Windows 7

Configuring the WT-4 for ftp (Infrastructure Mode)

This document provides basic instructions on configuring the WT-4 wireless transmitter and a Windows 7 ftp server for transmission over an infrastructure network that includes a wireless LAN access point, or bridge.
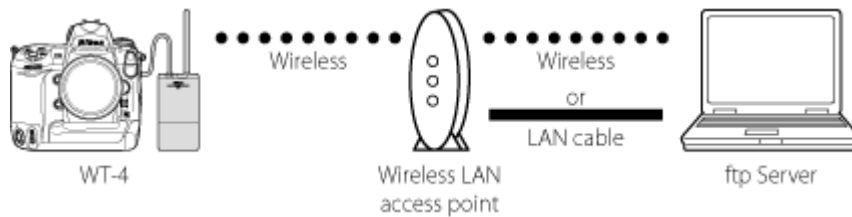
Introduction

This section describes a simple network consisting solely of a wireless LAN access point (bridge) connected to an ftp server via a LAN cable or wireless, with no connections to other networks or devices. Follow the steps below to use the WT-4 in this type of network.

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1: Get Ready

Equipment

Ready the following:

- A WT-4 wireless transmitter

- A fully-charged EN-EL3e battery for the WT-4
- A digital SLR camera that supports the WT-4 (the illustrations show a Nikon D3)
- A fully-charged battery for the camera
- A computer with Windows 7 Ultimate/Professional/Home Premium/Home Basic/Enterprise edition and a compatible version of the WT-4 Setup Utility installed
- A wireless LAN access point
- A LAN cable
- A memory card
- A USB cable
- Manuals for the above equipment

Network Settings

Note the IP addresses, encryption, and other settings that will be used in the wireless LAN. The following are intended as examples only.

- IP address for the WT-4: 192.168.1.4
- IP address for the ftp server: 192.168.1.3
- IP address of the wireless LAN access point: 192.168.1.2
- Subnet mask: 255.255.255.0
- FTP server port: 21
- Network name (SSID): WT-4
- Communication mode: Infrastructure
- Authentication: WPA-PSK
- Encryption: TKIP
- Encryption key: abcde123

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2: Installing IIS

The WT-4 canupload images to ftp servers created using the Internet Information Services (IIS) ftp serverfeature supplied with Windows 7.

2–1   Go to the **Programs** > **Programs and Features** > **Turn Windows features on or off** control panel.
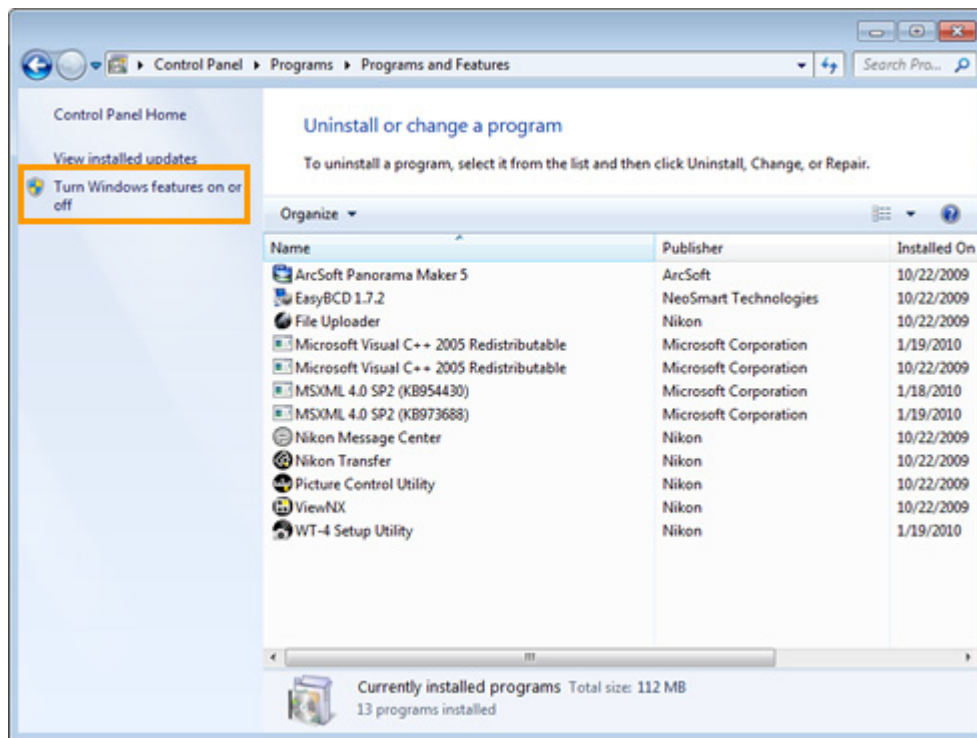
2–2   Expand the **Internet Information Services** category. Expand **FTP Server** and **Web Management Tools** and select **FTP Service**, **FTP Extensibility**, and **IIS Management Console**. Click **OK**; if prompted, restart the computer.
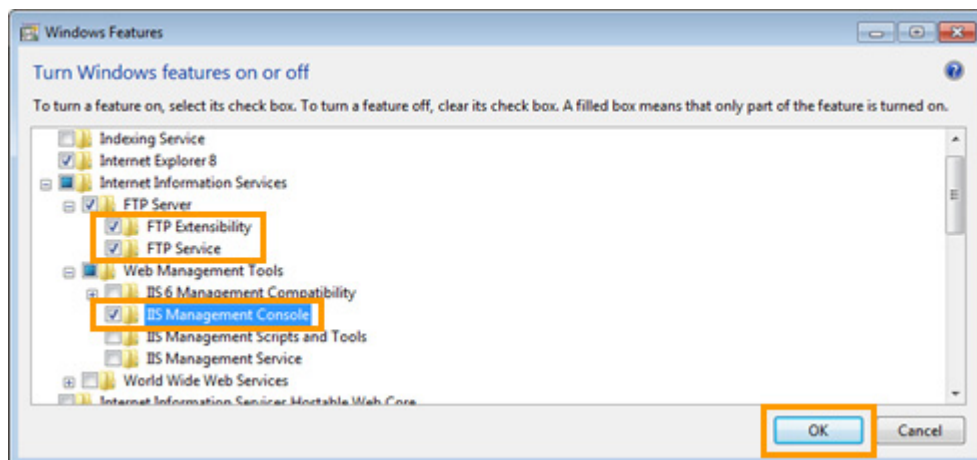
2–3   Restart the computer. IIS installation is complete.

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3: Configure the Wireless LAN Access Point

Configure the wireless LAN access point as described below. For more information, see the documentation provided by the manufacturer.

- **Network name (SSID)**: Enter the network identifier (network name or SSID), which may be up to 36 characters long. The network in this example uses the identifier WT-4.
- **Wireless mode**: Choose 802.11g or 802.11b.
- **Channel**: Automatic.

- **Wireless security**
  - **Authentication**: Choose from **open system**, **shared key**, **WPA-PSK**, or **WPA2-PSK**. The network in this example uses **WPA-PSK**.
  - **Encryption**: If you selected open system or shared key authentication, choose **64-** or **128-bit WEP**. If you selected **WPA-PSK** or **WPA2-PSK** authentication, choose **TKIP** or **AES**. The network in this example uses **TKIP**.
  - **Encryption key**: If you selected **64-bit WEP** encryption, enter a 5-character ASCII or 10-digit hexadecimal key. If you selected **128-bit WEP** encryption, enter a 13-character ASCII or 26-digit hexadecimal key. If you selected **TKIP** or **AES**, enter an ASCII key of from 8 to 63 characters or a 64-digit hexadecimal key. The network in this example uses **abcde123**.
  - **ANY connection**: Enable this option to make the network SSID public. This makes it easier to connect to the network, but also makes the network less secure. This option may not be available on some access points. In this example, we will enable ANY connection.

