Installing and Configuring WMS 9.1 and Later

> This document is a work in progress, download the complete install guide here

Prerequisites

Database Server

Requirements

Supported version:

- SQL Server 2014 Service Pack 1

Configuration:

- If your configuration requires multiple database servers, all of the servers must have the same version of SQL Server
- Must run in READ_COMMITTED_SNAPSHOT and ALLOW_SNAPSHOT_ISOLATION modes.

WM Application Server

Requirements

Platform: AMD or Intel x64 / VMware ESX 5.5 or later

System:

- **OS**: Windows Server 2012 R2 (64-bit)
- **Minimum CPU**: Intel Xeon Processor E5 or later, 2.13 GHz or faster; or AMD equivalent
- **Minimum disk space**: 70 GB for JDA installed files and additional space for support files
- **Minimum memory**: 16 GB

Installed Software:

- Microsoft .NET Framework 3.5
- ActiveState ActivePerl 5.22 or later (32-bit) (**http://www.activestate.com/activeperl/downloads**), or Strawberry Perl 5.22 or later

(32-bit) (**http://strawberryperl.com/**)
- Java SE Development Kit 8 (64-bit) with update 60 or later; available from the Oracle Technology Network (**http://www.oracle.com/technetwork/java**)
- Visual Studio 2008 Service Pack 1 or Visual C++ 2008 Express Edition Service Pack 1; only required if you will be building source code on this server
- Apache Ant 1.9.x (**http://ant.apache.org**); only required if you will be building source code on this server

Portal Server

Requirements

Platform: AMD or Intel x64 / VMware ESX 5.5 or later

System:

- **OS**: Windows Server 2012 R2 (64-bit)
- **Minimum CPU**: Intel Xeon Processor E5 or later, 2.13 GHz or faster; or AMD equivalent
- **Minimum disk space**: 50 GB for JDA installed files and additional space for support files
- **Minimum memory**: 4 GB

Software:

- Microsoft .NET Framework 3.5
- ActiveState ActivePerl 5.22 or later (32-bit) (**http://www.activestate.com/activeperl/downloads**), or Strawberry Perl 5.22 or
- later (32-bit) (**http://strawberryperl.com/**)
- Java SE Development Kit 8 (64-bit) with update 60 or later; available from the Oracle Technology Network (**http://www.oracle.com/technetwork/java**)
- Apache Ant 1.9.x (**http://ant.apache.org**) ; only required if you will be building source code on this server

SCE Client

Requirements

Platform: Intel x86/64

System:

- **OS**: Windows 7 Service Pack 1, 8.1, or 10
- **Minimum CPU**: Single Core 2.5GHz or faster; Intel or AMD processor
- **Minimum disk space**: 20 GB
- **Minimum memory**: 6 GB
- **Recommended memory**: 8 GB
- **Graphics device**: DirectX 9 graphics device with WDDM 1.0 or later driver
- **Display**: 1280x1024 monitor resolution at 96 dpi (do not use the Windows Large fonts or 120 dpi settings)

Software:

- Microsoft .NET Framework 3.5
- Microsoft Office 2007 or later with the most current Service Pack, if you want to view exported data in Microsoft Excel or Microsoft Word
- Adobe Reader DC (**http://get.adobe.com/reader/**)
- iReport 5.2 (**http://sourceforge.net/projects/ireport/files/iReport/**) if you want to customize reports

Portal Server Web Browsesr

Requirements

> **Note**: JavaScript must be enabled for all web browsers.

Portal server web browser requirements:

- Google Chrome 45 or later
- Internet Explorer 11

> **Note**: Not certified for Compatibility mode.

- Mozilla Firefox 41 or later

- Safari 9

Software:

- Java 8 with update 60 or later; available from Oracle (**http://www.java.com**) if you will be viewing Jasper Reports using the JAVA Viewer

> **Note**: Java 8 is available in a 32-bit and 64-bit version. Install the correct Java version following the recommendation available from Oracle **http://www.java.com/en/download/faq/java_win64bit.xml**).

Tablet Device

Requirements

> **Notes**:
>
> - Tablet performance is optimized with WiFi connection.
> - Use of a tablet device and these requirements are only applicable to the Warehouse
> - Management and Event Management web-based functionality (installed with the platform
> - server).

