

# Working with DHCP Pools

## DHCP Pool Management

DHCP Pool specific tasks are managed from two main areas - the **DHCP Pools** list, and the **Pool Details** page.

The DHCP Pools List is accessed from the **DHCP** tab, then clicking on the **DHCP Pools** subtab button.

Clicking on the Pool name from any DHCP Pool List will open the **Pool Details** page for the specific pool.

## DHCP Pools List

Pool Name	Last Modified	Subnet	Range Min	Range Max	Actions
Internal, verify update	01/09/2023 22:49:11		198.51.100.0	198.51.100.255	Delete Push
smartsub2	11/15/2023 09:04:07	2600:450::/127	2600:450::	2600:450::1	Delete Push
smartsub3	12/11/2023 08:59:16	14.0.0.0/27	0.0.0.0	0.0.0.0	Delete Push
smartsub4	12/11/2023 09:05:45	2600:450::4/126	2600:450::4	2600:450::7	Delete Push
smartsub5	11/15/2023 09:33:29	172.16.3.0/24	172.16.3.0	172.16.3.255	Delete Push

The **DHCP Pools** list provides the same pool-level functionality as the DHCP Groups pool lists, but includes all pools regardless of Group attachment.

From this page, you may create, view, edit, and push subnet or host pools.

Clicking on the pool name will open the **Pool Details** page, and clicking on the Subnet will open IPAM Manage for the assigned pool block.

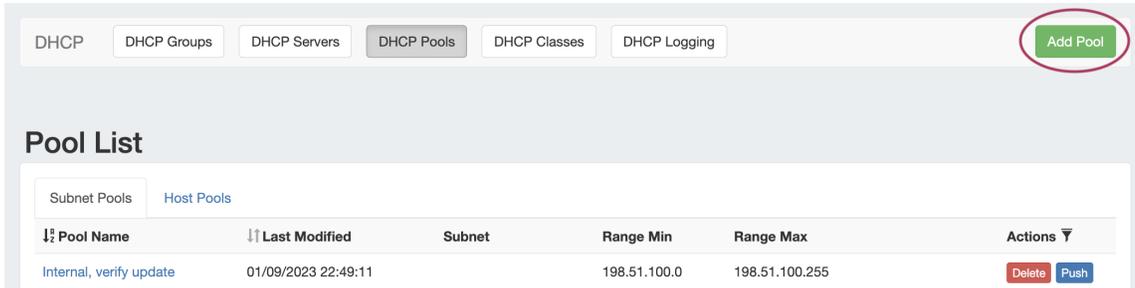
The Pool Details page allows you to view, add, delete, and push individual DHCP Host and Subnet Pools. Under a pool, you may specify and update IP assignments, ranges, reservations and optionally set BOOTP Vendor Extensions / DHCP Options to send to the DHCP server.

- DHCP Pools List
  - Add a DHCP Pool
    - Create Subnet Pool
      - Smart Assign
      - Direct Assign
    - Create a Host Pool
      - Smart Assign
      - Direct Assign
  - The Pool Details Page
    - View / Edit / Manage a Pool
    - Edit IP Assignment
    - Add / Edit a comment:
    - Edit / Add a Pool Range
    - Edit Advanced Settings:
    - Add / Remove a DHCP Subnet Option
    - Add / Remove a Pool Reservation or Pool Reservation Option
    - Detach Server from a Pool
    - Delete a Pool
  - Pushing DHCP Pools
    - Manual Pool Push (DHCP Pools List)
    - Manual Pool Push (Pool Details page):
    - Schedule Push (from Pool Details page):
    - Schedule Push (Admin Scheduler):
    - DHCP Group Push:

- DHCP Server Push:
  - Additional Information:

## Add a DHCP Pool

Add a new DHCP Pool from the Pool List by clicking the "Add Pool" button at the top of the page.



The screenshot shows a navigation bar with tabs for DHCP, DHCP Groups, DHCP Servers, DHCP Pools, DHCP Classes, and DHCP Logging. The 'Add Pool' button is highlighted with a red circle. Below the navigation bar is a 'Pool List' section with two tabs: 'Subnet Pools' and 'Host Pools'. The 'Subnet Pools' tab is active, showing a table with the following data:

Pool Name	Last Modified	Subnet	Range Min	Range Max	Actions
Internal, verify update	01/09/2023 22:49:11		198.51.100.0	198.51.100.255	Delete Push

When the "Create New Pool" dialog appears, you may choose to create either a Subnet or Host Pool. Either pool type may have a block smart assigned or manually direct assigned.