- **IP address**: Turn any "obtain automatically" options off and enter the IP address manually. Be sure that the address is different from the addresses used for the ftp server and WT-4. The addresses for the access point, ftp server, and WT-4 must however belong to the same class. In this example, we will use the following address for the access point, while the ftp server and WT-4 are assigned 192.168.1.3 and 192.168.1.4, respectively:
- **IP address**: 192.168.1.2
- **Subnet mask**: 255.255.255.0
- **Default gateway**: ---.---.---.---
- **DNS server**: ---.---.---.---
- **MAC address**: If the network uses MAC address filtering, the filter must be supplied with the MAC address of the WT-4. After attaching the WT-4 to the camera, turn the WT-4 on, select **Wireless transmitter** > **Device info** > **MAC address** from the camera setup menu, and note the MAC address.
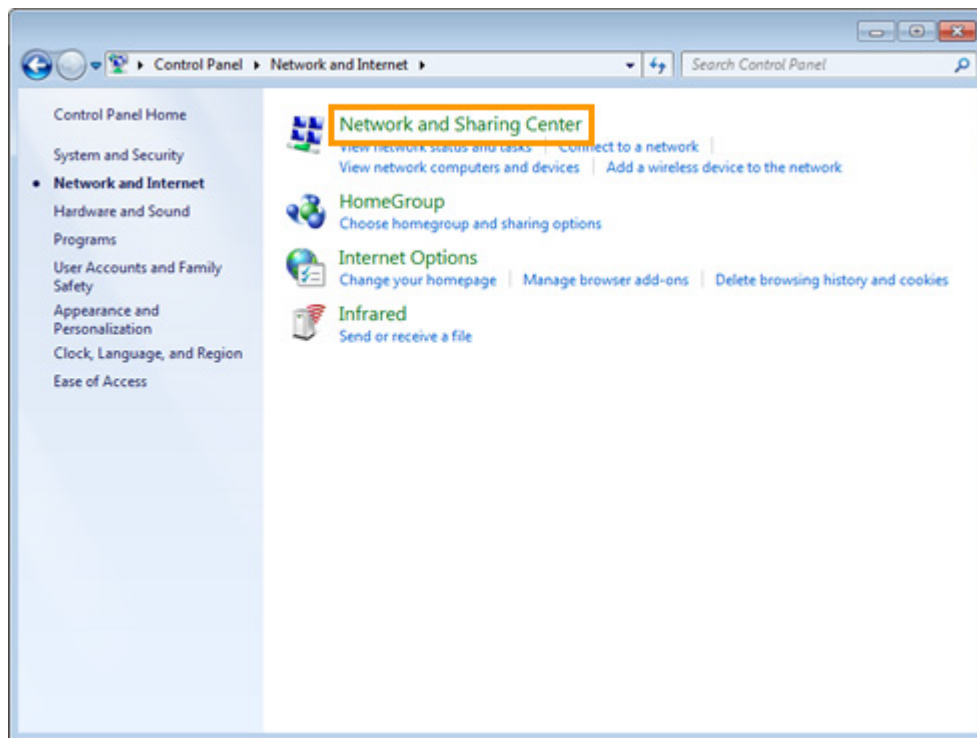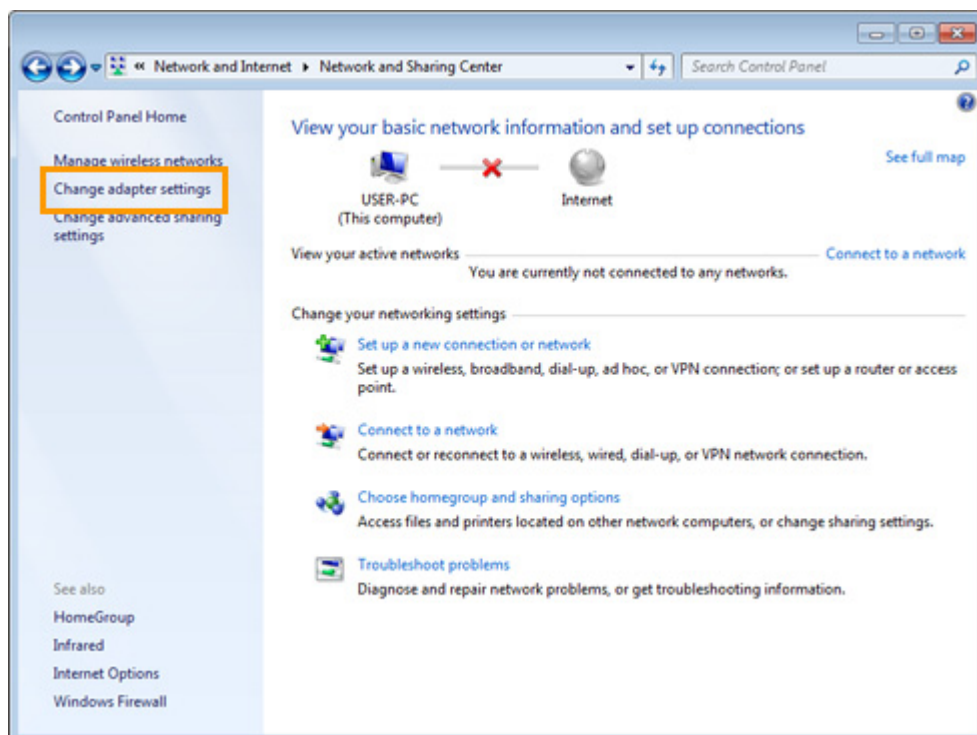
4: Assign the ftp Server an IP Address

Choose an address for the ftp server. The following IP address is intended as an example only.

- **IP address**: 192.168.1.3
- **Subnet mask**: 255.255.255.0
- **FTP server port**: 21

4–1 Open the **Network and Internet** > **Network and Sharing Center** control panel.
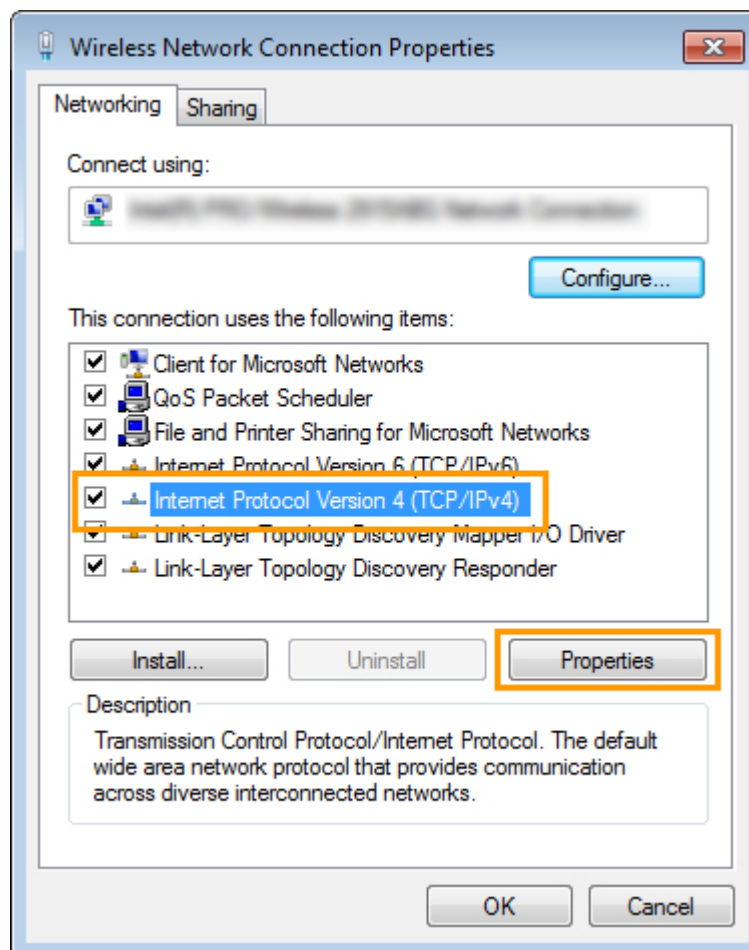
4–2   Select **Change adapter settings**.

4–3   Right-click the network icon (**Wireless Network Connection** if the access point and ftp server are connected via a wireless network, **Local Area Connection** if the access point is connected by a LAN cable) and select **Properties** from the menu that appears.
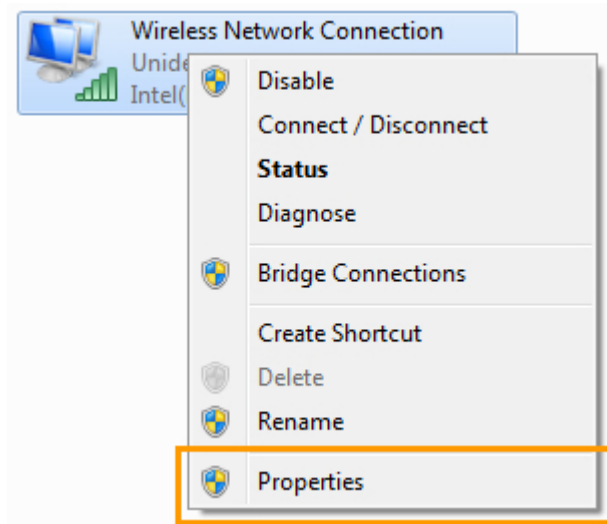
4–4   Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

4–5   Select **Use the following IP address** and enter the IP address and subnet mask for the ftp server. Click **OK** to exit and then click **Close** to close the properties dialog. This completes the process of assigning an IP address to the ftp server.
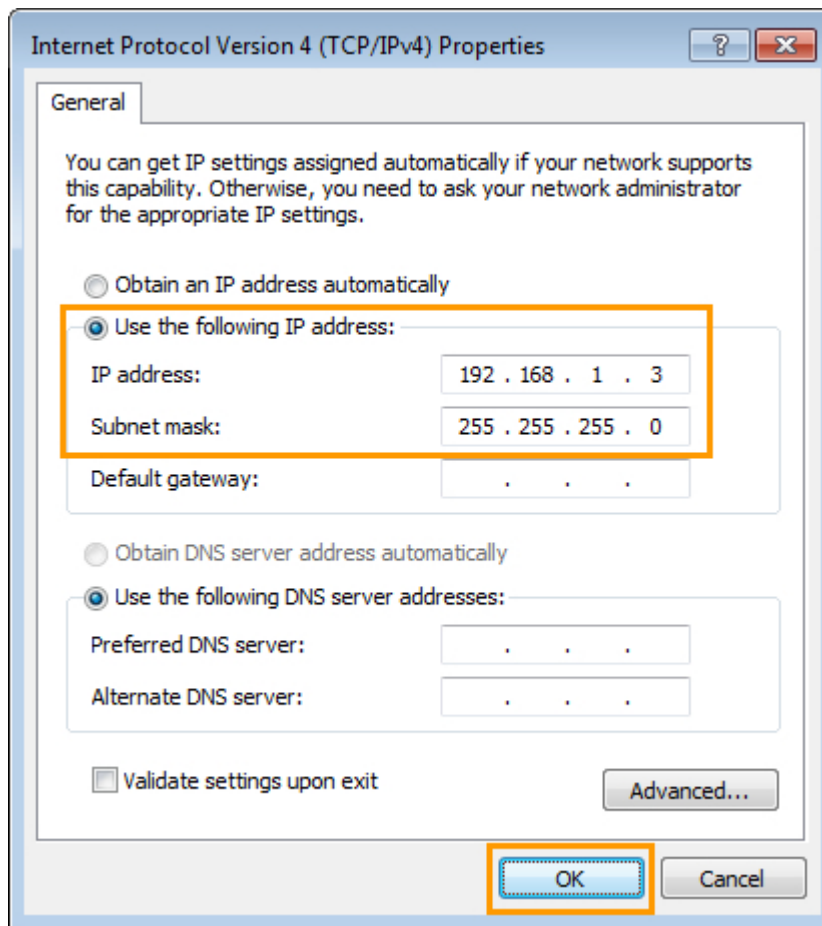
5: Configure the ftp Server for Wireless Access

This step is only required if the ftp server connects to the access point via a wireless LAN. If the ftp server is connected to the wireless access point via a LAN cable, proceed to *6*. The settings you choose in *5* should conform to the network settings selected in *3*.