Apple:

- **OS**: iOS 7, 8, or 9
- **Browser**: Safari
- **Models**:
- iPad Air 2 or later
- iPad mini 2 or later

Microsoft Windows:

- **OS**: Windows 8, 8.1, or 10
- **Minimum CPU**: x86-based processor
- **Browser**: Internet Explorer 11 (including Metro version)
- **Note**: Devices on which you want to install the client software, such as the convertible tablet PC (Windows Surface Pro), must meet the JDA SCE client requirements.
- **Display**: Minimum 7" display at 600 dpi (optimized for display in landscape view)
- **Memory**: 4 GB

Android:

- **OS**: 4.4 or later
- **Browser**: Google Chrome
- **Display**: Minimum 7" display at 600 dpi (optimized for display in landscape view)
- **Memory**: 4 GB

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Before Installing the Server:

1. Clean Install:
    a. Setup your database
    b. Determine the ports you will be installing on ie: 5600 (WMS), 5601 (RMI), 5680 (REFS)
2. Upgrade:
    a. Portal Server:
        i. If upgrading from an instance prior to 9.1.0.0 you must create a separate database and login for your portal server instance
        ii. SQL Server 2014:
            1. Add -T9481 (instance trace flag) as a startup parameter
            2. Verify db is **not** case sensitive
            3. Change compatibility mode to 120
            4. Set **Is Read Committed Snapshot On** to True
    b. Windows:

i. Ensure that you are upgrading the correct instance and that you are logged in as an administrator

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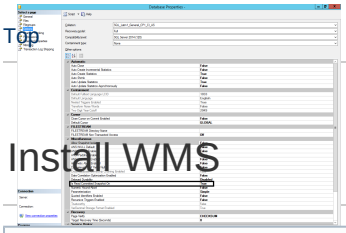
Database Setup

1. Setup a remote connection to **RFLABVMSQL64** and open **SQL Server 2014 Management Studio**
2. Connect to the server using Windows Authntication
3. Expand **Security**
4. Right click on **Logins and** select **New Login**
5. Enter **wms(version#)** ie: wms91 as the login name
6. Set the password and click on OK
    a. Password should have been provided by your Project Manager or another team member
7. WMS Database:
    a. Right click on **Databases** and select **New Database**
    b. Set the Database name to **WMS(version#)** ie: WMS91
    c. Set Owner to the Login created in step 5
    d. Click on Options in the column on the left
    e. Set **Is Read Commited Snapshot On** to True and click OK
8. Portal/REFS Database:
    a. Right click on **Databases** and select **New Database**
    b. Set the Database name to **WMS(version#)_REFS** ie: WMS91_REFS
    c. Set Owner to the Login created in step 5
    d. Click on Options in the column on the left
    e. Set **Is Read Commited Snapshot On** to True and click OK



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Install WMS

Make sure that the account you are installing from has administrator/root privileges before beginning install

Install Options

1. Setup a remove connection to **RFLABVMSERV64**
2. Copy the archive from **\\wiprdfs01\Releases\GA\9.1\9.1.0.0_rebuild_4\sce_server_win_9.1.0.0.zip** to **\\RFLABVMSERV64\D$\install** and extract it

    Source directory will change as new versions are released

3. Navigate to **Server\windows** and run setup.exe
4. After preparing the installation a window will pop up asking you to choose your installation mode
    a. New Instance
    b. Upgrade an existing Instance (all installed instances will be listed)
5. A check will be performed to ensure that your server's OS is certified, if you are choosing to install on an un-certified platform you will be asked if you are sure you want to continue
6. Accept the License Agreement
7. Give the instance a unique name, the naming scheme currently in place is **dlxhis**version# ie: dlxhis9.1

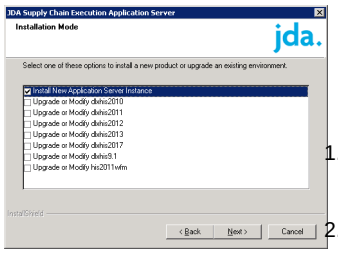
    IMPORTANT: The name can contain up to 10 characters with the exception of the following characters: / : * ? " < > | \ - or spaces.

