SPM® Local License Server Guide

The configuration of Salford Predictive Modeler® (SPM) software for use with a Local License Server (i.e., the installation of a virtual server on Your network) is not the recommended default configuration by Minitab®.

You may; nonetheless, select this option for configuration at Your own risk. This means that Minitab is not, and will not, be responsible for security and maintenance of the software at Your location or on Your network.

Note The following instructions are provided without warranty of any kind by Minitab, LLC.

Disclaimer: By configuration of Salford Predictive Modeler (SPM) software for use with a Local License Server on Your network, You assume the responsibility for ensuring that the Local License Server is secured and maintained in accordance with Your applicable IT Security policies to protect Your environment and your users. MINITAB IS NOT RESPONSIBLE FOR THE SECURITY AND MAINTENANCE OF SYSTEMS AT YOUR LOCATION OR ON YOUR NETWORK.

Overview

Set up SPM for use with a Local License Server based on the version you have.

- Use the Local License Server V2 (current version) on page 1
- Use the Local License Server V1 (previous version) on page 12

Use the Local License Server V2 (current version)

When you set up SPM for use with a Local License Server, you create and configure a Linux server following these high-level steps:

1. Set up the Local License Server

2. Obtain and activate the Master product key

3. Activate the SPM product key

4. Manage users and validate client/server communication

5. (Optional) Learn about deactivation and daemon status and settings

Set up the Local License Server

The Local License Server V2 is supported on CentOS 7 and RHEL 7 and requires that the system be installed and working. Other dependencies are installed by the daemon's rpms.

The V2 daemon is not compatible with V1 and cannot be installed over an existing older daemon installation. The V2 daemon is installed to /var/www/html/nalpeiron.

Download the following components:
1. A PostgreSQL database (V2), which will be installed on the host machine.

2. The Daemon package (V2), which will also be installed on the host machine.

</>

Install the rpms

1. Use "sudo" install for each command if you are not logged in as root, that is, sudo yum install /path/to/rpm. Most of the following settings are applied when you reboot the server in step 6.

    a. `yum install /path/to/nalppgsql.rpm`

    b. `yum install /path/to/nalpdaemon.rpm`

2. Modify the firewall to allow connections to the daemon (port 16700) and the web interface (port 80) Adjust the firewall:

    a. `firewall-cmd --permanent --add-port=16700/tcp`

    b. `firewall-cmd --permanent --add-port=80/tcp`

3. Disable SELINUX.

    a. Edit `/etc/sysconfig/selinux`.

    b. Change `SELINUX=enforcing` to `SELINUX=disabled`.

4. Check the following values and, if needed, increase the open file limit of your system:

    a. `ulimit -aH`

    ```
    core file size          (blocks, -c) unlimited
    data seg size           (kbytes, -d) unlimited
    scheduling priority             (-e) 0
    file size               (blocks, -f) unlimited
    pending signals                 (-i) 63684
    max locked memory       (kbytes, -l) 16384
    max memory size         (kbytes, -m) unlimited
    open files                      (-n) 819       <------------Open file limit
    pipe size            (512 bytes, -p) 8
    POSIX message queues     (bytes, -q) 819200
    real-time priority              (-r) 0
    stack size              (kbytes, -s) unlimited
    cpu time               (seconds, -t) unlimited
    max user processes              (-u) 63684
    virtual memory          (kbytes, -v) unlimited
    file locks                      (-x) unlimited
    ```

    b. If your open file limit is less than 8192, change this value by editing /etc/security/limits.conf and adding or changing the "nofile" lines to:

    ```
    * soft nofile 8192
    * hard nofile 8192
    ```

5. Check and, if necessary, increase the kernel's socket backlog limit:

    a. `sysctl net.core.somaxconn`

    `net.core.somaxconn = 128`

    b. Increase this value to 2048 (or higher) by editing /etc/sysctl.conf and adding or editing the "net.core.somaxconn" value:

    `net.core.somaxconn = 2048`

6. Reboot.

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Test the installation

1. Check to make sure that the daemon is Active (running).

   ```
   sudo systemctl status nalpdaemon
   ```

Note	The daemon is not licensed until a license is applied later in the setup process.