- **Network name (SSID)**: WT-4
- **Security type**: WPA-PSK
- **Encryption type**: TKIP
- **Security key**: abcde123

5–1   Go to the **Network and Internet** > **Network and Sharing Center** control panel.
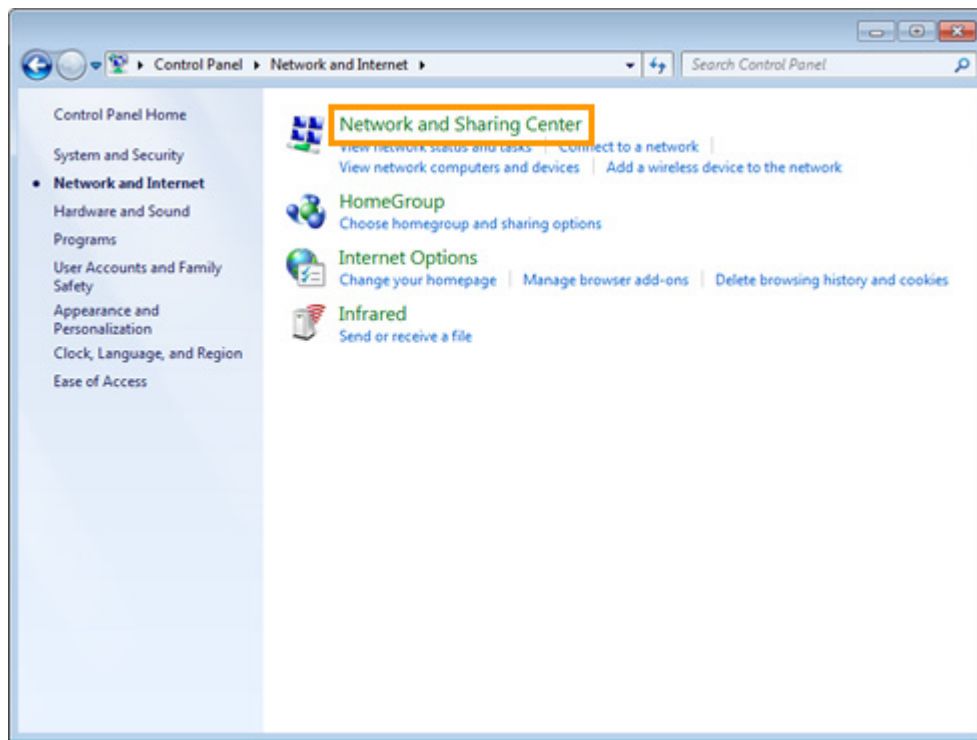
5–2   Click **Set up a new connection or network**.
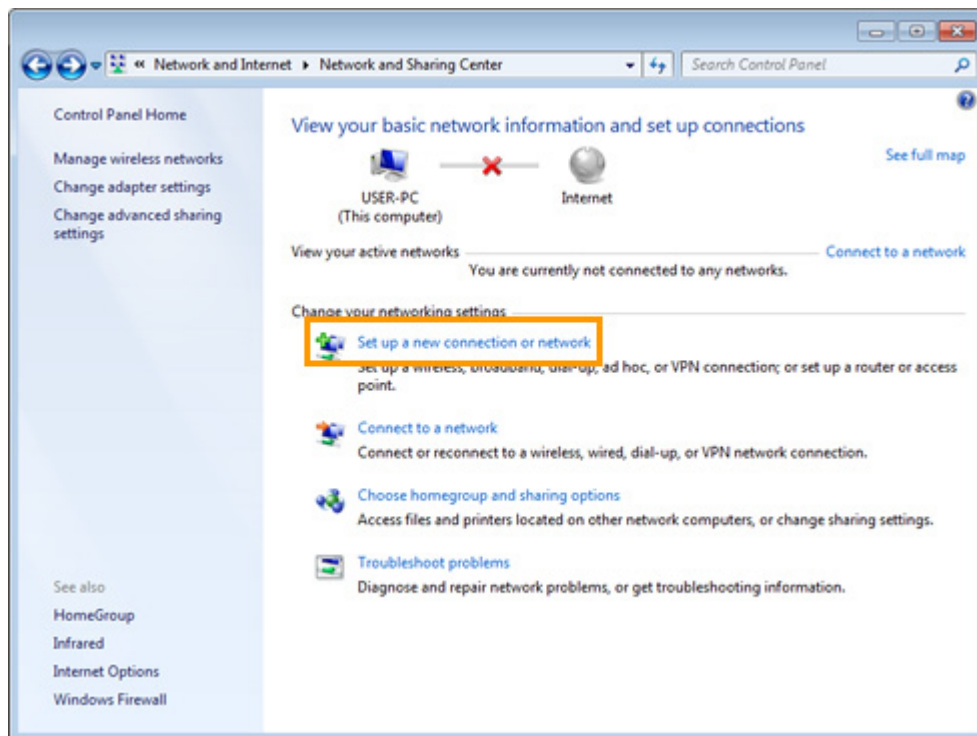
5–3   Select **Manually connect to a wireless network** and click **Next**.

If **Manually connect to a wireless network** is not displayed, install the necessary driver software as described in the documentation for the wireless LAN adapter.
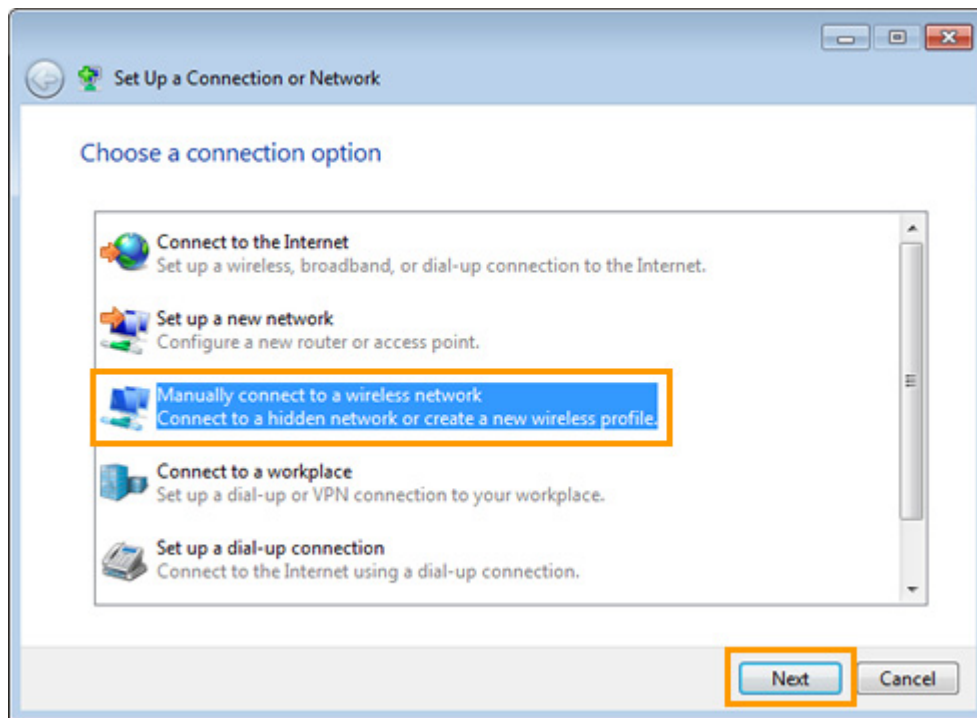
5–4   After entering a network name and choosing security options to match those selected for the wireless LAN access point, click **Next**.
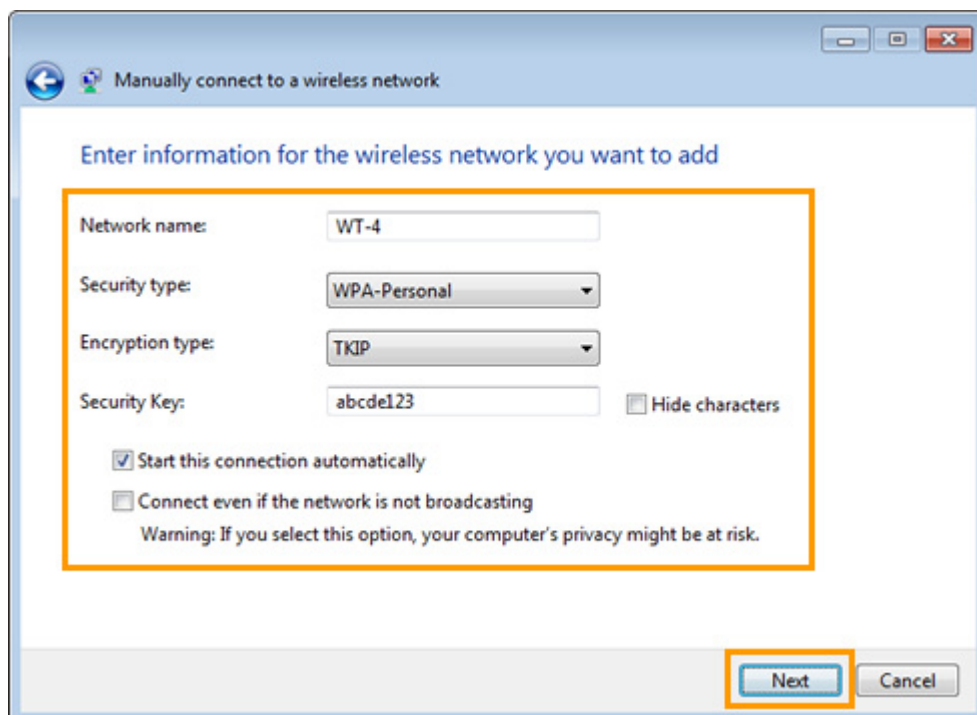

- **Network name (SSID)**: Enter a name of up to 32 characters. Use the same name as the access point and WT-4 ("WT-4" in this example).
- **Security type**: Choose from **No authentication (Open)**, **WEP**, **WPA-Personal**, and **WPA2-Personal**. **WPA-Enterprise**, **WPA2-Enterprise**, and **802.1x** can not be used with the WT-4.
- **Encryption type**: The type of encryption available depends on the options selected for **Security type**:
  - None (open system): **None**
  - WEP: **WEP**

- WPA-Personal: **TKIP**, **AES**
- WPA2-Personal: **AES**

• **Security key**: If **WEP** is selected for **Security type**, enter a 5- or 13-character ASCII key or 10- or 26-digit hexadecimal key. Entering a five-character ASCII or ten-digit hexadecimal key enables 64-bit encryption, a 13-character ASCII or 26-digit hexadecimal key 128-bit encryption. ASCII keys may contain letters, punctuation, and the numbers 0-9, hexadecimal keys the numbers 0-9 and the letters a, b, c, d, e, and f. If **TKIP** or **AES** is selected for **Security type**, enter an ASCII key of 8 to 63 characters or a 64-digit hexadecimal key.