8. The next window will be ask you to indicate a directory for input files in case this is intended to be a Unattended/Silent install, if the directory listed does not contain **MocaLicense.ini and/or DLxServerPrompts.ini** then the installation will proceed normally
9. Select Warehouse Management as well as any other servers you want installed on this same

instance and specify an install directory

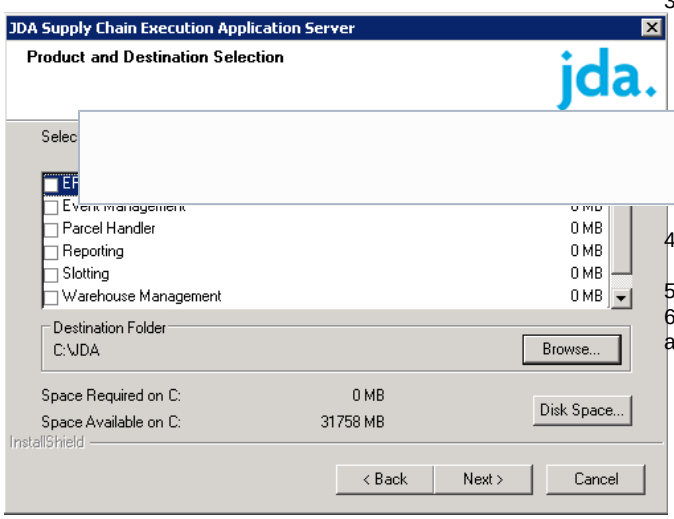
> **Note:** This guide only walks you through the installation of Warehouse Management and the components necessary to get it fully functional, it does not cover any of the other servers you may need to install

10. Choose Application Server
11. Choose which products you want installed and indicate **D:\JDA** as the install directory:
    a. Warehouse Management **or**
    b. Warehouse Management – Voice
12. The next window will verify your choices before you begin the install



Server Configuration

1. WM 9.1 uses a Web UI, so the next field asks for the "Portal URL" or the address users should go to, to access the UI. This URL is where you will be installing the REFS server. **http://RFLABVMSERV64:<Port Number>/**
2. If you have custom pages for your Portal server then you need to indicate their location in the next window, if you are not using any customizations you can leave the Destination Folder blank and just click next
3. The next two (2) windows ask you to identify the ports for the MOCA server and for RMI, the application will run a check to verify that the specified ports aren't currently in use by any other software



> If any of the ports you were intending ot use are already in use, make sure to change all of them so that they continue to match

4. This next window shows the connection URL for the SCE Client; leave this as is, but make a note of the URL, you will need it later
5. If necessary, change the Locale (default language)
6. Determine if the MOCA Service should start automatically

a. Normally you would set this to automatic, but because we have so many instances installed we set this to manual so that we don't bog the server down on startup

Connect to Database

1. Choose an authentication method
   Database or Windows
2. If applicable enter the URL for the Report Server and EMS Server
3. If there is a printer installed enter its address
4. Select SQL Server 2014 as the database type
   a. Select the driver Named Instance
      Enter the database login information
      i. Server
      ii. SA User (**sa**)
      iii. SA Password (**get from another team member**)
      iv. Database
      v. User (**wms(version#) setup earlier in this tutorial**)
      vi. Password (**setup earlier in this tutorial**)
      vii. Named Instance (**MSSQL14**)
5. Select the data to be loaded to the database

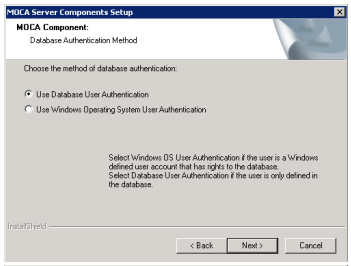
> Only the options that are applicable to your software installation selections are displayed on the window. If more options are available than will fit on one window, click **Next** to access the next set of options.

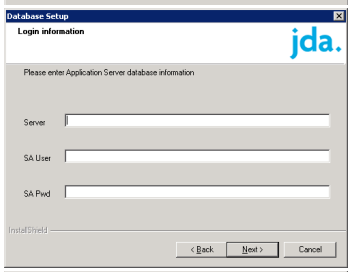
   a. **Load 3PL data**: Select if third-party logistics (3PL) functionality is part of your configuration.
   b. **Load SAL USA Geo data**: Select to validate United States addresses, and calculate internal distances and time zones.
   c. **Load SAL Canada Geo data**: Select to validate Canadian addresses, and calculate internal distances and time zones.