2. Check to make sure postgresql is running. (The output should look similar to the following image.)

   ```
   ps -elf | grep postgres
   ```


3. Enable daemon on reboot/restart.

   ```
   sudo systemctl enable nalpdaemon
   ```

After installation, the daemon should be accessible on your network. To obtain the daemon's IP address, type the following command into a command shell:

```
ifconfig -a
```

The daemon IP address, 192.168.222.11, is associated with the default network device (the **inet** value listed under **eth0** in the following image).

Open a browser and navigate to the IP address listed in the previous step. Log in using the following default credentials:

- Username: admin
- Password: nalpeiron

After you log in, navigate to the **Users** tab to change the admin password and add new users.

Only the admin user can log in to the daemon; however, all users (including the admin) can use their credentials in client applications.

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Obtain and activate the Master product key

In addition to a product key for each product it serves, the Local License Server requires a Master product key for each daemon instance. You obtain the Master product key from Minitab Technical Support, then activate it using either an online or offline activation procedure.

Activate the Master product key online

1. Navigate to the **License** tab.

2. From the **Master License** drop-down list, select **Get License Online** and click the orange arrow button ▶.

3. In the **Enter License Code** dialog box, enter the Master product key (**License Code**) provided by Minitab.
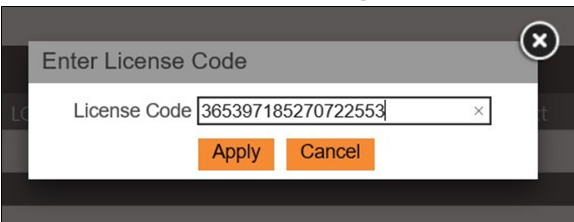
4. Click **Apply** to activate the Master product key.

Activate the Master product key offline

1. Navigate to the **License** tab.

2. From the **Master License** drop-down list, select **Create Activation Request** and click the orange arrow button ▶.

3. In the **Enter License Code** dialog box, enter the Master product key (**License Code**) provided by Minitab.
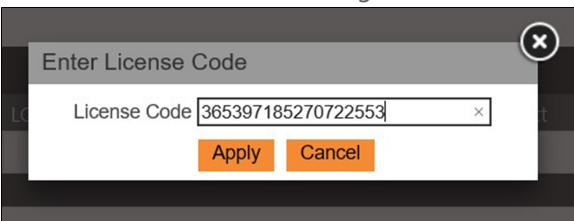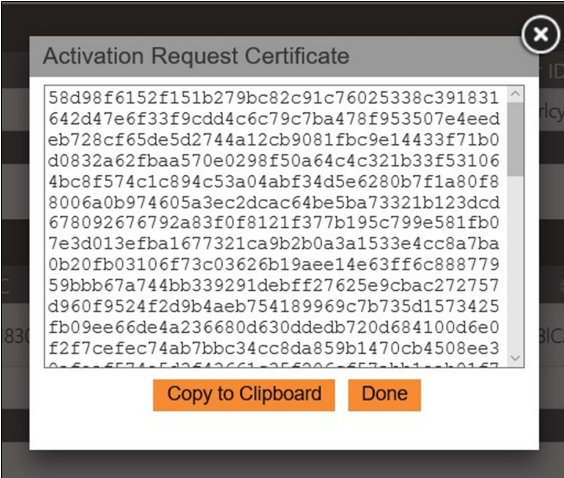

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4. In the **Activation Request Certificate** dialog box, right-click and select **Copy**.

5. On an Internet-connected device, open a browser and go to the Minitab activation portal.

6. In the **Activation Certificate** dialog box, paste the activation request certificate and click **Activate**.

7. Upon success, the **Activation Certificate** dialog box generates a new server certificate to import. Copy the entire server certificate.

8. From the **Master License** drop-down list on the daemon, select **Import Certificate** and click the orange arrow button ▶.
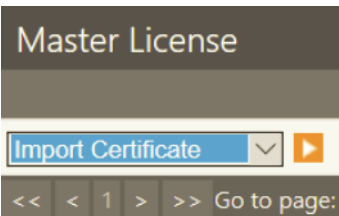
9. Enter the Master product key and click **Accept**.