5–5   Click **Close**.
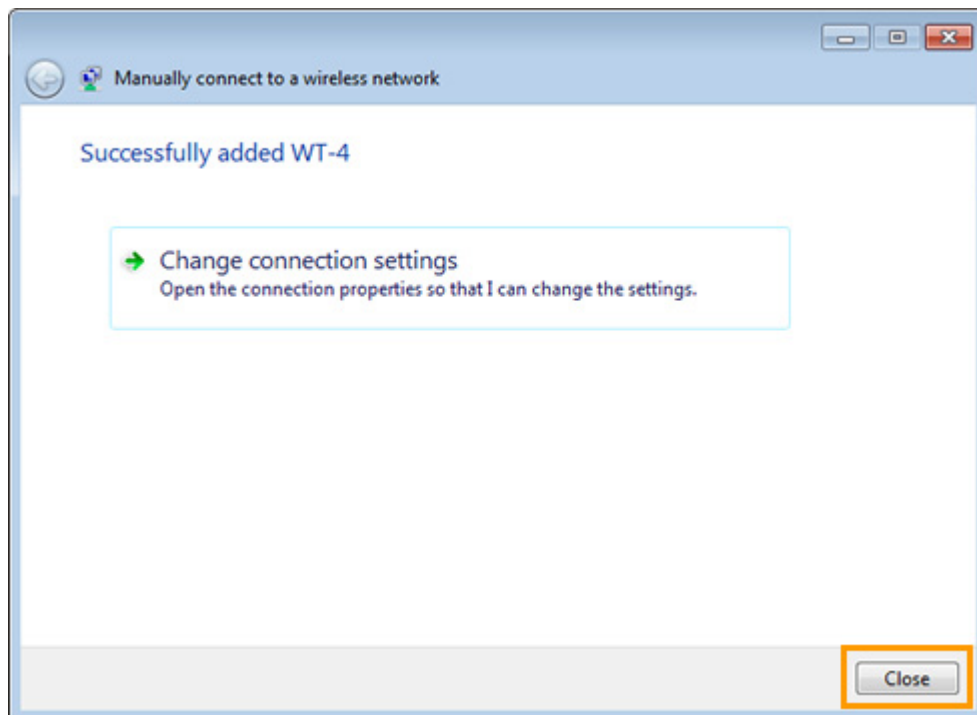
5–6   Confirm that the network name appears as a **Wireless Network Connection (WT-4)** in **View your active networks** > **Connections**. Network setup is now complete.
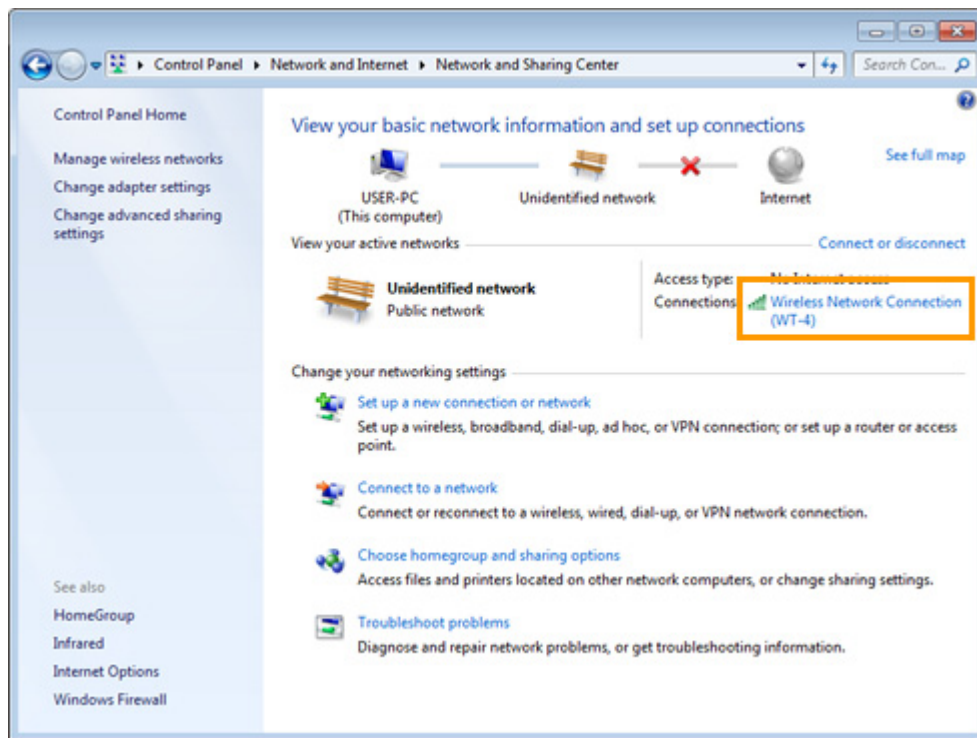
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6: Using Windows Firewall

Windows Firewall is enabled by default in Windows 7. If you are using Windows Firewall, turn all other firewalls off and allow access to the port number used by the ftp server as described below.
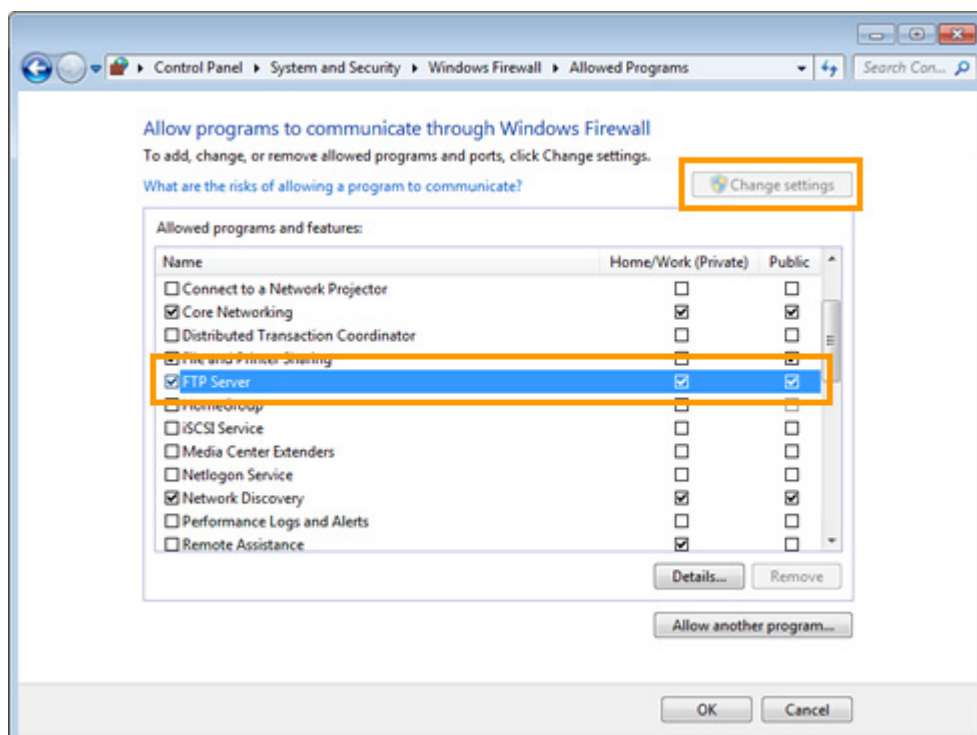
6–1   Go to the **System and Security** > **Windows Firewall** control panel.
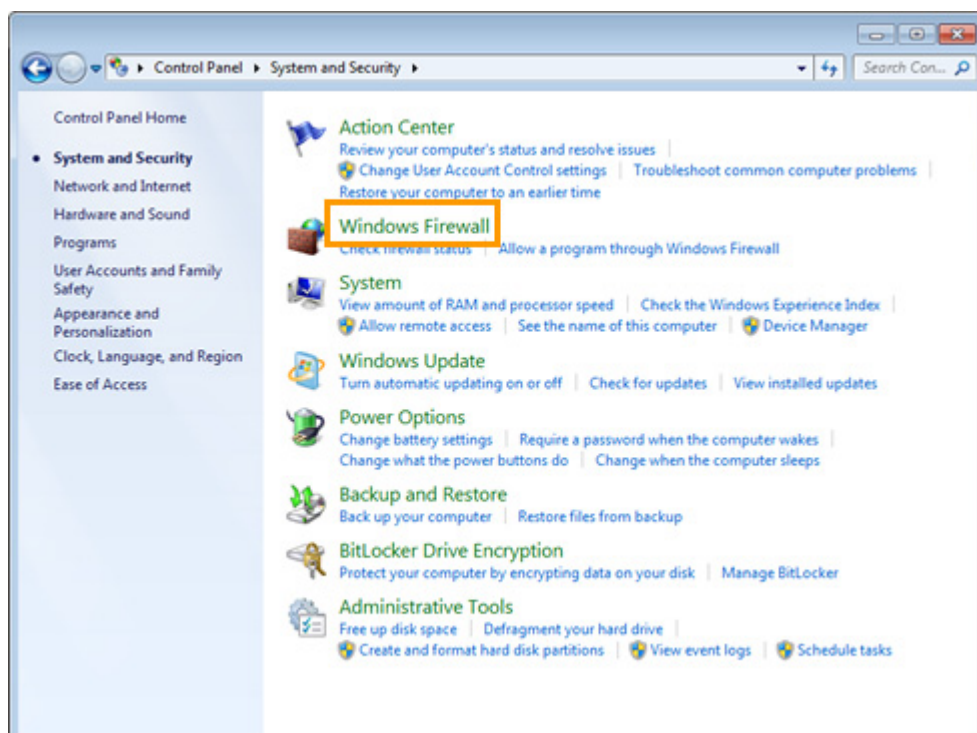
6–2   Select **Allow a program or feature through Windows Firewall**.
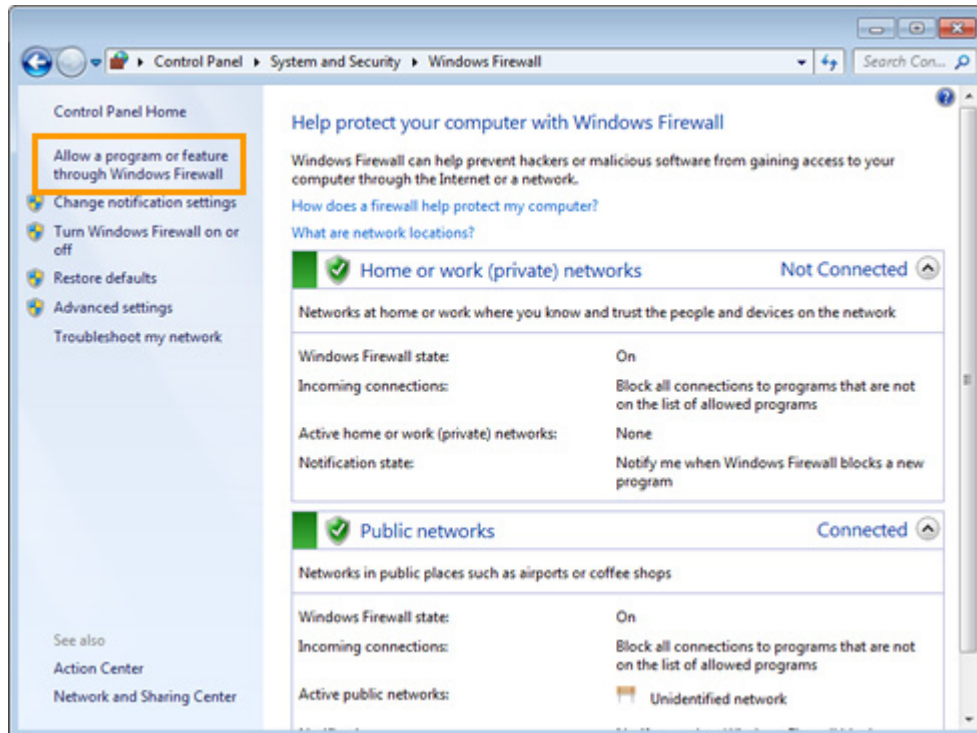
6–3   Click **Change settings** and select **FTP server**. Confirm that both **Home/Work (Private)** and **Public** are selected and click **OK**. This completes the process of allowing access to the ftp server through Windows Firewall.

