

# Constraints

## Constraints

The screenshot shows the 'Constraints' tab in the IPAM Admin interface. The top navigation bar includes links for Settings, IPAM Admin, Data Import, Users, API, Scheduler, Scanning, Log, Approvals, Constraints, and Exit Admin. A search bar and user profile icon are on the right. Below the navigation bar, there are tabs for 'Constraints' and 'Configuration'. The 'Constraints' tab is active, showing a list of 11 registered constraints. The list has columns for Name, Type, Used by, Updated, and Options. The constraints include Enum Pets, Section Entry Test, Email 1, Resource Type, URL Test, Phone # Test, Bird Enum, Length Min, Length Max, Section Test 2, and All of Test. Each constraint has a 'View' link and a gear icon for options. At the bottom, there is a pagination bar showing 'Previous', '1', and 'Next'.

<input type="checkbox"/>	Name	Type	Used by	Updated	Options
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28	
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57	
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>	2023-07-18 17:40:57	
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>	2023-09-05 19:17:32	
<input type="checkbox"/>	URL Test	URL	-	2023-07-24 15:24:41	
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38	
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02	
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33	
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36	
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32	
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42	

Displaying 1 to 11 of 11 items.

Previous 1 Next

The Constraints system allows Admin users to configure custom field validation and limitations into IPAM and Resource fields. Many constraint types are available, such as mathematical comparison operators, length, enumeration, pre-set lists, RegEx, IPv4/IPv6, Phone, email, hostname, FQDN, Mac Address, and URL.

The Constraints Tab has one sub-tab - **Configuration** - where new constraints may be created and managed.

- Constraints Tab
- Available Constraint Types
- Constraints List Overview
  - Search / Filter
  - Sort
  - View Applied Constraints
- Add a Constraint
- Test Constraint
- Edit Constraint
- Delete Constraint
- Working with Constraints in IPAM
  - Apply a Constraint
  - Constrained Fields in IPAM
- Working with Constraints in Resources
  - Apply a Constraint
  - Constrained Fields in Resources
- Constraint Permissions
- Example: Adding an Enumeration Constraint Containing Children
  - Using the Enumeration
- Additional Information

## Constraints Tab

The Constraints Tab, available to Admin users, allows for custom field validation and field restrictions to be created for Resource and IPAM fields. Constraints are applied to Resource fields from the [Edit Section](#) page and to IPAM fields from the Admin [Edit IPAM Columns](#) page. The applied constraint may be anything from a numerical comparison operation, a check against a pre-determined text string, ensuring selections from a pre-set list, or forcing entries into a specific format, such as IPv4/IPv6, phone number, or RegEx.

These constraints can be applied to Resource fields and the following IPAM fields:

- ASN
- Custom Generic Field
- Notes
- Metadata 1-10, if enabled for the instance

Depending on the type of constraint applied, the constraint may be a simple single-value comparison needing only one constraint to be created, such as "Equals to" or "Length Max". Some other constraint types, however, may have two or more levels deep of constraint types and value checks. One example of this is "Enumeration", which requires the user to first set up an "Enumeration" constraint, and then a second level list of sub-constraint types or a list of values.

## Available Constraint Types













The following constraint types are currently available:

Type	Description
<b>Enumeration</b>	Create a list of child enum items.
<b>Section Entry</b>	Creates an enumeration based on all entries that belong to a given section.
<b>Resource Type</b>	Creates an enumeration based on a Resource type.
<b>Resource Entry</b>	Creates an enumeration based on all resource entries.
<b>IPAM Region</b>	Creates an enumeration based on all IPAM Regions.
<b>IPAM Tags</b>	Creates an enumeration based on all IPAM Tags.
<b>Equals to</b>	Checks to ensure a value is exactly equal to a provided value, e.g. (X == Y) is true
<b>Not Equal to</b>	Checks to ensure a value is not equal to a provided value, e.g. (X != Y) is true
<b>Greater Than</b>	Checks if the input value (left operand) is greater than a given value (right operand). e.g. (X > Y) is true
<b>Less Than</b>	Checks if the input value (left operand) is less than a given value (right operand). e.g. (X < Y) is true
<b>Greater Than or Equal to</b>	Checks if the input value (left operand) is greater than or equals to a given value (right operand). e.g. (X >= Y) is true
<b>Less Than or Equal to</b>	Checks if the input value (left operand) is less than or equals to a given value (right operand). e.g. (X <= Y) is true
<b>One of</b>	Create a list of child constraint items. It will be true if one of child constraints is true. Its children must be previously configured.
<b>All of</b>	Create a list of child constraint items. It will be true if all of the child constraints are true. Its children must be previously configured.
<b>Length Max</b>	Checks to ensure a string has, at most, the specified number of characters
<b>Length Min</b>	Checks to ensure a string has, at minimum, the specified number of characters
<b>Regular Expression</b>	Compares the input format to a provided Regular Expression

<b>IPv4</b>	Sets the required format for the input to an IPv4 address
<b>IPv6</b>	Sets the required format for the input to an IPv6 address
<b>Email</b>	Sets the required format for the input to an email address (uses an "@" symbol)
<b>Hostname</b>	Sets the required format for the input to a hostname. Hostnames may not have underscore or dash characters.
<b>FQDN</b>	Sets the required format for the input to a FQDN
<b>MAC Address</b>	Sets the required format for the input to a MAC address
<b>URL</b>	Sets the required format for the input to a url
<b>Phone Number</b>	Sets the required format for the input to a phone number

## Constraints List Overview

The Constraints List displays all registered constraints and is where you can view, edit, test, and delete existing constraints.

Registered constraints <b>11</b>				
Constraints		Type	None	Search... 
<input type="checkbox"/>	↕ Name	↕ Type	Used by	↕ Updated Options
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28 
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57 
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>	2023-07-18 17:40:57 
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>	2023-09-05 19:17:32 
<input type="checkbox"/>	URL Test	URL	-	2023-07-24 15:24:41 
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38 
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02 
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33 
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36 
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32 
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42 
Displaying 1 to 11 of 11 items.				
<div> <div>Previous</div> <div>1</div> <div>Next</div> </div>				

## Search / Filter

Filter the list for a specific constraint by typing all or part of the name in the searchbox.

Registered constraints 2

Constraints

Type None

enum x Q

<input type="checkbox"/>	↕ Name	↕ Type	Used by	↕ Updated	Options
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28	
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02	

Displaying 1 to 2 of 2 items.

Previous

1

Next

Filter the list by type via the dropdown selector at the top.

Registered constraints 11

Constraints

Type None

Search... Q

<input type="checkbox"/>	↕ Name	↕ Type	Used by	Updated	Options
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>		
<input type="checkbox"/>	Section Entry Test	Section Entry	-		
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>		
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>		
<input type="checkbox"/>	URL Test	URL	-		
<input type="checkbox"/>	Phone # Test	Phone Number	-		
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>		
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33	
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36	
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32	
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42	

Displaying 1 to 11 of 11 items.













Previous

1

Next

## Sort

Sort columns into ascending/descending order by clicking on the column header for any column with an up/down arrow (↕).














Registered constraints 11					
Constraints			Type	None	Search... 
<input type="checkbox"/>	↕ Name	↕ Type	Used by	↕ Updated	Options
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42	
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02	
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>	2023-07-18 17:40:57	
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28	
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36	
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33	
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38	
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>	2023-09-05 19:17:32	
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57	
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32	
<input type="checkbox"/>	URL Test	URL	-	2023-07-24 15:24:41	

Displaying 1 to 11 of 11 items.