## Create Subnet Pool

To add a new subnet pool to a DHCP Group, select "Subnet" as the Pool Type. Select the parent resource and type in a Subnet Name.

DHCP Servers IPAM Peering Rebooting Settings Help

### Create New Pool

Pool Type: Subnet

Parent Resource: TLR

Subnet Name: Pool 3

New IP Assignment Settings

Assignment Type: Smart

IP Type: IPv4

Netmask: 20

Resource: x

Region: Choose a region

IPAM Rule: Apply an IPAM Rule

Select a VLAN:

Assign default gateway: OFF

Close Save changes

Next, choose an assignment type - you may either have ProVision smart assign a block for the pool that matches your provided criteria, or directly assign a specific block.

## Smart Assign

To Smart Assign a DHCP pool, select "Smart" for the Assignment type, choose IPv4 or IPv6 for the IP type, then select a netmask.

All other fields are optional - Resource, Region, IPAM Rules, and VLAN may be selected to further narrow the block criteria. If desired, toggle "Assign Default Gateway" on.

When done, click "Save Changes". ProVision will choose the first block matching all criteria to assign to the pool.

If no block matches the given criteria, a message will state so. Try either removing some criteria, or ensure that blocks exist in IPAM (with subassignments enabled!) with the given attributes.

## Direct Assign

### Create New Pool ✕

**Pool Type:** Subnet

**Parent Resource:** TLR

**Subnet Name:** Direct Pool 1

New IP Assignment Settings

**Assignment Type:** Direct

**IP Type:** IPv4

**IP Address:** 198.0.0.1/28

**Resource:**  x

**Region:** Choose a region

**IPAM Rule:** Apply an IPAM Rule

**Select a VLAN:**

**Assign default gateway:**  ON

Close Save changes

To Direct Assign a DHCP pool, select "Direct" for the Assignment type, choose IPv4 or IPv6 for the IP type, then type in the desired IP Address.

All other fields are optional - Resource, Region, IPAM Rules, and VLAN may be selected to further narrow the block criteria, if duplicate blocks exist. If desired, toggle "Assign Default Gateway" on.

When done, click "Save Changes". If the typed block exists, with subassignments enabled, and meets any additional criteria, that block will be assigned to the pool.

## Create a Host Pool

To add a new host pool to a DHCP Group, select "Host" as the Pool Type. Select the parent resource, and add a Hostname and MAC Address.

Create New Pool

Pool Type: Host

Parent Resource: TLR

Hostname: HostPoolSmart

MAC Address: 00:11:22:33:44:55

New IP Assignment Settings

Assignment Type: Smart

IP Type: IPv4

Resource: x

Region: Choose a region

Select a VLAN:

Close Save changes

Next, choose an assignment type - you may either have ProVision smart assign a block for the pool that matches your provided criteria, or directly assign a specific block.

## Smart Assign

To Smart Assign a DHCP pool, select "Smart" for the Assignment type and choose IPv4 or IPv6 for the IP type.

All other fields are optional - Resource, Region, IPAM Rules, and VLAN may be selected to further narrow the block criteria.

When done, click "Save Changes". ProVision will choose the first block matching all criteria to assign to the pool.

If no block matches the given criteria, a message will state so. Try either removing some criteria, or ensure that blocks exist in IPAM (with subassignments enabled!) with the given attributes.

## Direct Assign

### Create New Pool ✕

**Pool Type:** Host

**Parent Resource:** TLR

**Hostname:** HostPoolSmart

**MAC Address:** 00:11:22:33:44:55

**New IP Assignment Settings**

**Assignment Type:** Direct

**IP Type:** IPv4

**IP Address:** 10.4.0.0/24

**Resource:** ✕

**Region:** Choose a region

**Select a VLAN:**

Close Save changes

To Direct Assign a DHCP pool, select "Direct" for the Assignment type, choose IPv4 or IPv6 for the IP type, then type in the desired IP Address.

All other fields are optional - Resource, Region, IPAM Rules, and VLAN may be selected to further narrow the block criteria, if duplicate blocks exist.