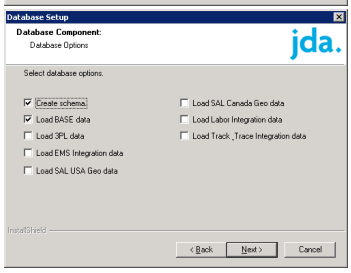
d. **Load LM Standard Starter Set Data**: Select to include the base set of Warehouse Labor Management industry standards data representing best practices of labor management.

> Consult with your Project Manager before selecting the **Load LM Standard Starter Set Data** database option.

2. The application will connect to the database, load the necessary data into it, and then complete the installation







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Install Portal/REFS Server (Web UI)

Install Options

1. Setup a remote connection to **RFLABVMSERV64**
2. Copy the archive from **\\wiprdfs01\Releases\GA\9.1\9.1.0.0_rebuild_4\sce_rpweb_win_9.1.0.0.zip** to **\\RFLABVMSERV64\D$\install** and extract it

> Source directory will change as new versions are released

3. Navigate to the **rpweb.iss** folder and run setup.exe
4. Determine what type of install this will be:
    a. Install a new instance
    b. Update the instance of the application selected below

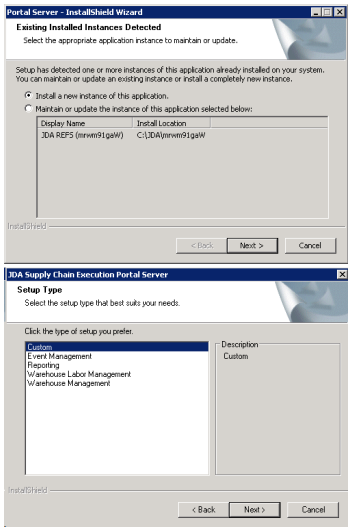
> **IMPORTANT:** Do not use the upgrade process to downgrade portal server to an earlier version. A portal server instance that has been downgraded to an earlier version will not perform as expected.

5. Provide the instance with a unique name

> **IMPORTANT:** The name can contain up to 10 characters with the exception of the following characters: / : * ? " < > | \ - . or spaces.

6. Accept the License Agreement
7. Select Warehouse Management as your server setup type
8. Specify an install directory

> **IMPORTANT**: The Path field must not include spaces.

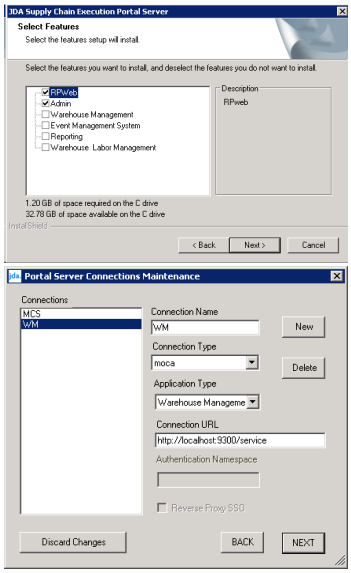


Server Configuration

1. Choose which features to install, you **need** RPWeb, Admin, and Warehouse Management for this instance, if you've installed any additional servers on this instance select them as well

> **IMPORTANT:** A single portal server installation supports only one installed instance. Therefore, if several applications that require portal server are installed in the same instance, then a single portal server installation is required for that instance. However, if any of those applications are installed in separate instances, each separate instance requires its own separate portal server installation.