Previous 1 Next

## View Applied Constraints

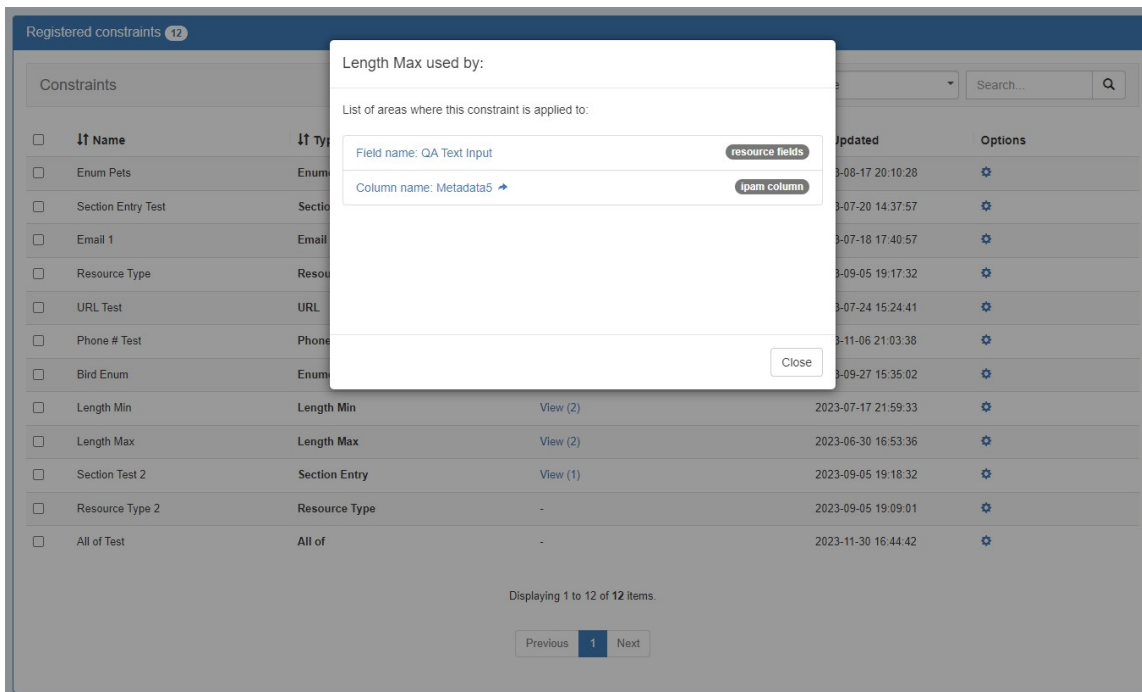
The "Used by" column allows users to view which resource views and/or IPAM attributes have a specific constraint applied. Simply click the constraint's "View" link in the "Used by" column and a modal will open.

Registered constraints 12					
Constraints			Type	None	Search... 
<input type="checkbox"/>	↕ Name	↕ Type	Used by	↕ Updated	Options
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28	
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57	
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>	2023-07-18 17:40:57	
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>	2023-09-05 19:17:32	
<input type="checkbox"/>	URL Test	URL	-	2023-07-24 15:24:41	
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38	
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02	
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33	
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (2)</a>	2023-06-30 16:53:36	
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32	
<input type="checkbox"/>	Resource Type 2	Resource Type	-	2023-09-05 19:09:01	
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42	

Displaying 1 to 12 of 12 items.