When done, click "Save Changes". If the typed block exists, with subassignments enabled, and meets any additional criteria, that block will be assigned to the pool.

## The Pool Details Page

Additional Pool Management options are available from the **Pool Details** page. Pools may be edited by clicking on the Pool name in any **DHCP Pools** list in which it appears.

## View / Edit / Manage a Pool

To view, edit, or manage the details for a pool, open the Pool Details page by clicking on the pool name from any DHCP Pools list.

From this page, users may edit assignment, range, settings, reservations, options, or servers for the pool.

To push the pool, click the "Push Pool Now" or "Schedule Push" buttons at the top of the pool details.

# Pool 1

IP Assignment : 10.2.0.64/28 [Change](#)

[Push Pool Now](#) [Schedule Push](#) [Add Range](#)

Available Range 10.2.0.64 - 10.2.0.79

Edit the comment.

Range : Range ( 10.2.0.64 - 10.2.0.79 )

Advanced Settings

Add Subnet Option : 1 - Subnet Mask (subnet-mask)

[Add](#)

Pool Reservations

[Add Reservation](#)

Reservation Name	Reservation IP	Identifier Type	Identifier Value	Actions
------------------	----------------	-----------------	------------------	---------

Attached Servers

Attach to Groups: [Save](#)

× Test Group 1

The pool will be attached to the list of the groups and the servers from the groups will be exported automatically.

Server Name	Server Backend	Server Host	Parent Resource	Actions
Servers inherited from the Groups				
QA DHCP VM	ISC	test-tools.com	QA Test Resource 7	<a href="#">Perms</a>

Attach server : Select Server

[Attach](#)

## Edit IP Assignment

The current IP assignment displays at the top of the Pool Details page. Clicking the CIDR will take you to IPAM manage for the assigned block / aggregate.

To change the current IP assignment for the pool, click the "Change" button next to "IP Assignment".

# Pool 1

IP Assignment : 10.2.0.64/28 [Change](#)

[Push Pool Now](#) [Schedule Push](#) [Add Range](#)

Available Range 10.2.0.64 - 10.2.0.79

Edit the comment.

Range : Range ( 10.2.0.64 - 10.2.0.79 )

In the "New IP Block" dialog, select the Assignment Type, IP Type, and Netmask. Optional fields include Resource, Region, IPAM Rule, and VLAN as filtering criteria if desired.

**New IP Block** [Close]

**Assignment Type:** Smart ←

**IP Type:** IPv4 ←

**Netmask:** 20 ←

**Resource:** [x] ▾

**Region:** Choose a region ▾

**IPAM Rule:** Apply an IPAM Rule ▾

**VLAN Domain:** Choose a domain ▾

**Assign default gateway:**  OFF

[Close] [Save changes]

When complete, click "Save changes".

If no block meets the selected criteria, an error message will appear - try removing filter criteria, or verify that subassignable blocks meeting the criteria have been created in IPAM.

If successful, the IP assignment will change to a block meeting the provided attributes.

## Add / Edit a comment:

To add a comment to a pool, click anywhere inside the comment area and begin typing. The comment will be saved when an area outside of the comment box is clicked, deselecting the comment area.

**Pool 1**

IP Assignment : 10.2.0.64/28 [Change]

[Push Pool Now] [Schedule Push] [Add Range]

Available Range 10.2.0.64 - 10.2.0.79

Edit the comment. ← Click & Type Inside Box

Range : Range ( 10.2.0.64 - 10.2.0.79 ) >

## Edit / Add a Pool Range

The pool range may be manually edited by expanding the "Range" module and typing the desired range start and end values into the "Range" fields, then clicking the "Save" button. From here, you may also edit the Range Name, Class and other settings, or add an option to a range.

Range : Range ( 10.2.0.64 - 10.2.0.79 ) ⌵

**Range :**  ← to  ←  
In the fields above you can set the Start and End Range.

**Range Name :**   
Name for the defined range.

**Client Class :**   
Restrict access to certain subnets only to clients that belong to a given class.

**Require Classes :**   
Classes in these lists are marked as required and evaluated after selection of this specific subnet and before output-option processing.