10. In the **Import Certificate** dialog box, paste the server certificate that was generated in step 7.

11. Click **Apply** to activate the Master product key.

Activate the SPM product key

Activate your SPM product key provided by Minitab. You can activate the SPM product key using either an online or offline activation procedure.

Activate the SPM product key online

1. From the **Product Licenses** drop-down list, select **Enter Product Info**, click the orange arrow button ▶, and enter the following:

    - Customer ID : 4895
    - Product ID : 106

2. Click **Accept**.

3. From the **Product Licenses** drop-down list, select **Get License Online** and click the orange arrow button ▶.

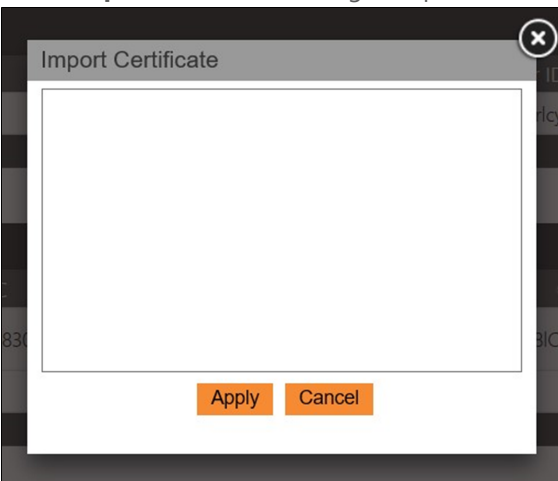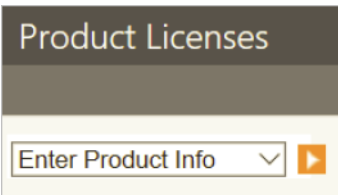4. In the **Enter License Code** dialog box, enter the SPM product key (**License Code**) provided by Minitab.

5. Click **Apply** to activate the SPM product key.

Activate the SPM product key offline

1. From the **Product Licenses** drop-down list, select **Enter Product Info**, click the orange arrow button ▶, and enter the following:

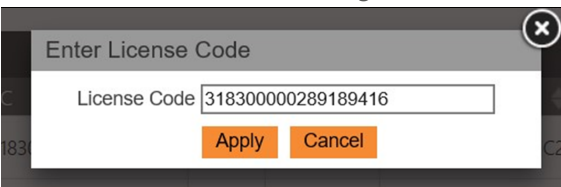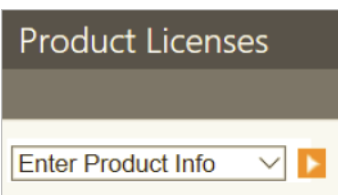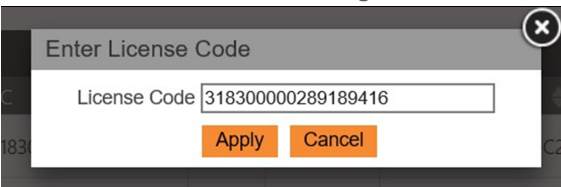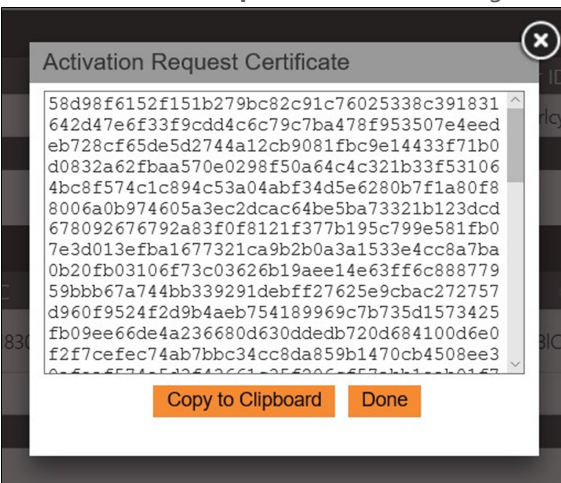   - Customer ID : 4895
    - Product ID : 106