> 📝 *Third-Party Security Software*
> Third-party security software with firewall support may block the ftp server port, preventing access to the ftp server. This can be avoided by setting the software to allow protocols send and receive access to TCP ports 20 and 21. For more information, see the documentation for the software or firewall.

7: Create an ftp Server

Create an ftp server as the destination for images uploaded from the camera.

7–1　　Go to the **System and Security** > **Administrative Tools** control panel.
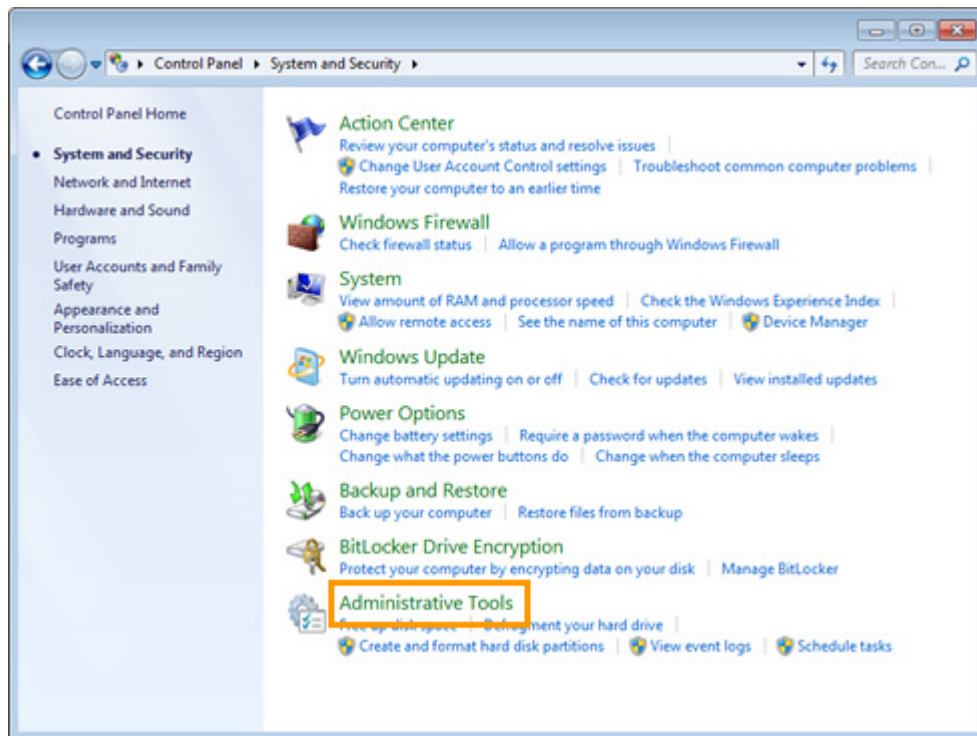

**7–2**　　Double-click **Internet Information Services (IIS) Manager**.
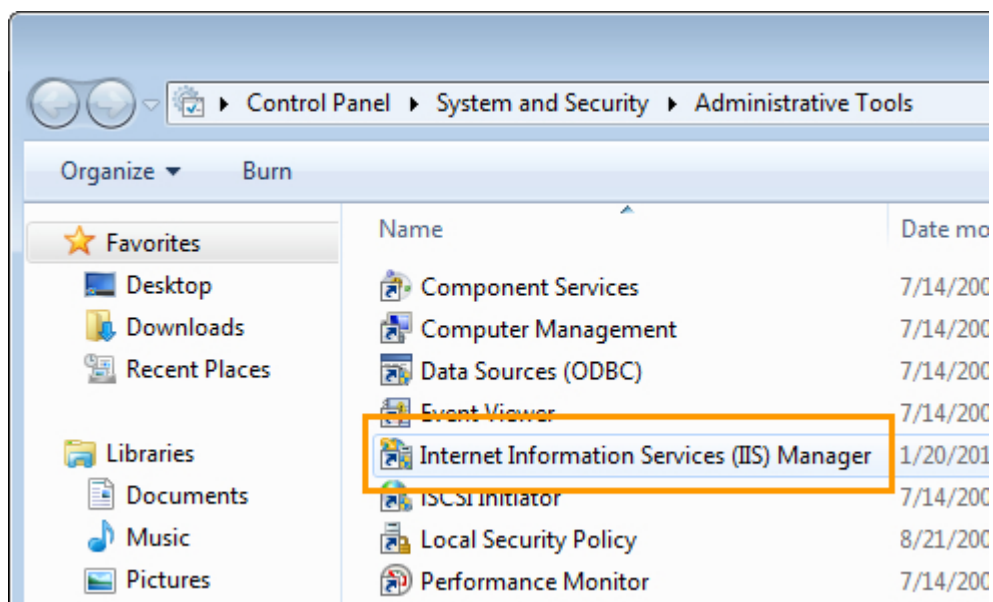
7–3　　Right-click the computer user name and select **Add FTP Site** from the menu that appears.
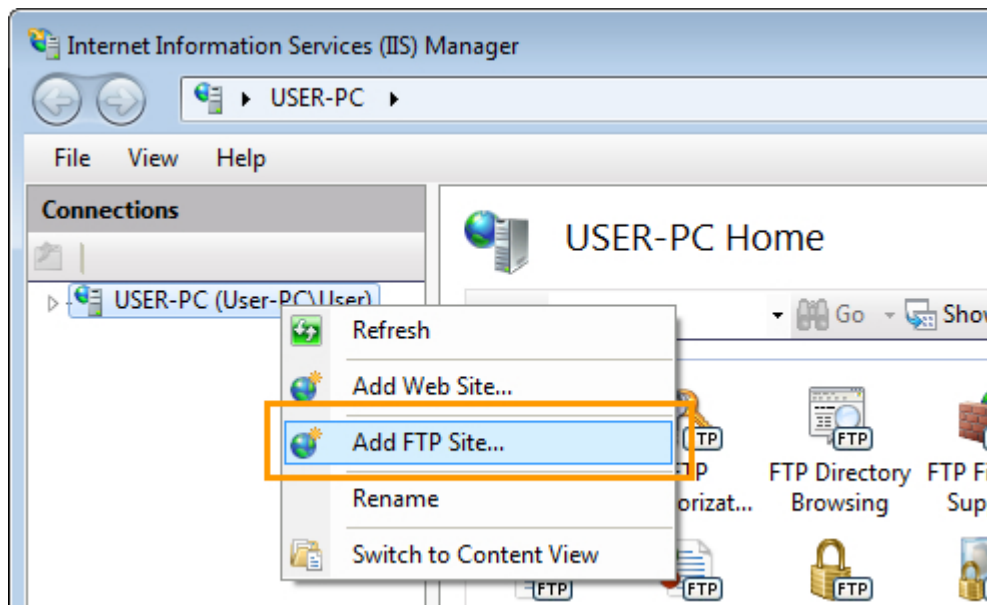
7–4   Enter an ftp site name ("FTP_WT4" in this example) and the physical path to the folder that will be used to store images uploaded to the computer (in this example, we have created an "FTP_WT4" folder in the user's home directory); to navigate directly to the desired folder, click the [...] button. After choosing a server name and destination folder, click **Next**.

