



SmartServer 2.2



Quick Start Guide

Welcome to SmartServer 2.2. Your SmartServer is a versatile middleware appliance that connects to IP-based applications such as enterprise energy management, demand response programs, and streetlight management systems.

The server not only allows you to access, control, and monitor electronic devices, but also lets you use data intelligently to save energy, improve operations, and lower maintenance costs. Easy to deploy and manage, and capable of both local and remote control, the SmartServer offers unparalleled flexibility. Use it as a standalone server, or integrate it with the control system of your choice. With built-in drivers for industry-standard protocols like Echelon's LONWORKS® technology, SOAP/XML, ModBus, M-Bus, digital I/O, and pulsecount input; a BACnet driver available from ConnectEx; and custom driver support for everything else. Options are available for IP-852 routing and custom application support.

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Step 1: Install the SmartServer 2.2 Software

1. Before installing, check www.echelon.com/smartserver for the latest SmartServer service pack and updates. See the installation instructions included with the service pack or update for more information.
2. Insert the SmartServer 2.2 DVD into your computer. If the installation program fails to start, navigate to your DVD-ROM drive and run **setup.exe**.
3. Click **Install Products**, click **Echelon SmartServer 2.2 Software**, and then follow the instructions in the Setup Wizard.

Step 2: Connect the SmartServer Hardware

1. Use an Ethernet cable to connect your SmartServer to an IP network that can communicate with your computer.
2. If your computer is not on the 192.168.1 subnet, open a command prompt and type the following command:

```
route add 192.168.1.0 mask 255.255.255.0 %computername%
```

If you are running Windows 8, Windows 7 or Windows Vista™ on your computer, you need to open the command prompt with administrator privileges. To do this, click **Start**, type **cmd** in the search box, right-click **cmd.exe**, and then select **Run as Administrator**. If you receive a "The parameter is incorrect" error after entering the route command, replace **%computername%** with the IP address of your computer.

3. Open Internet Explorer 8 or later, Mozilla Firefox 9 or later, or Chrome 16 or newer and enter the following URL: **192.168.1.222**. Your SmartServer home page appears.

4. Click the **Login** button.
5. If a login dialog appears, enter **ilon** for both the User Name and the Password and then click **OK**. The **SmartServer – Welcome** Web page appears.

Step 3: Set the SmartServer IP Address

1. Right-click **SmartServer** near the top of the navigation pane in the left side of the Web page, point to **Setup** on the shortcut menu, and then click **TCP/IP**.
2. The **Setup – Local SmartServer** Web page appears.
3. Configure the IP and DNS properties for your SmartServer.
4. Optionally, you can configure IPv6 properties for your SmartServer by selecting the **Advanced** check box.
5. Click **Submit**.
6. Reboot the SmartServer. To do this, right-click **SmartServer** in the navigation pane, point to **Setup**, and then click **Reboot**. In the Setup – Reboot dialog, click **Reboot**. The reboot takes approximately 5 to 10 minutes.

The screenshot shows the 'Setup - Local i.LON SmartServer' web page. It has a navigation pane on the left with 'SmartServer' selected and 'Setup' > 'TCP/IP' highlighted. The main content area shows configuration options for IP and DNS properties.

IP Property	Value
<input type="checkbox"/> Automatically obtain IP Address *	
IPv4 address *	192 .168 .1 .222
Subnet Mask *	255 .255 .255 .0
Default Gateway *	192 .168 .1 .222
DNS Property	Value
<input type="checkbox"/> Automatically obtain IP Address *	
Default DNS Server *	0 .0 .0 .0
Backup DNS Server *	0 .0 .0 .0

At the bottom, there is an **Advanced** checkbox.

Step 4: Select a Network Management Service

You can manage a LONWORKS network using OpenLNS and LNS® network management services or using the SmartServer as a standalone network manager. When using OpenLNS or LNS network management services, you can configure the SmartServer to automatically synchronize with an OpenLNS or LNS Server (the OpenLNS or LNS Auto network management service), or to synchronize manually under your control (the OpenLNS or LNS Manual network management service).

- When using the OpenLNS or LNS Auto and OpenLNS or LNS Manual network services, the SmartServer synchronizes with an OpenLNS or LNS Server, and uses the OpenLNS or LNS Server to perform all network management tasks. In these modes, the SmartServer and the devices on the attached LONWORKS network can communicate in a peer-to-peer manner. You must have an OpenLNS or LNS Server Turbo Edition (version 3.2 or newer) to use either of the OpenLNS or LNS network management services. The OpenLNS Server is available from Echelon at <http://www.echelon.com/openlms>.
- When using the Standalone network management service, the SmartServer is the network manager. The network functions as a master-slave system, where the SmartServer is the master to the slave devices. The devices can also communicate peer-to-peer. You can use standalone mode to operate a small, single-channel network that does not require OpenLNS or LNS services, or synchronization with other network management tools. Networks running in standalone mode are limited to a maximum of 300 devices and no routers (for TP/FT-10 networks, you need to attach a physical layer repeater to the network to exceed the 64 device segment limit).