**Failover Name :**   
(ISC DHCP only) If Failover name is not empty, the pools will be exported in Failover mode.

**Free Lines (Dangerous) :**   
(ISC DHCP only) The content inside this field will be append to the pool section of the server configuration. Please be very careful with this field as it can cause configuration errors !

**Add Range Option :**

To add a range, click the "Add Range" button at top.

## Pool 1

IP Assignment : 10.2.0.64/28

Available Range 10.2.0.64 - 10.2.0.79

Range : Range ( 10.2.0.64 - 10.2.0.79 ) ➤

Enter a Range Name, Range Start, and Range End and click "Save changes".

### Create New Range ✕

**Available Range:** 10.2.0.64 - 10.2.0.79

**Range Name:**  ←

**Range Start:**  ←

**Range End:**  ←

The range will then be added to the pool and available for editing.

### Pool 1

IP Assignment : 10.2.0.64/26

Available Range 10.2.0.64 - 10.2.0.79

Range : Range1 ( 10.2.0.64 - 10.2.0.70 ) >

Range : Range2 ( 10.2.0.71 - 10.2.0.79 ) >

Advanced Settings >

### Edit Advanced Settings:

Open the zone "Advanced Settings" section by clicking on the header or the expansion arrow (>). Edit fields as needed, and click "Save" when complete.

Advanced Settings ⌵

**Parent Resource:**  ⌵  
 The new pool resource will be a child of the Parent Resource.

**Default Gateway:**   
 The default router to be provided the the DHCP clients.

**Routers (ISC DHCP Only):**   
 The routers option specifies a list of IP addresses for routers on the client's subnet. Routers should be listed in order of preference.

**Domain Name Servers:**   
 (domain\_name\_servers) Specifies a list of Domain Name System (STD 13, RFC 1035) name servers available to the client.

**Domain Name:**   
 (domain\_name) This option specifies the domain name that client should use when resolving hostnames via the Domain Name System.

**Lease Time:**   
 (lease\_time) This option is used in a client request (DHCPDISCOVER or DHCPREQUEST) to allow the client to request a lease time for the IP address. In a server reply (DHCPOFFER), a DHCP server uses this option to specify the lease time it is willing to offer.

**Relay Address:**   
 Match the subnet if the request comes from certain Relay Address. Multiple relay addresses can be separated by ",".

**Interface Id (Kea DHCP6):**   
 ISC Kea DHCP6 interface\_id setting for matching relays.

**Client Class:**   
 Restrict access to certain subnets only to clients that belong to a given class.

**Require Classes:**   
 Classes in these lists are marked as required and evaluated after selection of this specific subnet and before output-option processing.

**Free Lines (Dangerous):**   
 The content inside this field will be append to the subnet section of the server configuration. Please be very careful with this field as it can cause configuration errors ! They are currently valid only for ISC DHCP.

Save

## Add / Remove a DHCP Subnet Option

To add a DHCP Subnet Option to a subnet pool, select an option from the dropdown and click "Add".

**Pool 1**

IP Assignment : 10.2.0.64/26 Change

Push Pool Now Schedule Push Add Range

Available Range 10.2.0.64 - 10.2.0.79

Range - Range ( 10.2.0.64 - 10.2.0.79 ) ➤

Advanced Settings ➤

**Add Subnet Option :**  ⌵ Add

Pool Reservations

Enter a value for the option and hit "Save changes".

**Add New Option**

**Name:** 1 - Subnet Mask

**Option:** subnet-mask

**Description:** The subnet mask option specifies the client's subnet mask as per RFC 950. If no subnet mask option is provided anywhere in scope, as a last resort dhcpd will use the subnet mask from the subnet declaration for the network on which an address is being assigned. However, any subnet-mask option declaration that is in scope for the address being assigned will override the subnet mask specified in the subnet declaration.

**Value:** Enter value   
{ipaddress}

Close Save changes

When an option is added a new "Subnet Options" module will be added to the pool view.

**Pool 1**

IP Assignment : 10.2.0.64/26 [Change](#)

Push Pool Now Schedule Push Add Range

Available Range 10.2.0.64 - 10.2.0.79

Edit the comment.

Range : Range ( 10.2.0.64 - 10.2.0.79 )

Advanced Settings

Add Subnet Option : 1 - Subnet Mask (subnet-mask) [Add](#)

Subnet Options

Code	Name	Value	Actions
1	subnet-mask	255.255.240.0	Delete

To delete an option click the "Delete" button next to it.

