
Example - DHCP Configuration for Two Networks

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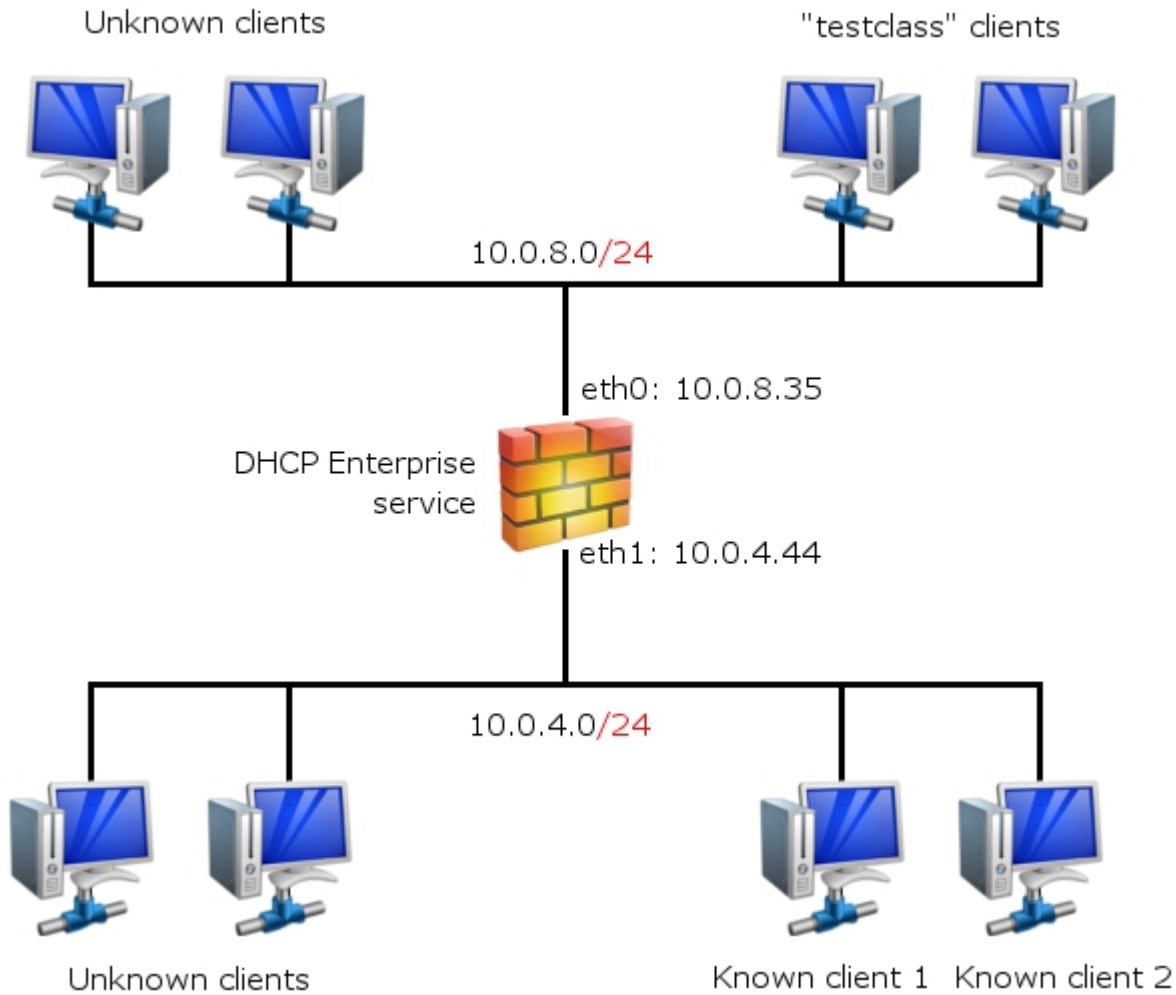
The following article provides an overview of how to configure DHCP for an example environment. It provides steps and example settings to configure a DHCP service for an environment that contains two networks with three different IP pools.