2. Indicate which port you want the Portal/REFS Server to listen on
3. Provide Stash and Static URLs
    a. Leave both of these at the default address
4. Set the locale (default language)
5. Select which, if any, additional languages you want installed
6. Configure the Portal Server connections:
    a. Under **Connections**, click **WM**.
        i. In the **Connection URL** field, enter the address of the MOCA Server. **http://rflabvmserv64:<*Port Number*>/service**
7. Set your Portal Server authentication type to **Native**
8. Name the connection for the portal Server or accept the default name listed



Connect to Database

1. Select SQL Server 2014 as the database type
    a. Select the driver Named Instance
    Enter the database login information
        i. Server
        ii. SA User (**sa**)
        iii. SA Password (**get from another team member**)
        iv. Database
        v. User (**wms(version#) setup earlier in this tutorial**)
        vi. Password (**setup earlier in this tutorial**)
        vii. Named Instance (**MSSQL14**)
2. Check the box to have the Portal Service to start after install completes

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Install the SCE Client

1. Copy **\\wiprdfs01\Releases\GA\9.1\9.1.0.0_rebuild_4\sce_client_win_9.1.0.0.zip** to your local machine and extract it

    > Source directory will change as new versions are released

2. Naviate to **\Client\windows** and run setup.exe
3. Select the Installation mode: New Instance
4. Create a name for your new instance of the client

    > **IMPORTANT:** The client instance name can contain up to 10 characters with the exception of the following characters: / : * ? " < > | \ - or spaces.
    > In the text field, enter a unique name for the new client instance. This is the name that you see when you display the list of SCE Clients on your local machine.

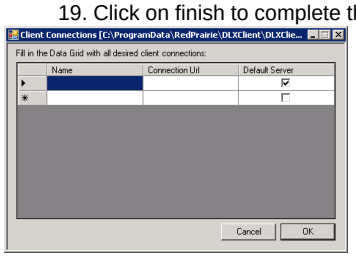
5. Accept the license agreement
6. If performing a Unattended/Silent install specify the directory the config files are in, if no files are found installation will proceed as normal
7. Set the setup type to typical
8. Select your Client Software:
    a. JDA SCE Client w/ WinMSQL (use this option for installs that are only used by System Administrators)
    b. JDA SCE Client w/o WinMSQL (use this option for customer installs on machines not being used by the System Administrators)
    c. Activity Agent (Install if any of the following are true)

i. Installing Warehouse Labor Management
ii. You are the only user on this machine
iii. You want to check on your performance throughout the day

9. Change your installation directory if necessary
10. The next window displays your install options for you to verify
11. If performing an advanced install, specify the config; if you are not performing an advanced install then point to any **valid** directory and click **Next**
12. Enter a display name for the connection to your instance
13. Enter the connection URL **http:RFLABVMSERV64:<port>/service**
14. If you have any additional server instances that you would like to be able to connect to, add them each on a separate line

> **DO NOT** set any of the instances as the **Default Server**

15. Once you have an entry for all of the instances you want to be able to access click on OK
16. Review your install choices and click Next
17. Click **yes** to add a shortcut to your desktop
18. If a message is displayed stating that your computer must be restarted then click on **No, I will restart my computer later**, close/save any files you have open, and restart your computer (The SCE Client won't be fully installed until you restart)
19. Click on finish to complete the wizard



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Unattended/Silent Install

Unlike an interactive installation, an unattended installation (also called a silent installation) enables you to install or upgrade server and client components without user interaction on a Windows platform. Unattended installations are performed by starting one of the installation programs with the silent command line option. You can also specify additional command line options and parameters (or a properties file) that provide the information that you would typically provide during an interactive installation. Unattended installations provide the following benefits:

- Improved time management by enabling you to start the installation and then perform other tasks (not associated with the computer where the unattended installation is occurring) while the installation process completes on its own
- Faster installation of more than one instance by using a response file from an interactive session as the properties file for use in unattended installations of similar instances on the same or different computers

Properties Files

A properties file is a text-based file that specifies the attributes that you would typically specify during an interactive installation session; for example, the instance name, server name, and port number. It is separated into sections with each line in a section listing a keyword and value. A properties file can be manually created or based on a sample properties file or generated response file.

> The properties file name or directory path cannot contain the following characters: dash (-) or forward slash (/).

When initiating an unattended installation, the properties file is specified using the /autoinstall command line option and the full directory path to the properties file. It can be used for both initial installations and upgrades. For example:

setup.exe /autoinstall=C:\Releases\Server.WM.MSSQL.ini.

If a required value is missing from a properties file, the installation program stops and prompts for the value.

When installing the JDA Parcel carriers, the UPS technology agreement attributes cannot be specified in the properties file, and the windows are not displayed during the unattended installation. Instead, after performing an unattended installation and using the JDA SCE Client for the

first time to maintain a customer account for the UPS carrier, the windows are displayed and the UPS technology agreement tasks must be performed.