Pool Options

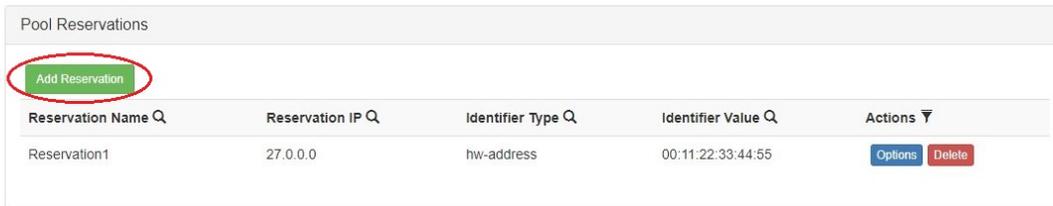
Code	Name	Value	Actions
1	subnet-mask	255.255.240.0	Delete

User Defined DHCP Subnet Options may be configured by Admin level users. See DHCP Settings for more details.

## Add / Remove a Pool Reservation or Pool Reservation Option

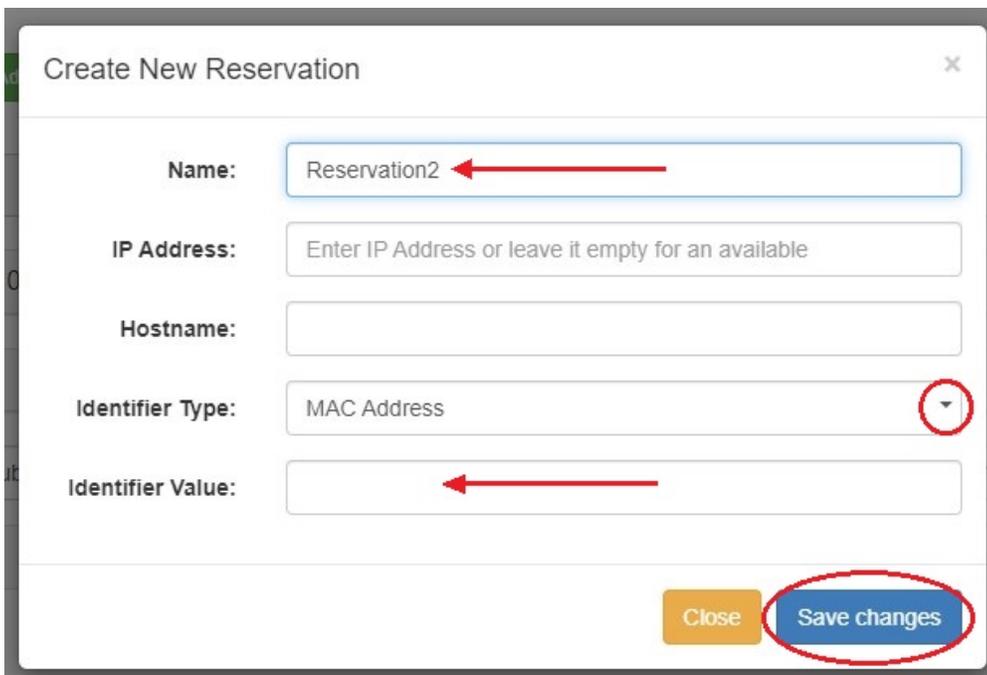
DHCP Pool Reservations allow for a permanent address to be reserved for the pool assignment.

Add a new pool reservation by clicking the "Add Reservation" button under "Pool Reservations".



Reservation Name	Reservation IP	Identifier Type	Identifier Value	Actions
Reservation1	27.0.0.0	hw-address	00:11:22:33:44:55	<a href="#">Options</a> <a href="#">Delete</a>

Enter the Name and IP (or leave empty for any available). Choose an Identifier Type from the dropdown, enter a value, and hit "Save Changes".