Using the OpenLNS Auto and OpenLNS (LNS Auto and LNS Manual) Network Management Services

1. Install the Echelon SmartServer 2.2 Enterprise Services on your OpenLNS or LNS Server computer from the SmartServer 2.2 DVD. To do this, click **Echelon SmartServer 2.2 Enterprise Services** from the **Install Products** dialog, and then follow the instructions in the Setup Wizard. In the installer, change the default user name and password used to access the LNS Proxy Web service on your LNS Server computer.
2. Activate EES 2.2.
 - a. Right click the Echelon Enterprise Services tray tool icon in the Notification area of your desktop and then select **Activate Enterprise Service**.
 - b. The **EES Activation** dialog opens.
 - c. Copy the PC Key to your clipboard and then click the link in the dialog to request your EES Activation Key.
 - d. Browse to the LONWORKS **iLON\EnterpriseServices** folder on your computer and create a new folder named **license**.
 - e. When you receive your EES Activation Key, copy it to the LONWORKS **iLON\EnterpriseServices\license** folder on your computer.
 - f. Restart EES 2.2. To do this, right click the Echelon Enterprise Services tray tool icon and then select **Restart Service**. Alternatively, you can reboot your computer. After you restart EES 2.2 or reboot your computer, EES 2.2 is activated on your computer.
3. Add an OpenLNS or LNS Server to the LAN.
 - a. Right-click **LAN** at the top of the navigation pane, point to **Add Host**, and then click **Server (OpenLNS, LNS, Email, Time, IP-852, WebTarget)** on the shortcut menu.

- b. The **Setup – Host** Web page appears, and a server entry is added to the bottom of the navigation pane.
- c. Click **LNS Proxy**, enter the IP address or hostname of your OpenLNS Server computer that is running OpenLNS or LNS Turbo Server (version 3.2) or newer, and then configure the SOAP/HTTP properties of the OpenLNS or LNS Server.



- d. Click **Submit**.
4. If you are using Internet Explorer 8 or newer, enable your Web browser to access the OpenLNS or LNS Proxy Web service on the OpenLNS or LNS Server computer. To do this, follow these steps:
- Add the locations of your local SmartServer and the OpenLNS Server on which the OpenLNS or LNS Proxy Web service is installed as trusted sites. To do this, click **Tools**, click **Internet Options**, click the **Security** tab, click **Trusted Sites**, and then click **Sites**. Clear the **Require Service Verification** check box.
 - By default, the IP address of your local SmartServer appears in the **Add this Website** to the **Zone** box. Click **Add** to add the IP address of your local SmartServer. Enter the IP address of the OpenLNS or LNS Proxy Web service in the **Add this Website to the Zone** box, click **Add**, click **Close**, and then click **OK**.
 - Enable your Web browser to access sites over other domains. To do this with Internet Explorer 8 or newer, click **Tools**, click **Internet Options**, click the **Security** tab, and then click **Custom**. Under the **Miscellaneous** category, select **Enable or Prompt for the Access data** sources across domains property.

LNS Proxy Web service port on the OpenLNS or LNS Server computer (port 80 by default). This is the default.

- In the OpenLNS or LNS Server property, select the IP address of the OpenLNS or LNS server to be used for providing network management services.
- Enter the User Name and Password for logging into the OpenLNS or LNS Server via the LNS Proxy Web service and then click **OK**. The default user name and password is **ilon**, but you should have entered a different user name/password in the Echelon SmartServer Enterprise Services installer.
- The box in the OpenLNS or LNS Network property is highlighted red and a dialog appears prompting you to confirm the creation of a OpenLNS or LNS network database for the default Net network.
 - To create a new OpenLNS or LNS network database named "Net" in the iLON/db folder on your computer, click **OK**, and then click **Submit**. If you selected **OpenLNS or LNS Auto**, the network in the SmartServer tree is automatically synchronized to the new OpenLNS or LNS network database. The time required for the synchronization depends on the size and complexity of the network.
 - To select an existing OpenLNS or LNS network database, or create a new OpenLNS or LNS network database with a different name, click **Cancel**, select an existing OpenLNS or LNS network database or enter an OpenLNS or LNS network database name that is unique to the selected OpenLNS or LNS Server (the box in the LNS Network property will be highlighted red), and then click **Submit**.
- If your SmartServer is attached to the network, select the **Use OpenLNS or LNS Network Interface** box and then select network interface to be used for communication between the network and the OpenLNS or LNS Server.