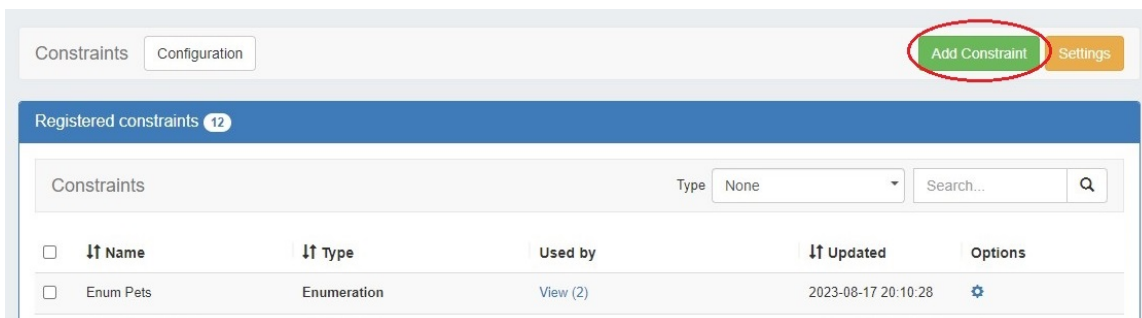
Previous 1 Next

Click the link for a resource field to see which sections have that field enabled. Click a section name to go to the Section Edit page. Click the link for a IPAM column to go to the Edit IPAM Columns page. Constraints can be applied or removed from both these locations.



## Add a Constraint

To add a new Constraint, click "Add Constraint" at the top right of the page.



The Constraint type selector indicates the control type of any given constraint (i.e. dropdown, input).

Add Constraint

Constraints / add

### Common settings

Choose a constraint type and set its properties.

**Constraint type \***  
Select a type...

**Name \***  
value...  
The title of this constraint.

Enumeration dropdown  
Section Entry dropdown  
Resource Type dropdown  
Resource Entry dropdown  
IPAM Region dropdown  
IPAM Tags dropdown  
Equals to input  
Not Equals to input

Add constraint
Cancel

In the "Add Constraint" screen, select (at minimum, depending on the selected constraint type):

- The constraint type (here, "Length Min")
- The name for the constraint
- Select whether to allow empty values in the attribute field

If desired, you may enter a custom error message or placeholder text.

Add Constraint

Constraints / add

### Common settings

Choose a constraint type and set its properties.

**Constraint type \***  
Length Min x

**Name \***  
Length Min 3  
The title of this constraint.

Allows strings with more than "lenmin" characters. (string.length > X) is true

**Length**  
3  
Minimum string length

☒ Allow empty values

**Error message**  
custom description...  
Include a custom message when the constraints fails. Messages can be formatted using the available template variables. E.g.: "The constraint {name} has failed on {attribute} caused by: {error}". Maximum 200 characters (200 remaining).

**UI Properties**  

Allow users to control certain aspects of the UI control.

**Control Type**  
Input Field  
Indicate the kind of control that the UI element represents (read only)

**Placeholder**  
enter value...  
Specifies the placeholder for the control. Maximum 100 characters (86 remaining).

\* Indicates required fields

Add constraint
Cancel

When done, click "Add Constraint" to save.

## Test Constraint

To test a Constraint, right click to open the Options action menu and select "Test".

Registered constraints 11				
Constraints		Type	None	Search...
<input type="checkbox"/>	↕ Name	↕ Type	Used by	↕ Updated
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>	
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>	
<input type="checkbox"/>	URL Test	URL	-	2023-07-24 13:24:41
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42

Displaying 1 to 11 of 11 items.

Previous1Next

The test constraint form will appear - enter a test value, and you can check whether the constraint returns an appropriate invalid or valid response:

Invalid result, for "Length Min 3":

### Test Constraint

Try '**Length Min**' constraint by entering a value in the input below:

**Enter value** ⓘ

Allow empty values: **true**

too short

Close

Valid result, for "Length Min 3":



### Test Constraint

Try 'Length Min' constraint by entering a value in the input below:

Enter value

abd

Allow empty values: **true**

Valid input: abc

Close

## Edit Constraint

To edit a Constraint, right click to open the Options action menu and select "Edit". The constraint details will open, matching the "Add Constraint" form.

Registered constraints <span>11</span>				
Constraints		Type	None	Search...
<input type="checkbox"/>	↑ Name	↑ Type	Used by	↑ Updated
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>	
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>	
<input type="checkbox"/>	URL Test	URL	-	
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42

Displaying 1 to 11 of 11 items.

Previous 1 Next

Adjust values or settings as desired, and then click "Update Constraint".