**Create New Reservation**

**Name:**

**IP Address:**

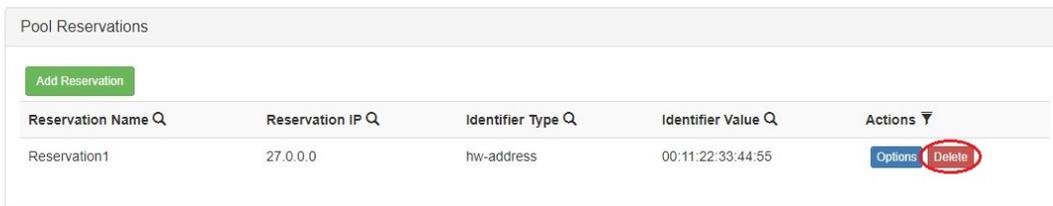
**Hostname:**

**Identifier Type:**

**Identifier Value:**

[Close](#) [Save changes](#)

Once created, a reservation may be removed by clicking the "Delete" button next to it.



Reservation Name	Reservation IP	Identifier Type	Identifier Value	Actions
Reservation1	27.0.0.0	hw-address	00:11:22:33:44:55	<a href="#">Options</a> <a href="#">Delete</a>

DHCP Options may be added to a reservation, if desired, by clicking the "Options" button next to it.

Pool Reservations

[Add Reservation](#)

Reservation Name	Reservation IP	Identifier Type	Identifier Value	Actions
Reservation1	27.0.0.0	hw-address	00:11:22:33:44:55	<a href="#">Options</a> <a href="#">Delete</a>

Choose a DHCP option from the dropdown menu and click "Add".

Reservation Options

Add Option : 12 - Hostname (host-name) [Add](#)

Code	Name	Value	Actions
1	subnet-mask	32	<a href="#">Delete</a>

The Options are automatically saved.

[Close](#)

Enter a value for the chosen option and click "Save changes".

Add New Option

**Name:** 12 - Hostname

**Option:** host-name

**Description:** This option specifies the name of the client. The name may or may not be qualified with the local domain name (it is preferable to use the domain-name option to specify the domain name). See RFC 1035 for character set restrictions.

**Value:**  [←](#)

{string}

[Close](#) [Save changes](#)

## Attach Group / Server to a Pool

Servers may be attached to a pool either from a DHCP Group association, or directly from the Pool Details Page.

Attach the pool to a DHCP Group by clicking in the DHCP Group search box, selecting a Group, then clicking "Save" next to "Attach to Groups". The pool will inherit the DHCP server associated with that group.

To directly attach a DHCP server to a pool, select the server from the "Attach server" dropdown, then click the "Attach" button.

Attached Servers

Attach to Groups: **Save**

x Default Group

The pool will be attached to the list of the groups and the servers from the groups will be exported automatically.

Server Name	Server Backend	Server Host	Parent Resource	Actions
Servers inherited from the Groups				
QA DHCP VM	ISC	test-tools.com	QA Test Resource 7	Perms

Attach server: Select Server **Attach**

## Detach Server from a Pool

To detach a server from a pool, look for the server under the "Attached Servers" list, then click "Detach" under actions for that server.

Attached Servers

Attach to Groups: **Save**

x Default Group

The pool will be attached to the list of the groups and the servers from the groups will be exported automatically.

Server Name	Server Backend	Server Host	Parent Resource	Actions
Fake Test Server 2	ISC	test.com	QA Test Resource 3	<b>Detach</b> Perms
Servers inherited from the Groups				
QA DHCP VM	ISC	test-tools.com	QA Test Resource 7	Perms

Attach server: Select Server **Attach**

To detach a server inherited from a Group, the pool must be removed from the group. To do that, click the "x" next to the group name in the "Attach to Groups" box, then click "Save".

## Delete a Pool

Users with delete permissions over the pool may delete it by clicking the "Delete" button under "Actions" from any DHCP Pool List.

### Pool List

Subnet Pools Host Pools

Pool Name	Last Modified	Subnet	Range Min	Range Max	Actions
Internal, verify update	01/09/2023 22:49:11		198.51.100.0	198.51.100.255	Delete Push
smartsub2	11/15/2023 09:04:07	2600:450::/127	2600:450::	2600:450::1	<b>Delete</b> Push
smartsub3	12/11/2023 08:59:16	14.0.0.0/27	0.0.0.0	0.0.0.0	Delete Push
smartsub4	12/11/2023 09:05:45	2600:450::4/126	2600:450::4	2600:450::7	Delete Push
smartsub5	11/15/2023 09:33:29	172.16.3.0/24	172.16.3.0	172.16.3.255	Delete Push

## Pushing DHCP Pools

Pools may be pushed manually ("Push", "Push Pool Now"), as a scheduled future push ("Schedule Push"), or pushed as part of a DHCP Group or DHCP Server Push.