In this article:

Example Environment

For the example environment that is displayed in the following figure, a DHCP service must be configured for two networks with three different IP pools:

- **Network 1** (10.0.8.0/24) – Contains two address pools: one pool for unknown clients and one pool for known clients (identified via their MAC addresses).
- **Network 2** (10.0.4.0/24) – Contains one address pool for unknown clients and two known clients.



Example Environment Configuration

The DHCP service for the example environment can be configured with the following steps and settings:

| Step | Settings for Example Environment |
|--|--|
| Step 1: Create a virtual server. | The virtual server is created with the following settings: <ul style="list-style-type: none"> • First-IP: 10.0.8.35 • Second-IP: 10.0.4.44 |
| Step 2: Create the DHCP service. | By default, Service Availability for the DHCP service is set to <i>All-IPs</i> . |
| Step 3: Enable advanced DHCP settings. | To enable the advanced DHCP settings, you must be in the Advanced Configuration Mode. On the DHCP Enterprise Configuration - Operational Setup page, click Switch to Advanced View from the Configuration Mode menu in the left navigation pane. Make sure that you select yes from the Use Advanced Pool Configuration list. |

| <p>Step 4: Configure DHCP classes.</p> | <p>A DHCP class named <i>testclass</i> is created with the following settings:</p> <ul style="list-style-type: none"> • Match Type: <i>MAC</i> • Match Value List: <i>1:00:01:f3:34:44:2g</i> and <i>1:00:01:f3:34:44:2e</i> <p>For Ethernet interfaces, you must enter <i>1:</i> before the MAC address</p> | | | | | | | | | | |
|---|--|--------------|-------------|--|--|--|---|--------------|-------------|--|---|
| <p>Step 5: Configure subnets and address pools.</p> | <p>Two separate subnets are created for Network 1 (10.0.8.0/24) and Network 2 (10.0.4.0/24).</p> <p>1. A subnet named <i>Subnet1</i> for 10.0.8.0/24 is created with the following settings:</p> <ul style="list-style-type: none"> ◦ Subnet Type: <i>explicit</i> ◦ Network Address: <i>10.0.8.0/24</i> ◦ <p>Address Pools: The two address pools for Subnet1 are configured with the following settings:</p> <table border="1" data-bbox="384 779 1466 1413"> <thead> <tr> <th data-bbox="384 779 667 831">Address Pool</th> <th data-bbox="667 779 1466 831">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 831 667 1122"> <p>Address Pool 1 - Unknown</p> </td> <td data-bbox="667 831 1466 1122"> <p>From the first address pool, only unknown clients may receive IP addresses. This address pool is configured with the following settings:</p> <ul style="list-style-type: none"> ■ IP Begin: <i>10.0.8.10</i> ■ IP End: <i>10.0.8.15</i> ■ Denied Classes: <i>testclass</i> ■ Known Clients: <i>deny</i> ■ Unknown Clients: <i>allow</i> </td> </tr> <tr> <td data-bbox="384 1122 667 1413"> <p>Address Pool 2 - Classpool</p> </td> <td data-bbox="667 1122 1466 1413"> <p>From the second address pool, only allowed classes may receive IP addresses. This address pool is configured with the following settings:</p> <ul style="list-style-type: none"> ■ IP Begin: <i>10.0.8.20</i> ■ IP End: <i>10.0.8.30</i> ■ Allowed Classes: <i>testclass</i> ■ Known Clients: <i>not-set</i> ■ BOOTP ClientsPolicy: <i>not-set</i> </td> </tr> </tbody> </table> <p>2. A subnet named <i>Subnet2</i> for 10.0.4.0/24 is created with the following settings:</p> <ul style="list-style-type: none"> ◦ Subnet Type: <i>explicit</i> ◦ Network Address: <i>10.0.4.0/24</i> ◦ <p>Address Pools: The subnet has one address pool which is configured with the following settings:</p> <table border="1" data-bbox="384 1659 1466 1957"> <thead> <tr> <th data-bbox="384 1659 700 1711">Address Pool</th> <th data-bbox="700 1659 1466 1711">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 1711 700 1957"> <p>Address Pool 1 - Unknown</p> </td> <td data-bbox="700 1711 1466 1957"> <p>From the address pool, only unknown clients may receive IP addresses. This address pool is configured with the following settings:</p> <ul style="list-style-type: none"> ■ IP Begin: <i>10.0.4.10</i> ■ IP End: <i>10.0.4.15</i> ■ Known Clients: <i>deny</i> ■ Unknown Clients: <i>allow</i> </td> </tr> </tbody> </table> | Address Pool | Description | <p>Address Pool 1 - Unknown</p> | <p>From the first address pool, only unknown clients may receive IP addresses. This address pool is configured with the following settings:</p> <ul style="list-style-type: none"> ■ IP Begin: <i>10.0.8.10</i> ■ IP End: <i>10.0.8.15</i> ■ Denied Classes: <i>testclass</i> ■ Known Clients: <i>deny</i> ■ Unknown Clients: <i>allow</i> | <p>Address Pool 2 - Classpool</p> | <p>From the second address pool, only allowed classes may receive IP addresses. This address pool is configured with the following settings:</p> <ul style="list-style-type: none"> ■ IP Begin: <i>10.0.8.20</i> ■ IP End: <i>10.0.8.30</i> ■ Allowed Classes: <i>testclass</i> ■ Known Clients: <i>not-set</i> ■ BOOTP ClientsPolicy: <i>not-set</i> | Address Pool | Description | <p>Address Pool 1 - Unknown</p> | <p>From the address pool, only unknown clients may receive IP addresses. This address pool is configured with the following settings:</p> <ul style="list-style-type: none"> ■ IP Begin: <i>10.0.4.10</i> ■ IP End: <i>10.0.4.15</i> ■ Known Clients: <i>deny</i> ■ Unknown Clients: <i>allow</i> |
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| <p>Step 6: Configure known clients.</p> | <p>Two client groups are created:</p> <table border="1" data-bbox="384 349 1193 562"> <thead> <tr> <th data-bbox="384 349 624 394">Client Group</th> <th data-bbox="624 349 1193 394">Settings</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 394 624 479">Known Client 1</td> <td data-bbox="624 394 1193 479"> <ul style="list-style-type: none"> • MAC Address: 00:01:f3:34:44:2g • Fixed IP Address: 10.0.4.31 (Optional) </td> </tr> <tr> <td data-bbox="384 479 624 562">Known Client 2</td> <td data-bbox="624 479 1193 562"> <ul style="list-style-type: none"> • MAC Address: 00:01:f3:34:44:2e • Fixed IP Address: 10.0.4.32 (Optional) </td> </tr> </tbody> </table> | Client Group | Settings | Known Client 1 | <ul style="list-style-type: none"> • MAC Address: 00:01:f3:34:44:2g • Fixed IP Address: 10.0.4.31 (Optional) | Known Client 2 | <ul style="list-style-type: none"> • MAC Address: 00:01:f3:34:44:2e • Fixed IP Address: 10.0.4.32 (Optional) |
|---|--|--------------|----------|-----------------------|--|-----------------------|--|
| Client Group | Settings | | | | | | |
| Known Client 1 | <ul style="list-style-type: none"> • MAC Address: 00:01:f3:34:44:2g • Fixed IP Address: 10.0.4.31 (Optional) | | | | | | |
| Known Client 2 | <ul style="list-style-type: none"> • MAC Address: 00:01:f3:34:44:2e • Fixed IP Address: 10.0.4.32 (Optional) | | | | | | |
| <p>Step 7: View real-time information for the DHCP service.</p> | <p>To view and modify lease and IP range information for the DHCP service, click the DHCP tab.</p> | | | | | | |

Figures

1. dhcp_ent.jpg

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