> **IMPORTANT:** It is highly recommended that you test a properties file and verify the results before using the file to perform the actual installation or upgrade.

Response Files

A response file is a properties file that is automatically generated by the server software installation program whenever an interactive installation is performed. This file can be used as the basis for a properties file for an unattended installation. It is automatically named recordinstall.ini-<Date>- <Time>; for example, recordinstall.ini-20131115-173616. For a completed interactive installation, the response file is stored in the instance's \les\log directory; for a canceled interactive installation, the response file is stored in the Windows %TEMP% directory.

> To use a response file as a properties file in an unattended installation, you must save it to a file name that does not contain dashes (-) or forward slashes (/).

Properties File Examples

JDA distributes several sample properties files on the installation media.

The following sample server files are stored in the \server\windows\autoinstall.samples directory:

- Server.WFM.MSQL.ini: Sample properties file for installing or upgrading a Warehouse Labor Management application and web server instance that uses a Microsoft SQL Server database.
- Server.WM.MSSQL.ini: Sample properties file for installing or upgrading a Warehouse Management application and web server instance that uses a Microsoft SQL Server database.

The following sample client files are stored in the \Client\windows\autoinstall.samples directory:

- Client.Template.ini: Sample properties file that can be used as a template for a client instance properties file.
- Client.Typical.ini: Sample properties file for installing or upgrading a typical client instance.
- Client.WM.ini: Sample properties file for installing or upgrading a full client instance that includes the Warehouse Management software components.

Message Suppression

By default, warning messages are displayed during an unattended installation, which is useful during testing of the properties file. However, during the actual installation or upgrade, you typically want to suppress warning and error messages. The /sm command line option suppresses messages. For example: setup.exe /sm /autoinstall=C:\Releases\Server.WM.MSSQL.ini.

Installation log file

During installation, warning and error messages are logged to the JDA.SCE.Server.Install-<Date>- <Time>.log file for a server instance and JDA.SCE.Client.Install-<Date>-<Time>.log for a client instance. For completed server installations, the log file is located in the instance's \les\log directory; for canceled server installations, and completed or canceled client installations, the log file is located in the Windows %TEMP% directory. It is highly recommended that you review the log file after an installation to ensure that no errors or warnings occurred that require action.

Client instance specification

Unlike server instances, client instances are not named. Therefore, if you have more than one client instance on a computer, you must specify the instance you want to upgrade. A globally unique identifier (GUID) is used to differentiate client instances and is specified by using the /ig command line option; for example, setup.exe -ig{722C7440-B317-4B3B-AECA-0199EA4E7CDB}.

> Existing client instance GUIDs are located in the Windows registry under the HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\McHugh\Installer Client key.

Prepare for an unattended installation

1. Perform one of the following tasks:
    a. Run an interactive session to create a response file and save it to a new file name to use as the properties file. This option is suggested for server software instances.

    > To use a response file as a properties file in an unattended installation, you must save it to a file name that does not contain dashes (-) or forward slashes (/).

    b. Save one of the sample properties files from the installation media to a new file. This option is suggested for client software instances.
2. Use a text editor to edit the properties file.
3. Test the unattended installation using the properties file.

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Additional Steps

Load Existing Data

1. Setup a remote connection to **RFLABVMSQL64** and open **SQL Server 2014 Management Studio**
2. Expand Database
3. Right click on your WMS database and select Tasks>>Back up...
4. Accept all of the default settings and click OK
5. Download an the back up of an existing database that has already been filled with WMS/Inventory data
6. Open File Explorer and place a copy of your download into the directory used by your database for backups ie: C:\Program Files\Microsoft SQL Server\MSSQL12.MSSQL14\MSSQL\Backup
7. Go back to SQL Server 2014 Management Studio and Expand Databases
8. Right click on your WMS database and select Tasks>>Restore>>Database
    a. Change the source to Device
    b. Click on the
    
    button and navigate to the backup you downloaded in step 5 of this section
    c. Set the Destination Database to your WMS database
    d. Click on Verify Backup Media
    e. Click on OK

