN-911 Runtime Services. See section – Preparing the Database for Backup/Restore, for a complete list of the WIN-911 Runtime Services.
2. If you stopped the World Wide Web Publishing Service, you must restart this service.
3. If you chose to not stop the World Wide Web Publishing Service, but instead, you manually stopped each WIN-911 Application Pool, open Internet Information Services (IIS) Manager. In the Connections pane on the left, open the local server and click on Applications Pools. Select each Application Pool click Start. See section – Preparing the Database for Backup/Restore, for a complete list of the WIN-911 Application Pools.

**Remapping the WIN-911 Module Endpoints**

After you have restored all databases, and restarted the WIN-911 Runtime Services and WIN-911 Application Pools, you must now remap the WIN-911 Module endpoints for the new WIN-911 system. These endpoints are saved within the databases.

1. Open the WIN-911 Module Mapper found in the Start Menu. The WIN-911 Network Module Mapper window will appear.
2. The module mapper will locate all WIN-911 modules. Once the dialog displays the located modules, make sure that all installed modules appear. If not, click the refresh button in the bottom left corner of the dialog. Once the complete module list is present, click the check in the bottom right corner of the dialog.

3. Next, click the Save button on the **Confirm Logical System** dialog. You will then receive a confirmation that the Module Map was updated.

**Configured Passwords in WIN-911**

As mentioned earlier in this document, all passwords configured within WIN-911 must be reconfigured if a backup file was restored on a different computer or on a formatted drive. WIN-911 uses encryption to hide the passwords that are entered in WIN-911. The encryption method that is used is unique to the computer the backups originated from.
Open the WIN-911 Configuration using a web browser to make the necessary edits to the passwords. The location of each password that will require reentry are listed below.

- FactoryTalk A&E – Applications – Connection tab
- CIMPLICTY – Projects – Project tab
- iFIX – Source – Source tab
- System Platform – Galaxies – Connection Details tab
- Email – Gateway – Outgoing Server tab & Incoming Server tab
- Voice – Gateway – General tab – Voice Hardware (SIP/VOIP only)
- SMS – Gateway – Gateway tab – Connection Type (Telnet only)

Restoring the WIN-911 LocalDB Log Files

If you need to restore the WIN-911 Log Files which are viewed through the WIN-911 Log Viewer, please follow these steps.

WIN-911 stores its log files in a SQL Server Local Database file (.MDF). The .MDF file can be restored by simply overwriting the existing files in Windows Explorer.

Restoring the WIN-911 Log Files will require you to shut down the WIN-911 system before restoring and then restarting the system after. Please refer to the section at the beginning of this document – Preparing the Database for Backup/Restore, for the necessary steps to be taken on the WIN-911 system that you will be restoring the files to.

1. Open Windows Explorer by using the Windows key + E or type explorer in the search bar of the Start menu.
2. Browse to C:\Program Data\WIN-911 Software to find the log file. If you do not see the Program Data folder under the C: drive, use the View menu to enable Hidden Items.
3. Paste both the Log.mdf and Log_log.ldf within this folder, overwriting the existing files.
4. Do not forget to restart all WIN-911 Runtime Services and Application Pools.
Conclusion

If you experience any issues, please submit a support request at www.win911.com or contact Product Support at 1-512-326-1011 x3 or toll free in the US and Canada at 1-800-331-8740 x3. EMEA customers please contact steve@win911.com.