Note: The name of the user's home directory ("User" in this example) functions as the login (account) name for the ftp server. Be sure to use the same user name in Step *8–10*.
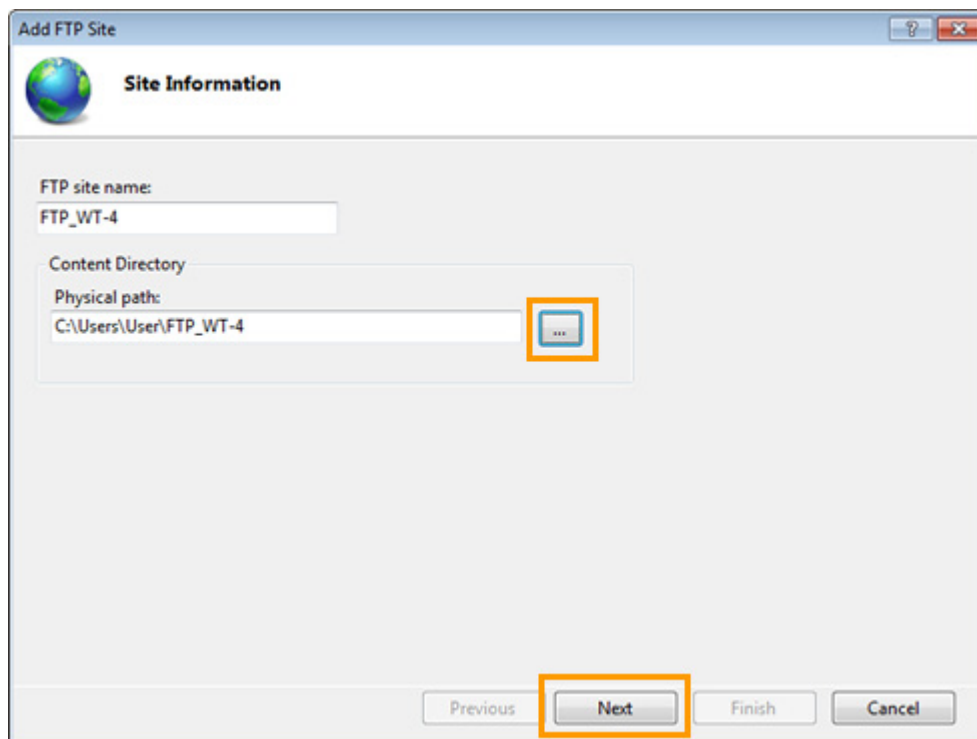
> *Anonymous ftp*
> To allow anonymous connections, choose a destination folder in the user's public folder.

7–5

Select the IP address entered in Step *4–5* and confirm that the port number is correct. Choose **Start FTP site automatically**, select **SSL** > **No SSL**, and click **Next**.

7–6 Enter the following information and click **Finish**:

- **Authentication**: Choose **Anonymous** for anonymous connections; otherwise, choose **Basic**, as in this example.
- **Allow access to**: Choose the users or groups that will be given access to the ftp server (**All users** in this example).
- **Permissions**: Select **Read** and **Write**.

7–7   This completes the process of creating an ftp server.

8: Copy the Network Profile to the Camera

Use the WT-4 setup utility to copy the network profile to the camera. If you are using a D3, D3X, or D300 camera, make sure that **MTP/PTP** is selected for the **USB** option in the camera setup menu before proceeding.
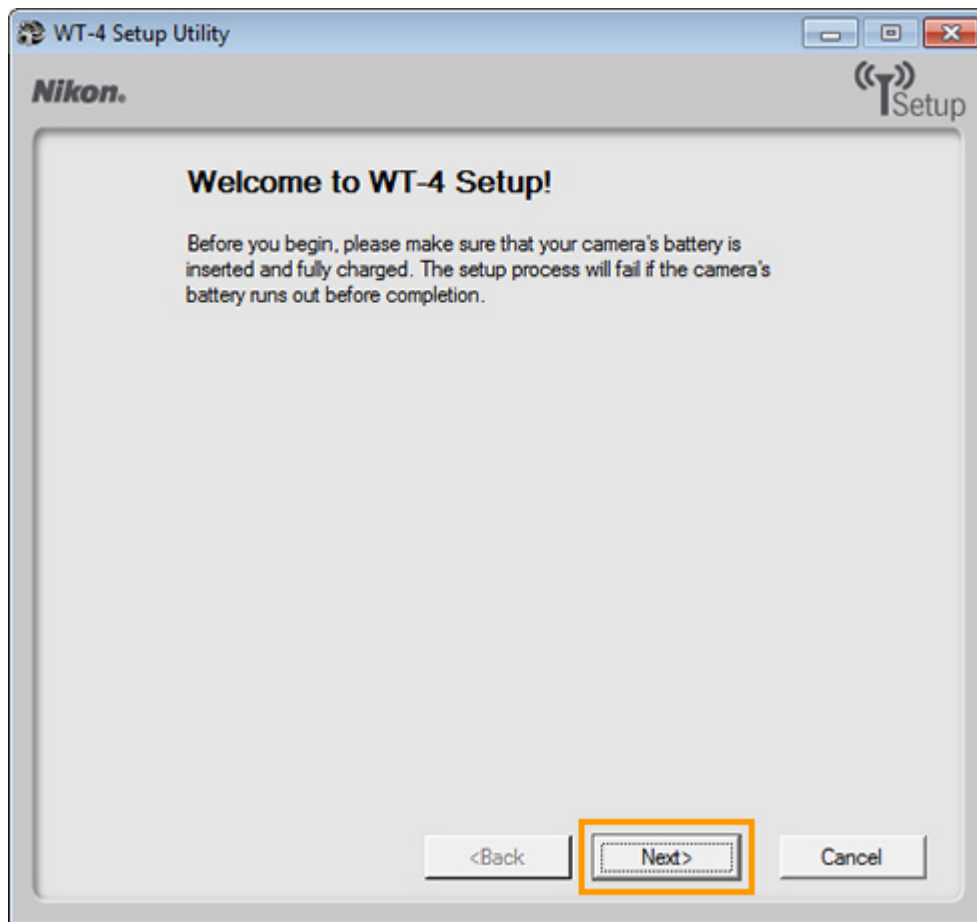
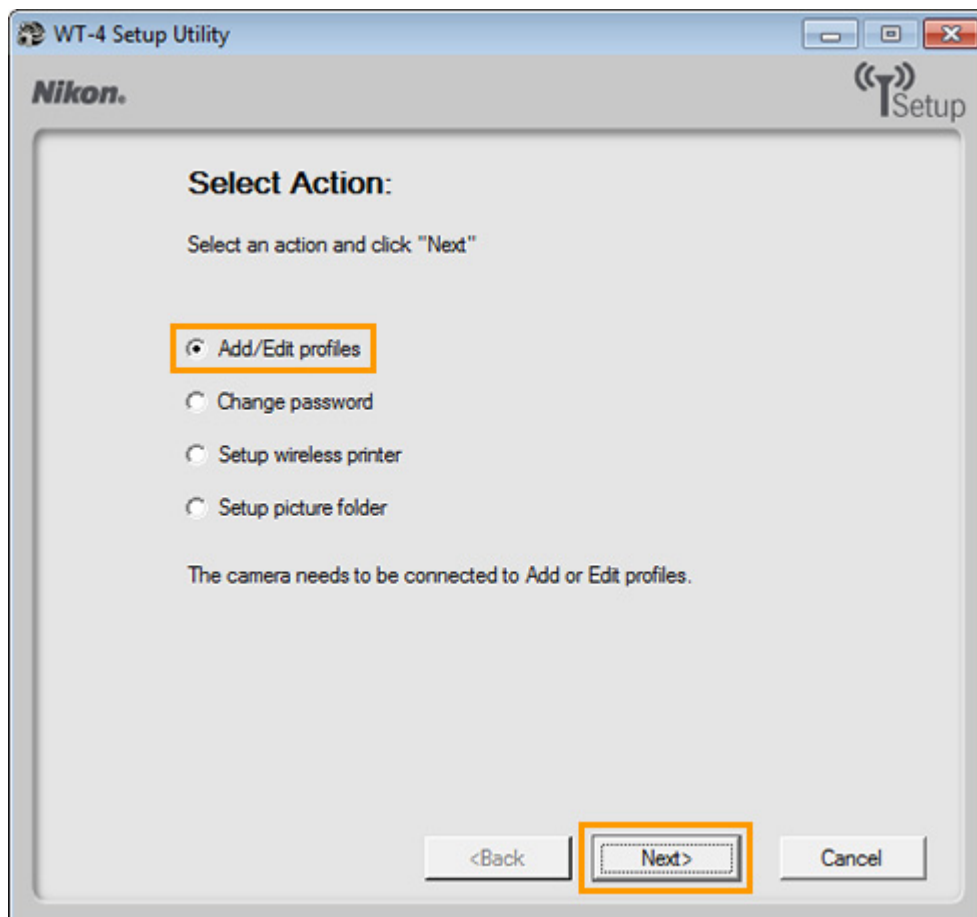8–1   After starting the computer, use the supplied USB cable to connect the camera and turn the camera on.
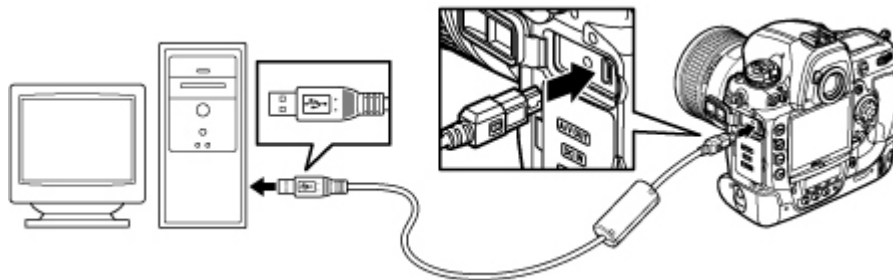
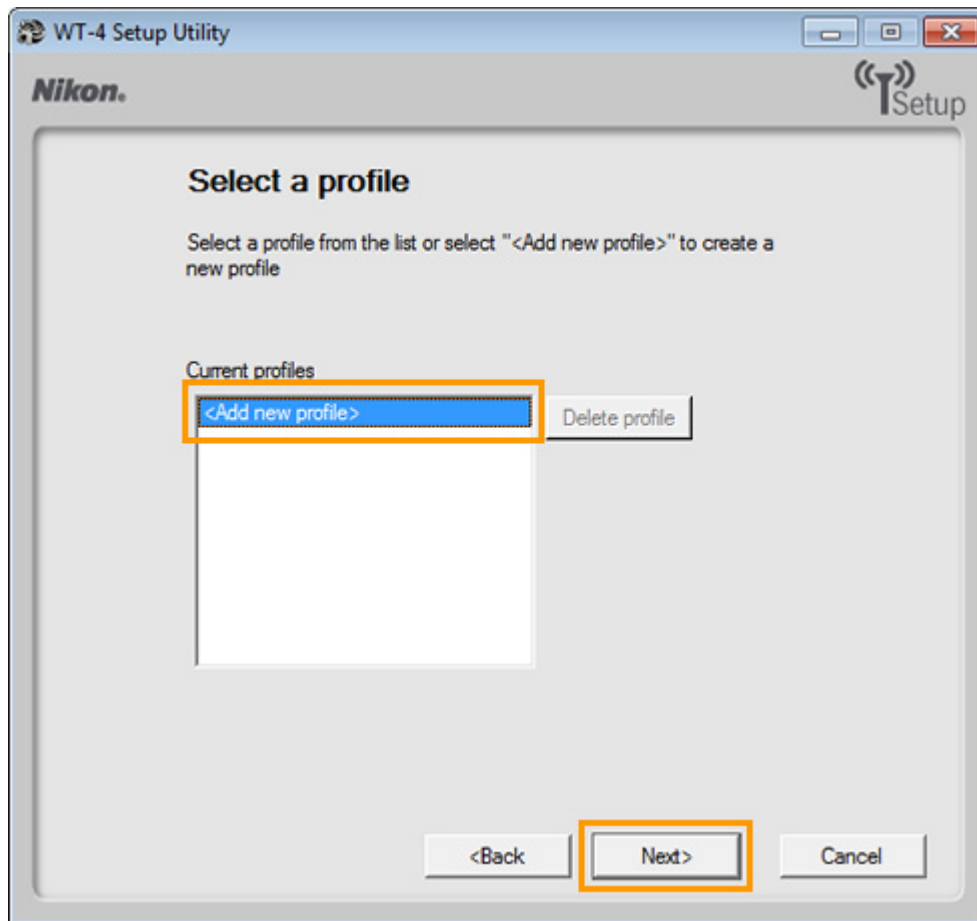8–2   Double-click the **WT-4 Setup Utility** icon on the desktop.
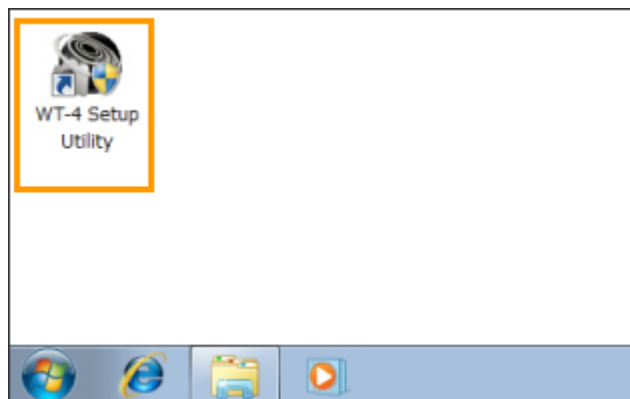
8–3   The dialog shown below will be displayed; click **Next**.