Upgrade the Database

1. Setup a remote connection to **RFLABVMSERV64**
2. Open the command prompt
3. Enter the following commands
    a. D:
    b. CD \JDA*(instance)*\les\data
    c. env
    d. CD ..\
    e. CD ..\
    f. CD install\database\
    g. java -jar dbugrade.jar

MOCA Server

1. Setup a remote connection to **RFLABVMSERV64**
    a. Open services.msc
    b. Locate and start the MOCA service associated with your instance
    c. Place a copy of **D:\JDA***(instance)***MTF\config\mtf_server_config.properties** in **D:\JDA***(instance)***LES\config**
    d. Place a copy of **D:\JDA***(instance)***MTF\data\mtf_logging** in **D:\JDA***(instance)***LES\data**

2. Open the SCE client and connect to your instance

> When you connect to your instance you may be asked to download an update to the client framework, the first time you connect click on download, on any subsequent connections click on Use Current

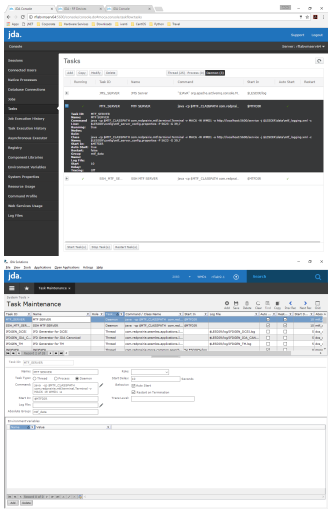
3. Open a web browser and point it to the console for your installation **http://rflabvmserv64:<port number>/console**
4. Login using the **super** account

> You will be going back and forth between the **Console** and the **Client** for the next few steps, remember the **Console** is the one in the web browser.

a. **Console:**
   i. Click on Tasks from the column on the left
   ii. Click on Daemon and then highlight the MTF SERVER Task
   iii. Click on Stop Task at the bottom of the screen
b. **Client:**
   i. Click on the Menu button in the top left corner of the screen
   ii. Click on System Tools and then Task Maintenance
   iii. Click the find button and sort the results by the Task Type field
      1. The MTF Server is a Daemon Task so once you sort the list it will be at either the very top or the very bottom
   iv. Click on the **MTF Server** task and then click the pencil to the right of Command, edit the connection string until it looks similar to this:
      1. java -cp $MTF_CLASSPATH com.redprairie.mtf.terminal.Terminal -v **MAC6** -W WMD1 -a http://localhost:**5600**/service -j $LESDIR\data\mtf_logging.xml -c $LESDIR\config\mtf_server_config.properties -P **5623 -G 39,7**
      2. MAC6 = the Vender Name you are associating with your RF devices
      3. 5600 = the port you installed the MOCA Server on
      4. 5623 = the port the MOCA Server will listen to for incoming connections
      5. -G 39,7 = (optional) used for debugging, displays the name of the screen currently being viewed in the emulator. The numbers relate to the row and column the screen name will be displayed on, choose a row and column that wouldn't be normally visable
   v. After making your changes to the connection string click OK
   vi. Uncheck the box **Restart on Termination** and then click on

c. **Console:** Refresh the screen a few times, the task should restart automatically after being saved in the client
d. SSH
   i. In most client installs you will be using either the standard MTF Server **or** SSH, but in the RFLAB we typically set each instance up with both
   ii. Copy the files you created in Step 1 and add _ssh to the end of the file name ie: **D:\JDA***(instance)***\LES\data\mtf_logging_ssh**
   iii. **Client:** Select the MTF Server from the task list and click

      1. Task ID: SSH_MTF_SERVER
      2. Uncheck **Restart onTermination**
      3. Modify the connection string by clicking on the pencil next to command and editing the items in **bold**
         a. java -cp $MTF_CLASSPATH com.redprairie.mtf.terminal.Terminal -v MAC6 -W WMD1 -a http://localhost/:5600/service -j $LESDIR\data**mtf_logging.xml** -c $LESDIR\config**\mtf_server_config.properties** -P **5623** -G 39,7
         b. mtf_logging.xml ==>mtf_logging_ssh.xml
         c. mtf_server_config.properties==>mtf_server_config_ssh.properties
         d. 5623==>5622 (modify these numbers to be in line with the ports actually used for your instance
      4. Click on



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