2. From the **Product Licenses** drop-down list, select **Create Activation Request** and click the orange arrow button ▶.
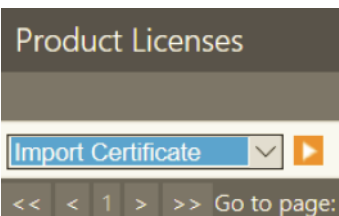
Product Licenses

Get License Online
Create Activation Request
Import Certificate

3. In the **Enter License Code** dialog box, enter the SPM product key (**License Code**) provided by Minitab.

Enter License Code

License Code 318300000289189416

Apply   Cancel

4. In the **Activation Request Certificate** dialog box, right-click and select **Copy**.

Activation Request Certificate

```
58d98f6152f151b279bc82c91c76025338c391831
642d47e6f33f9cdd4c6c79c7ba478f953507e4eed
eb728cf65de5d2744a12cb9081fbc9e14433f71b0
d0832a62fbaa570e0298f50a64c4c321b33f53106
4bc8f574c1c894c53a04abf34d5e6280b7f1a80f8
8006a0b974605a3ec2dcac64be5ba73321b123dcd
678092676792a83f0f8121f377b195c799e581fb0
7e3d013efba1677321ca9b2b0a3a1533e4cc8a7ba
0b20fb03106f73c03626b19aee14e63ff6c888779
59bbb67a744bb339291debff27625e9cbac272757
d960f9524f2d9b4aeb754189969c7b735d1573425
fb09ee66de4a236680d630ddedb720d684100d6e0
f2f7cefec74ab7bbc34cc8da859b1470cb4508ee3
```

Copy to Clipboard   Done

5. On an Internet-connected device, open a browser and go to the Minitab activation portal.

6. In the **Activation Certificate** dialog box, paste the activation request certificate and click **Activate**.

7. Upon success, the **Activation Certificate** dialog box generates a new server certificate. Copy the entire server certificate.

8. From the **Product Licenses** drop-down list, select **Import Certificate** and click the orange arrow button ▶.

Product Licenses

Import Certificate ▼ ▶
<< < 1 > >> Go to page:

9. Enter the SPM product key (**License Code**) and click **Accept**.

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10. In the **Import Certificate** dialog box, paste the new server certificate that was generated in step 7.
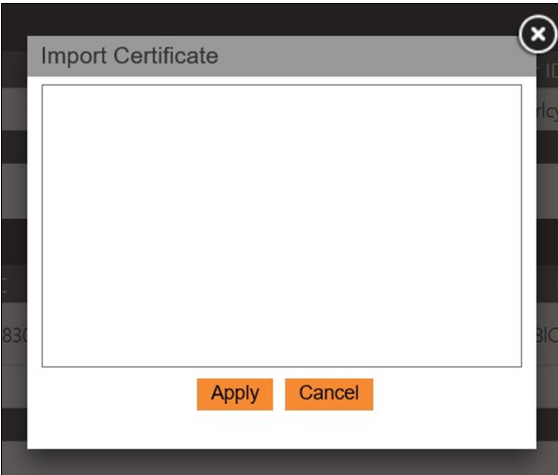
11. Click **Apply** to activate the SPM product key.

Manage users and validate client/server communication

The following sections show how to create a single Minitab end-user username using default values so you can track SPM product usage. To track individual usage, you can create and manage additional usernames.

> **Important**   If you want to create additional usernames or use values other than the default values, you must complete the steps in the following sections using the usernames and passwords you choose before validating client/server communication.

Add a user

By default, the SPM application uses the username and password that is set in the following steps.

1.   Navigate to the **Users** tab.
2.   Click the **New User** button.
3.   Set the username as *Minitab_user*.
4.   Set the default password as *AccessToken*.
5.   Click the **Save** button.

After you add users, go to

Set up the end-user client computers

The following steps are required when setting up a non-default user for SPM application. The SPM client's config file must contain the username and password to properly check out a license.