## Delete Constraint

To delete a Constraint, right click to open the Options action menu and select "Delete".

Registered constraints 11

Constraints

Type: None

Search...

<input type="checkbox"/>	↕ Name	↕ Type	Used by	↕ Updated	Options
<input type="checkbox"/>	Enum Pets	Enumeration	<a href="#">View (2)</a>	2023-08-17 20:10:28	
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57	
<input type="checkbox"/>	Email 1	Email	<a href="#">View (1)</a>		
<input type="checkbox"/>	Resource Type	Resource Type	<a href="#">View (1)</a>		
<input type="checkbox"/>	URL Test	URL	-	2023-07-24 10:24:41	
<input type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38	
<input type="checkbox"/>	Bird Enum	Enumeration	<a href="#">View (1)</a>	2023-09-27 15:35:02	
<input type="checkbox"/>	Length Min	Length Min	<a href="#">View (2)</a>	2023-07-17 21:59:33	
<input type="checkbox"/>	Length Max	Length Max	<a href="#">View (3)</a>	2023-06-30 16:53:36	
<input type="checkbox"/>	Section Test 2	Section Entry	<a href="#">View (1)</a>	2023-09-05 19:18:32	
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42	

Edit

Test

Delete

Displaying 1 to 11 of 11 items.

Previous

1

Next

A Confirmation box will appear - confirm whether to delete the constraint, or click "Close" to exit without deletion.

Please confirm.

Are you sure you want to remove **Length Min**?

Delete

Cancel

You may also select more than one constraint to delete.

To do so, select the checkboxes for the desired constraints, then under the "Actions" menu at the top of the list, select "Delete All".

Registered constraints 11

Constraints ☒ Selected 2 items **Actions** Type: None Search...

<input type="checkbox"/>	↑ Name	↑ type	Used by	↑ Updated	Options
<input type="checkbox"/>	Enum Pets	Enumeration	View (2)	2023-08-17 20:10:28	
<input type="checkbox"/>	Section Entry Test	Section Entry	-	2023-07-20 14:37:57	
<input type="checkbox"/>	Email 1	Email	View (1)	2023-07-18 17:40:57	
<input type="checkbox"/>	Resource Type	Resource Type	View (1)	2023-09-05 19:17:32	
<input checked="" type="checkbox"/>	URL Test	URL	-	2023-07-24 15:24:41	
<input checked="" type="checkbox"/>	Phone # Test	Phone Number	-	2023-11-06 21:03:38	
<input type="checkbox"/>	Bird Enum	Enumeration	View (1)	2023-09-27 15:35:02	
<input type="checkbox"/>	Length Min	Length Min	View (2)	2023-07-17 21:59:33	
<input type="checkbox"/>	Length Max	Length Max	View (3)	2023-06-30 16:53:36	
<input type="checkbox"/>	Section Test 2	Section Entry	View (1)	2023-09-05 19:18:32	
<input type="checkbox"/>	All of Test	All of	-	2023-11-30 16:44:42	

Deleting all constraints will delete all constraints associated with the selected constraints.

Displaying 1 to 11 of 11 items.

Previous 1 Next

## Working with Constraints in IPAM

### Apply a Constraint

To apply a constraint to an IPAM field, go to IPAM Admin Edit IPAM Columns.

Settings IPAM Admin Data Import Users API Scheduler Scanning Log Approvals Constraints Exit Admin Search...

IPAM Admin

IPAM Management Tools

In this section you can navigate to the different pages related with the IPAM Management.  
Select the link you want to edit configuration.