Using Standalone Network Management Service

- Click the **Driver** option located directly above the navigation page on the left side of the SmartServer Web interface.
- Click the **Net** network in the navigation pane. The **Setup – LON Network Driver** Web page appears.
- In the **Network Management Service** property, select **Standalone**.
- Click **Submit**. A dialog appears informing you that the SmartServer is being switched to standalone mode. It takes approximately 1 minute to switch. When the SmartServer has finished switching to standalone mode, the dialog closes and you can begin using your SmartServer.

Step 5: Get More Information

- Get information on the BACnet interface for the SmartServer at www.connect-ex.com.
- Get information on free online training and live training classes at www.echelon.com/training.
- Get information on support for your SmartServer at www.echelon.com/support.
- Get the latest documentation on all Echelon products at www.echelon.com/docs.

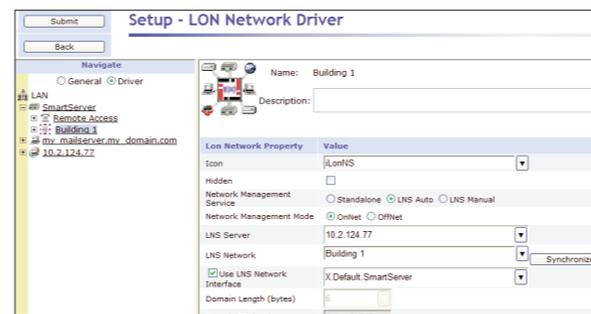
- Click the **Driver** option at the top of the navigation pane.
- Click the **Net** network in the navigation pane. The **Setup – LON Network Driver** Web page appears.
- Under Network Management Service, click **OpenLNS or LNS Auto** or **OpenLNS or LNS Manual**.

- Select OpenLNS or LNS Auto to have the SmartServer automatically synchronize with the selected OpenLNS or LNS network database via the OpenLNS or LNS Proxy Web service (you can also manually initiate synchronization by pressing the Synchronize button in the OpenLNS or LNS Network property). In this mode, the SmartServer independently initiates communication with the OpenLNS or LNS Proxy Web service. The OpenLNS or LNS Proxy Web service is part of the Echelon Enterprise Services.

If you are using an OpenLNS or LNS Server, select the OpenLNS or LNS Auto mode as long as a firewall is not blocking the SmartServer's access to the OpenLNS or LNS Proxy Web service port on the OpenLNS or LNS Server computer (port 80 by default).

- Select OpenLNS or LNS Manual to have the SmartServer manually synchronize with the selected OpenLNS or LNS network database via the OpenLNS or LNS Proxy Web service. In this mode, you can synchronize the SmartServer with the selected OpenLNS or LNS network database by pressing the Synchronize button in the OpenLNS or LNS Network property. This mode does not require the SmartServer to access the OpenLNS or LNS Proxy Web service port on the OpenLNS or LNS Server computer. Select this mode if a firewall is blocking the SmartServer's access to the OpenLNS or

- If you select the **Use LNS Network Interface** check box, the **Network Management Mode** property is set to **OnNet**. This means that network changes are propagated to the network immediately. Click **OffNet** to store network changes in the selected OpenLNS or LNS network database and propagate them to the network when you place the SmartServer OnNet.
- Click **Submit**. The network name is changed to the name of the OpenLNS or LNS database you selected in step 11, and you can begin using your SmartServer. If you selected OpenLNS or LNS Auto in step 8, the SmartServer automatically begins synchronization with the selected OpenLNS or LNS network database. If an item in the SmartServer tree is highlighted yellow, it



- has not yet been synchronized with the selected OpenLNS or LNS network database. An item is clear when it has been synchronized. You can click **Synchronize** in the OpenLNS or LNS Network property to manually resynchronize the SmartServer to the OpenLNS or LNS network database. See Chapter 5 of the *SmartServer 2.2 User's Guide* for more information on manually resynchronizing the SmartServer to an OpenLNS or LNS network database.

You can create custom embedded applications and drivers for your SmartServer with Echelon SmartServer Programming Tools. A demo version of the Echelon SmartServer Programming Tools is available on the SmartServer 2.2 DVD. To build custom embedded SmartServer applications and drivers, order the Echelon SmartServer 2.0 Programming Tools DVD from your Echelon sales representative.

To deploy your custom embedded applications and drivers to your SmartServer or any other SmartServer, a SmartServer Programming Activation Key must be installed on it. If a SmartServer Programming Activation Key is not preinstalled on your SmartServer, you can order one (Echelon Model 72161) from www.echelon.com/products/cis/activate.