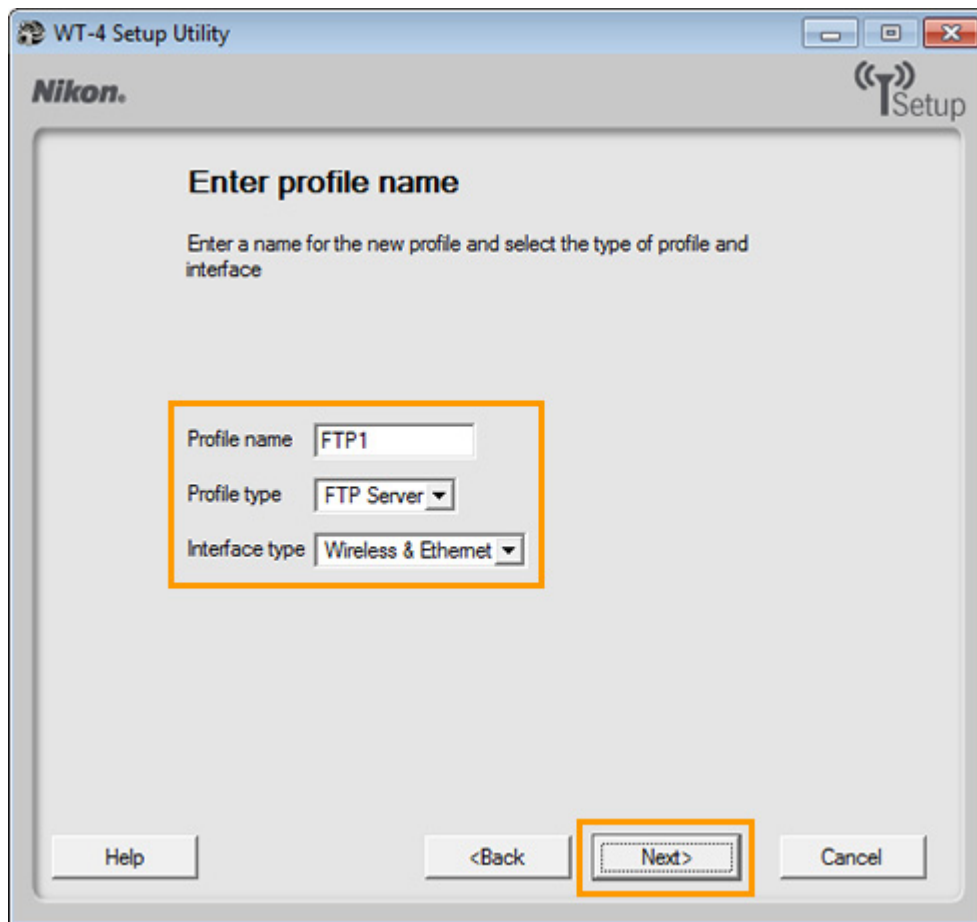8–4   Select **Add/Edit profiles** and click **Next**.

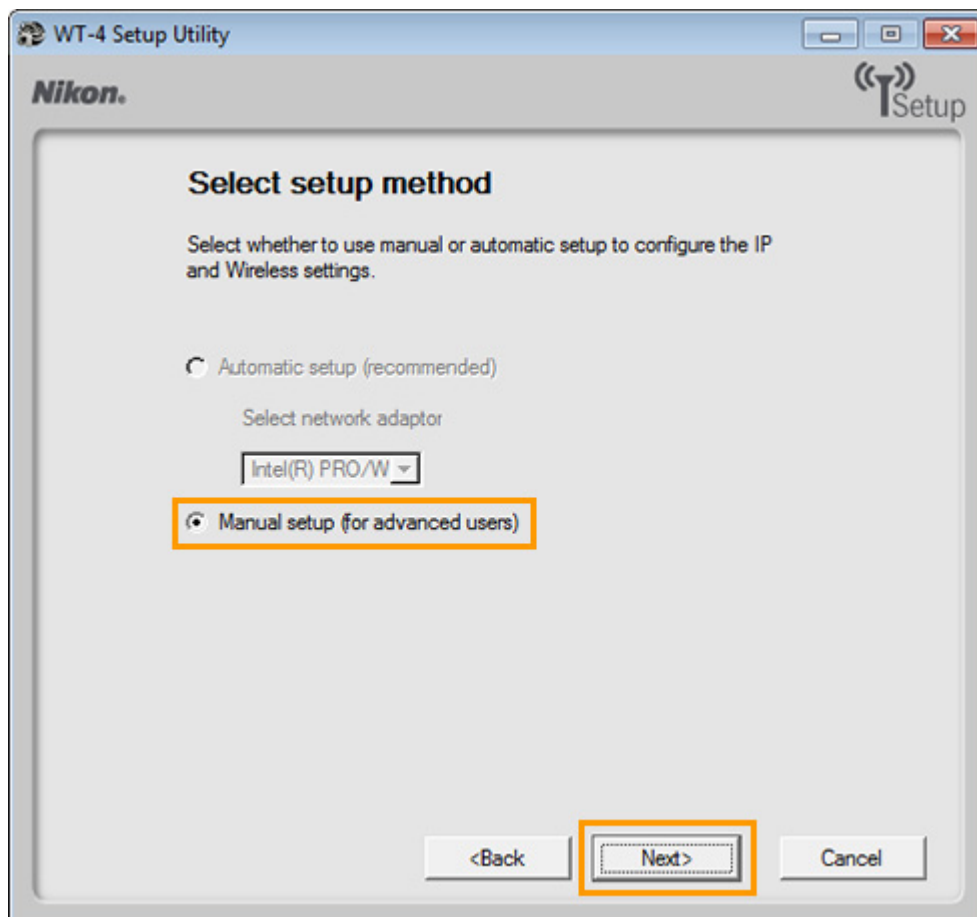8–5   Select **Add new profile** and click **Next**.

8–6   Enter the following information and click **Next**:

- **Profile name**: Enter a name of up to 16 characters (in this example, **FTP1**).
- **Profile type**: Choose **FTP Server**.
- **Interface type**: Choose **Wireless & Ethernet**.

8–7   Select **Manual setup** and click **Next**.

8–8   Enter the following information and click **Next**.

- **Network name (SSID)**: WT-4
- **Communication mode**: Infrastructure
- **Authentication**: WPA-PSK
- **Encryption**: TKIP
- **Encryption key**: abcde123.

8–9   After removing the check from **Obtain IP address automatically**, enter an IP address and subnet mask and click **Next**.

- **IP address**: 192.168.1.4
- **Subnet mask**: 255.255.255.0
- **Default gateway**: Remove the check from this option.
- **DNS Server**: Remove the check from this option.

📝 **Choosing an IP Address**
Be sure that the address for the WT-4 is different from the addresses used
for the ftp server and access point. The addresses for the access point, ftp
server, and WT-4 must however belong to the same class. In this example,
we will use 192.168.1.2 for the access point, 192.168.1.3 for the ftp server,
and 192.168.1.4 for the WT-4.

8–10   Enter ftp settings and click **Next**.

- **FTP server**: Enter IP address you selected in *4* (in this example,
  192.168.1.3).
- **FTP server port**: Enter FTP server port you selected in *4* (in this example,
  21).
- **FTP path**: Leave this field blank to upload pictures to the folder specified in
  step *7–4*.
- **Anonymous login**: Select this option if you selected anonymous login in
  step *7–6*.
- **User ID**: Enter the user name for the ftp server.
- **Password**: Enter the password for the ftp server.
- **Use proxy server**: Remove the check from this option.
- **PASV mode**: Remove the check from this option.

8–11   Confirm that settings are correct and click **Next**.