Before pushing a pool for the first time, view the "Attached Servers" section in the **Pool Details** page and verify that the correct server is attached to the DHCP Pool, either directly or via a DHCP Group.

Attached Servers

Attach to Groups:

The pool will be attached to the list of the groups and the servers from the groups will be exported automatically.

Server Name	Server Backend	Server Host	Parent Resource	Actions
Servers inherited from the Groups				
QA DHCP VM ←	ISC	test-tools.com	QA Test Resource 7	<input type="button" value="Perms"/>

Attach server :

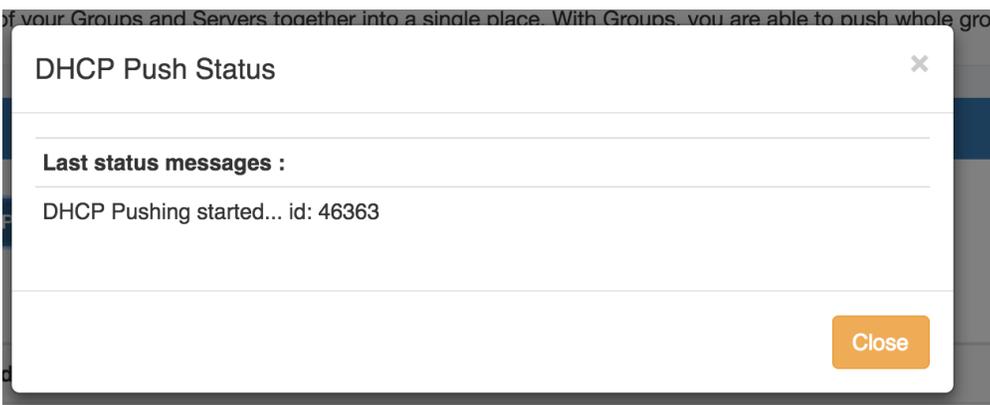
## Manual Pool Push (DHCP Pools List)

Pools may be manually pushed by clicking the "Push" button for the pool from any **DHCP Pools** list.

Pool List

Pool Name	Last Modified	Subnet	Range Min	Range Max	Actions
Internal, verify update	01/09/2023 22:49:11		198.51.100.0	198.51.100.255	<input type="button" value="Delete"/> <input type="button" value="Push"/>
smartsub2	11/15/2023 09:04:07	2600:450::/127	2600:450::	2600:450::1	<input type="button" value="Delete"/> <input type="button" value="Push"/>
smartsub3	12/11/2023 08:59:16	14.0.0.0/27	0.0.0.0	0.0.0.0	<input type="button" value="Delete"/> <input type="button" value="Push"/>
smartsub4	12/11/2023 09:05:45	2600:450::4/126	2600:450::4	2600:450::7	<input type="button" value="Delete"/> <input type="button" value="Push"/>
smartsub5	11/15/2023 09:33:29	172.16.3.0/24	172.16.3.0	172.16.3.255	<input type="button" value="Delete"/> <input type="button" value="Push"/>

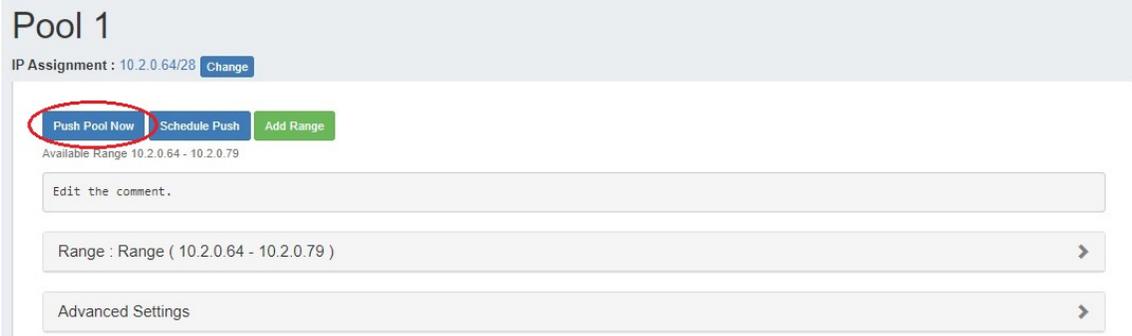
The "DHCP Push Status" modal will appear, showing status and any errors that occur.