1. On the client computer, locate the license configuration file.
   - On Windows: C:\ProgramData\Minitab\Salford Predictive Modeler 8\
   - On Linux: Your SALFORD environment variable path

2. In the license configuration file, do the following:
   a. Update the License_username value with the username, *Minitab_user*.
   b. Update the License_accesstoken value with the password, *AccessToken*.

```
Library_path=/usr/local/salford/
Work_dir=/var/spm/work_dir/
Log_level=info
License_code=
License_path=
License_ip=123.456.7.891
License_port=16700
License_username=NewSPMUsername
License_accesstoken=NewSPMUserPassword
```

After you set up the end-user client computers, go to Validate client/server communication on page 9.

Change a user's password

To set a default user password, complete the following steps.

1. Navigate to the **Users** tab.
2. Click the **Change Password** button.
3. Enter the new password twice.
4. Set the default password as *AccessToken*.
5. Click the **Save** button.

After you set up the end-user client computers, go to Validate client/server communication on page 9.

Validate client/server communication

To validate that the client and the server are communicating, install SPM on a client computer using the disconnected server option.

Important   To ensure that your end users can install the software and check out licenses, provide all of the users with the following information:

- Local License Server IP address
- Local License Server port

Note   For the proper configuration of each license option, refer to the *SPM Deplyoment Guide*, which you can download from the Minitab website.

Deactivation, status, and settings

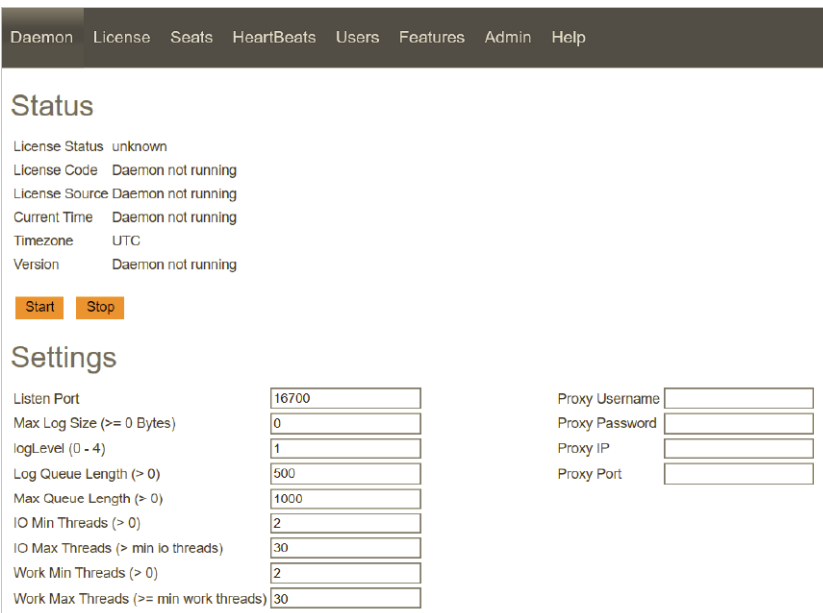## Deactivate the Master product key online

1. From the **Master License** drop-down list, select **Return License Online** and click the orange arrow button ▶.

2. When prompted, click **OK**.

Deactivate the SPM product key online

1. From the **Product Licenses** drop-down list, select **Return License Online** and click the orange arrow button ▶.

2. When prompted, click **OK**.

Daemon status and settings

The default tab, after you log in, is the daemon status and settings page.

Status

The daemon status fields are as follows:

License Status
   Whether the daemon is running and, if so, whether or not it is licensed.

License Code
   Daemon Master product key.

Computer ID
   ID of the host machine on which the daemon is running.

License Source
   The domain name of the Local License Server from which the daemon Master product key has been obtained.

Current Time
> Current time of the Local License Server.

Timezone
> The time zone of the Local License Server.

Version
> Daemon version number.

The log is written to the .log file in the daemon's working directory: /logs subdirectory of the /etc/nalpeiron/

Settings

The daemon configuration settings are as follows:

Listen Port
> The port on which the daemon listens to the clients. The default value is set to 16700.

Max Log Size
> Maximum length of a log file on disk in bytes. When a log file reaches this size, a new log file is created up to a maximum of 5 log files. When there are 5 full log files, the oldest one is deleted and a new one is created. The default value is 0 (unlimited growth allowed).