**8–12**   Select **Finish wizard** and click **Next**.
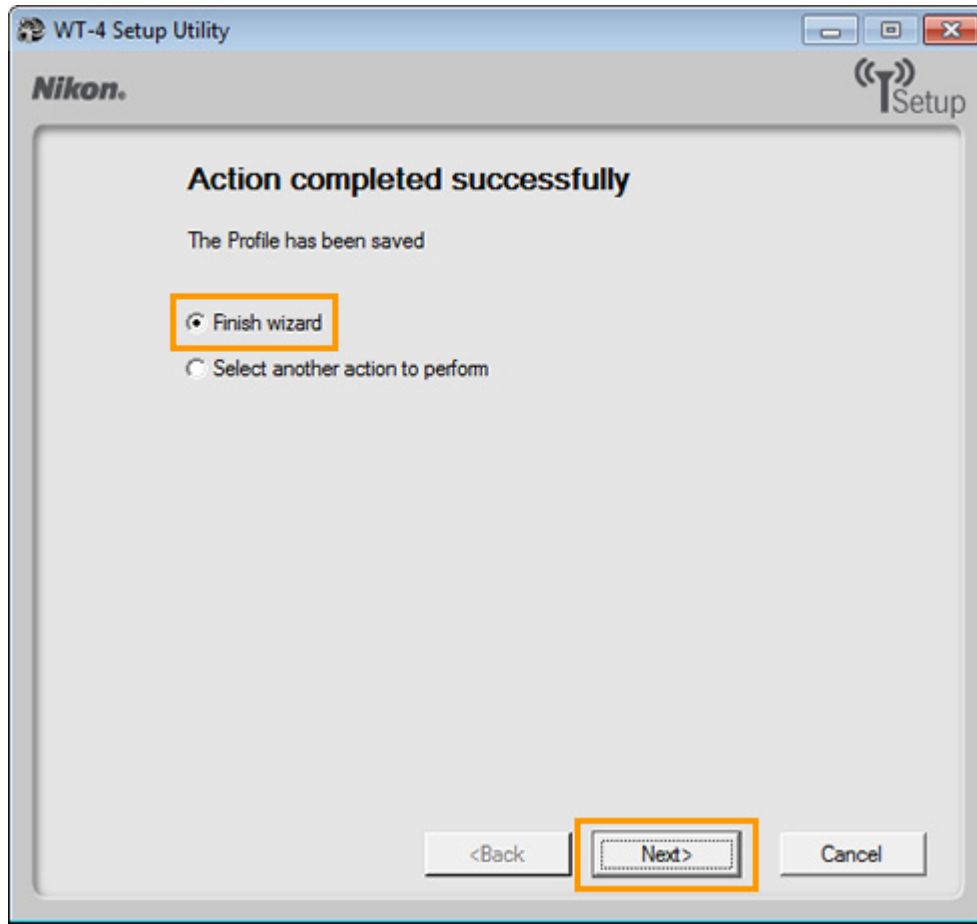
8–13   Turn the camera off and disconnect the USB cable. The network profile has now been copied to the camera.
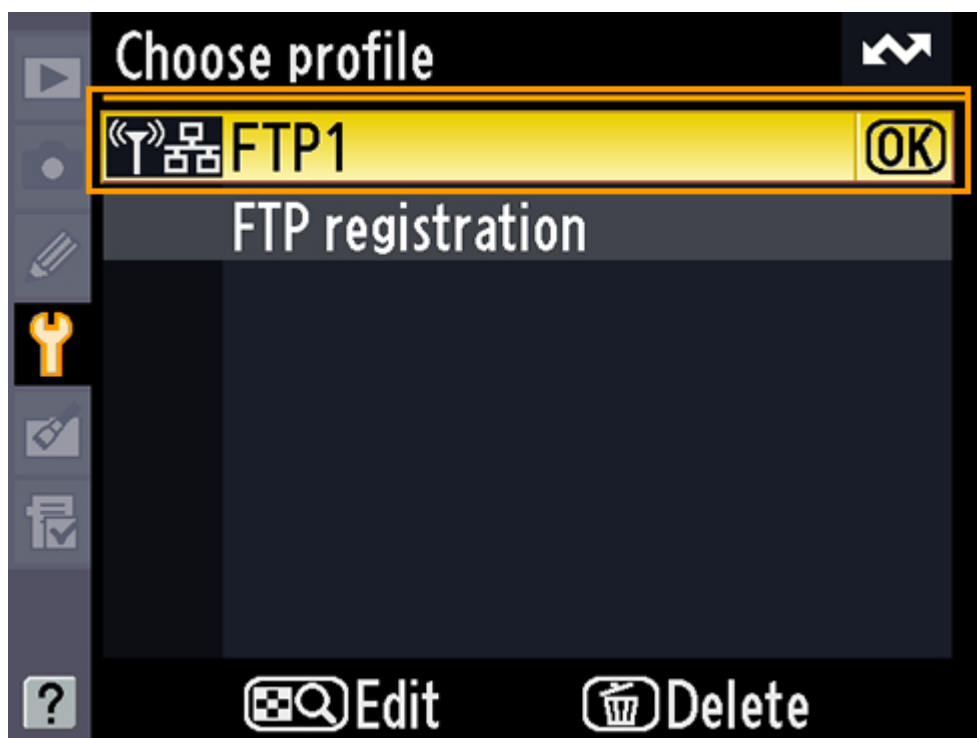
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9: Connect to the ftp Server

In this step, you will establish a wireless connection between the WT-4 and the ftp server. Before connecting the WT-4, select **MTP/PTP** for the **USB** option in the camera setup menu (D3, D3X, and D300 cameras only) and confirm that the server is running and the user is logged in.

9–1   Insert a memory card in the camera, connect the WT-4, and turn the camera on.

9–2   Select **Transfer mode** for the **Wireless transmitter** > **Mode** option in the camera setup menu.
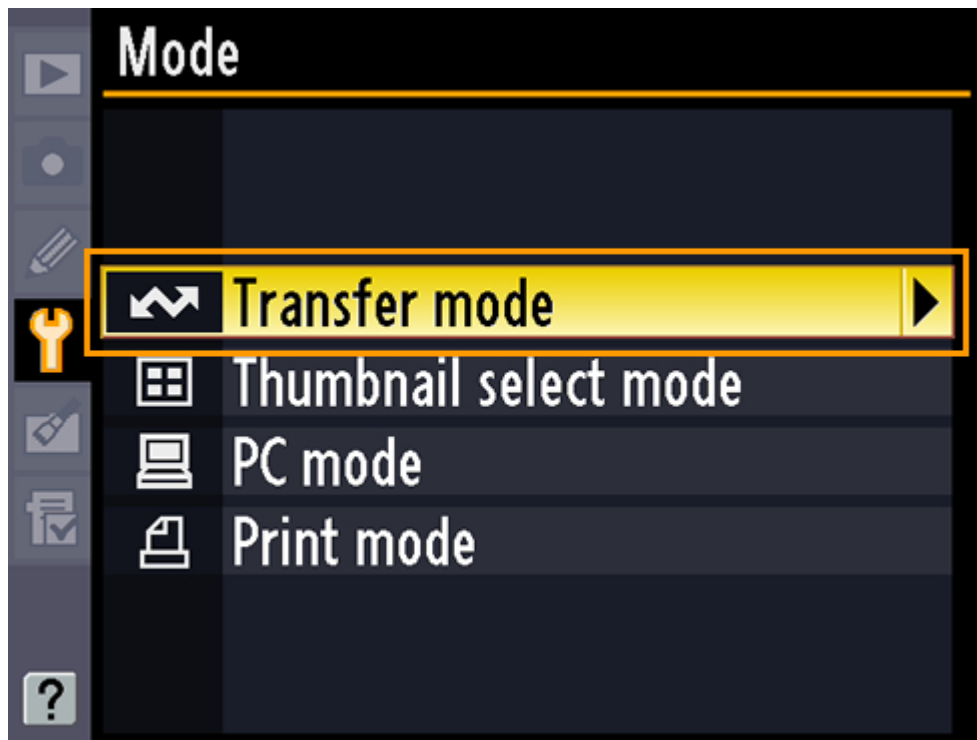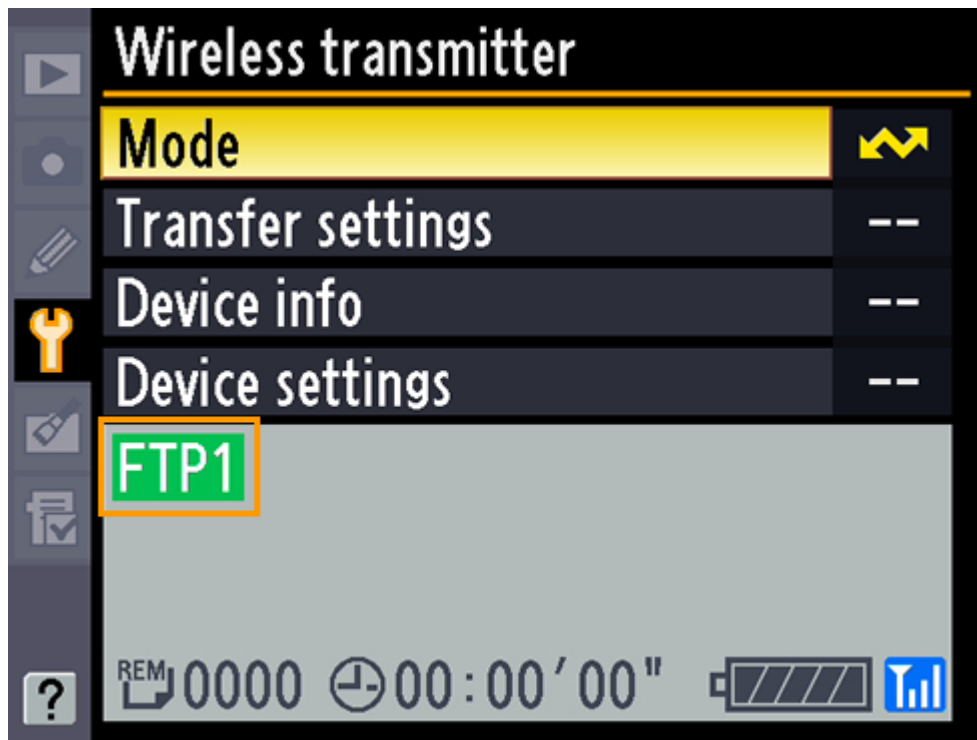
9–3   A list of available connection profiles will be displayed. Highlight the desired profile and press OK.

9–4   Return to the wireless transmitter menu and turn the WT-4 on. The profile name will be highlighted in green when a connection is established.

This completes the process of connecting to the ftp server.

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