When a successful push is complete, a green "Finished DHCP Pushing Request" message will appear, and the window may be closed.

## Manual Pool Push (Pool Details page):

The Pool Details page, accessed from clicking on the zone name in the Group zone list, includes a "Push Pool Now" button that immediately attempts to push the pool to the attached server(s).

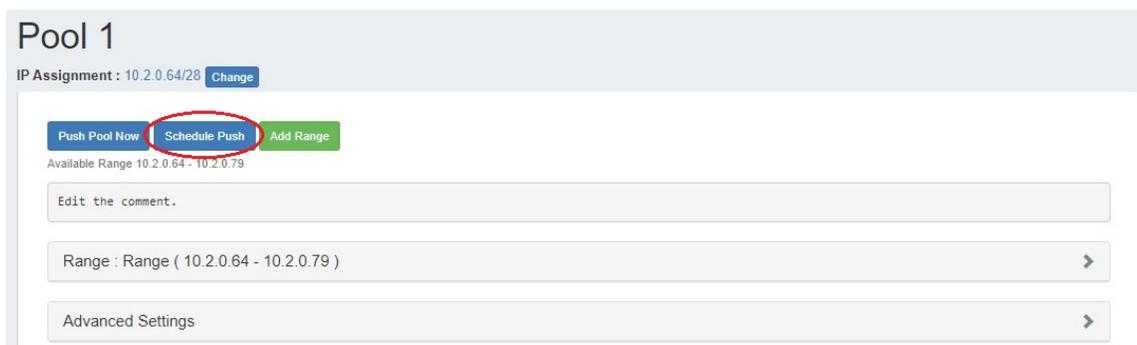


Click on "Push Pool Now", and the "DHCP Push Status" modal will appear, showing status and any errors that occur.

When a successful push is complete, a green "Finished DHCP Pushing Request" message will appear, and the window may be closed.

## Schedule Push (from Pool Details page):

The Pool Details page includes an option to schedule a push, similar to scheduling a Group push.



Click "Schedule Push" for the pool, then select a date, time (24 hour), add a notification email address, and click "Save changes".

Push Scheduler
✕

**Pick date and time (UTC):**

< **January 2022** >

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

**Time**

19:28 ▲

19:29

19:30

19:31

19:32

19:33

19:34 ▼

**Notification Email:**

Close
Save changes

The Scheduled task will be shown in both the Pool Details page (under "Scheduled Tasks") and the [Admin Scheduler](#) task list.

Scheduled Tasks			
Task Name	Last Run	Repeat Time	Actions
Scheduled Push: Pool 1		One time on 2018-06-23 at 19:45 PDT	<span style="background-color: #dc3545; color: white; padding: 2px 5px;">Delete</span>

The task may be deleted prior to running by clicking the "delete" button, but will automatically be removed once completed.

## Schedule Push (Admin Scheduler):

Pools may also be pushed via scheduled DHCP Group or DHCP Server pushes. Server pushes may be set up by Admin users from either the **DHCP Servers** section, or the [Scheduler](#) tab.

For more information, see the [Working with DHCP Servers](#) or [Scheduler Tab](#) documentation.

## DHCP Group Push:

All pools contained in a DHCP Group may be pushed at the same time, by pushing the DHCP Group.

For information on working with DHCP Groups, including performing a manual or scheduled Group push, see [Working with DHCP Groups - Pushing a Group](#).

## DHCP Server Push:

Admin users may push all pools on a DHCP server from the [DHCP](#) Tab -> **DHCP Servers** page.

For information on working with DHCP Servers, including performing a manual or scheduled server push, see [Working with DHCP Servers - Pushing a Server](#).

## **Additional Information:**

For more information on working with DHCP Pools, Groups, and Servers, see the following sections:

- [DHCP Tab](#)
- [Working with DHCP Groups](#)
- [Working with DHCP Gadgets](#)
- [DHCP Administration](#)
- [DHCP Settings](#)

—