Log Queue Length
> Maximum length of the log queue (number of entries waiting to be logged).

logLevel
> Level of logging detail (0-4). Level 4 should always be used for diagnostics/Nalpeiron support tickets. A value of 1 is sufficient for non-debug purposes.

Max Queue Length
> Maximum size of the connection queue (that is, the number of clients waiting in line to be answered).

IO Min/Max Threads, Work Min/Max Threads
> Parameters which govern the ability of the daemon to handle IO requests and perform internal tasks. The higher the values, the more client machines can be handled; although, the more demanding this is of the host machine. The daemon manages the size of its thread pool within these bounds.

Proxy Username/Password/IP/Port
> If the daemon is connecting to the internet via a proxy server, use these values to specify the IP address, port number and, if necessary, user credentials for the proxy server. If no proxy is used, you can leave these values empty or unspecified. The default is no proxy.

Stop and start the daemon

To apply any changes to status or configuration settings, stop and start the daemon.

- To stop the daemon, click **Stop** prior to making any settings changes. Restart the daemon after making any settings changes.
- To start the daemon, click **Start** prior to licensing.

Use the Local License Server V1 (previous version)

Note   The following instructions were written and tested for Local License Server configuration on VMware Fusion only.

When you set up SPM for use with a Local License Server, you create and configure a Linux server following these high-level steps:

1. Set up the Local License Server

2. Validate the Local License Server settings

3. Apply end-user licenses to the server

4. Validate client/server communication

Set up the Local License Server

1. Download one of the following files:
   - Local_License_Server.vmdk.zip
   - Local_License_Server.ovf.zip
   - Local_License_Server_KVM.zip

2. Use your preferred virtualization software to open the downloaded file and create a new virtual machine.

3. Use the following default credentials to log in to the new virtual machine.
   - Username: root
   - Password: nalpeirondaemon

   Note   For security, change the default credentials after you log in.

4. Configure the network settings to ensure that SPM clients on your network can communicate with the new virtual machine.
   a. Verify that the date and time are set correctly. At the terminal, type: *date*

   b. If time is off, start the time synchronization service. At the terminal, type: *service ntpd start*

   c. Test the time synchronization. At the terminal, type: *ntpstat*

5. At the terminal, type: *reboot*

Validate the Local License Server settings

1. Log in to the server using root credentials.

2. Verify that the date and time are still correct. If time is off, you will not be able to activate your Local License Server.

3. Get the IP address of the virtual machine to open the Local License Server management console.
   At the terminal, type: *ifconfig*

Apply end-user licenses to the server

1. Open a browser (Firefox, Chrome, or Edge) and paste the IP address as the URL.

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2. Use the following default credentials to log in to the Local License Server management console as an administrator.

   - Username: admin

   - Password: nalpeiron

Note	For security, change the default credentials after you log in.

3. Activate the Master product key provided by Minitab.
   a. Click **License** from the top navigation.

   b. From the **Master License** drop-down list, click the orange arrow button .
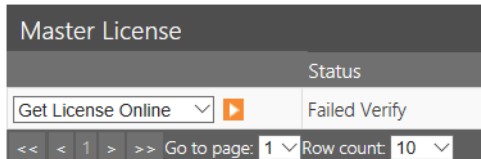
   c. Enter the Master product key provided by Minitab.

   d. Click **Apply** to activate the Master product key.

4. Activate the SPM product key.
   a. From the drop-down list, choose **Enter Product Info**.

   b. Click the orange arrow button and enter the following:

      - Customer ID : 4895

      - Product ID : 106

   c. From **Product Licenses**, choose **Get License**.

   d. Enter the SPM product key provided by Minitab.

   e. Click the orange arrow button again to activate the SPM product key.

5. Log out from the default administrator account in the management console.

Validate client/server communication

To validate that the client and the server are communicating, install SPM on a client computer using the disconnected server option. A single Minitab end-user username is already created so you can track usage. To track individual usage, you can create and manage additional usernames. After you add users, you must update client computers. Contact Minitab Support for assistance.

Important	To ensure that your end users can install the software and check out licenses, provide all of the users with the following information:

- Local License Server IP address

- Local License Server port

Note	For the proper configuration of each license option, refer to the *SPM Deplyoment Guide*, which you can download from the Minitab website.