**IPAM Lists Management:**

- Edit IPAM Tags
- Edit IPv4 Subnets Dropdown
- Edit IPv6 Subnets Dropdown
- Edit IPAM Rules
- Edit Numbering Authority
- Edit IPAM Columns
- Edit VLAN Columns
- Smart Assign Templates

**Holding Tank Management:**

- Process Holding Tank (Set to 5 days)

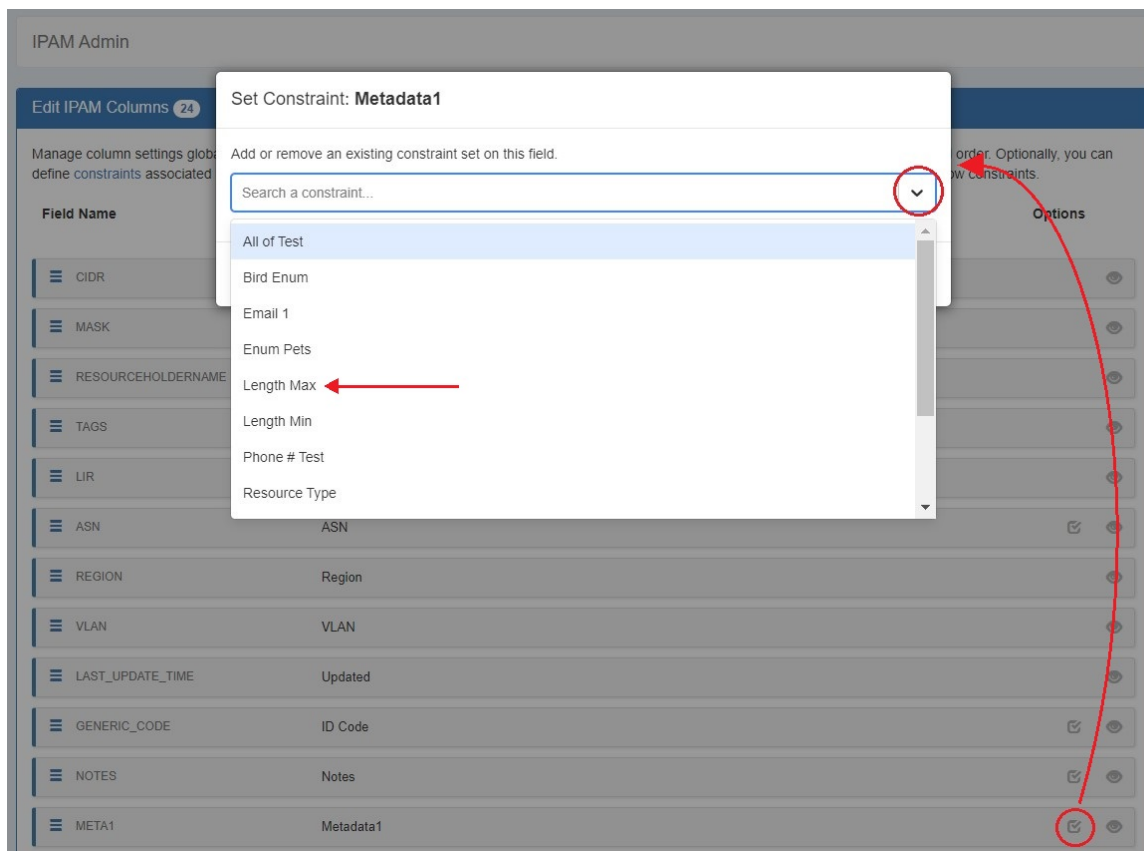
**LIR Management:**

- Add/Edit/Update LIRs

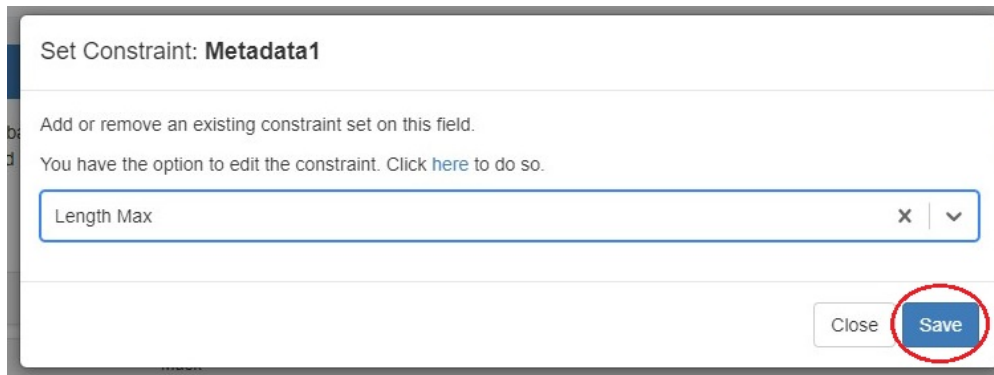
**Configuration Management:**

- IPAM Configuration
- Alerts Management

A column that may have a constraint applied will have a checkmark icon. Click the icon and select a constraint from the dropdown.



Click "Save".



The applied constraint name will then be displayed in the column row. Click "Save Changes" before exiting the IPAM Column page to retain changes.

NOTES	Notes		
META1	Metadata1	Length Max	
META2	Metadata2		
META3	Metadata3		
META4	Metadata4	Bird Enum	
META5	Metadata5	Length Max	
NAT	NAT		
META6	Metadata6		
META7	Metadata7		
META8	Metadata8		
META9	Metadata9		
META10	Metadata10		

Back to IPAM Admin **Save Changes**

## Constrained Fields in IPAM

When a field is viewed in IPAM Manage that has a constraint applied, a "check" icon will display next to the field input for simple input constraint checks, if empty values are allowed.

If the constraint is of a type that has been set up with a dropdown box, then the dropdown box and placeholder text will be applied:

Edit Attributes: 1.1.0.16/28 (1.1.0.16 - 1.1.0.31)  
Assigned to: aaQaEntry 2 Clone Test → Subnet Smart IPv4 pool

RIR: 1918
LIR:
Domain: select a domain...
VLAN:
Custom Generic Code:
ASN:
Region: St. Louis
Tags: 1abc QA
Notes:

Allow sub assignments for this block: OFF
Propagate attributes to all children: OFF
Mark this block as important: OFF

Metadata2:
Metadata3:
Metadata4:
Metadata5:
Metadata6:
Metadata7:
Metadata8:
Metadata9:
Metadata10: enter value...

Close Save

In this example, constraint validation checks have been applied to Metadata4, Metadata7, and Metadata8, with a dropdown "One Of" constraint applied to Metadata10.

Metadata8 has been associated with our previous constraint example, "Length Min 3", so if we enter less than three characters into that field, we should get an error, and see the "X" for the input not meeting the constraint settings:

**Edit Attributes: 1.0.0.0/16 (1.0.0.0 - 1.0.255.255)**  
Assigned to: 3M

<b>RIR:</b> 1918	<b>LIR :</b>	<b>Metadata3:</b>
<b>Domain:</b> select a domain... ✕	<b>VLAN:</b>	<b>Metadata4:</b> ✓
<b>Custom Generic Code:</b>	<b>ASN:</b>	<b>Metadata5:</b>
<b>Region:</b>		<b>Metadata6:</b>
<b>Tags:</b> Select tags...		<b>Metadata7:</b> ✓
<b>Notes:</b>		<b>Metadata8:</b> ab ✕
<b>Allow sub assignments for this block:</b> OFF		<b>Metadata9:</b>
<b>Propagate attributes to all children:</b> OFF		<b>Metadata10:</b> enter value...
<b>Mark this block as important:</b> OFF		

The values which do not meet the constraints will not be saved.

Close Save

On the other hand, a valid input will return to displaying the "valid" success checkmark:

**Edit Attributes: 1.0.0.0/16 (1.0.0.0 - 1.0.255.255)**  
Assigned to: 3M

<b>RIR:</b> 1918	<b>LIR :</b>	<b>Metadata3:</b>
<b>Domain:</b> select a domain... ✕	<b>VLAN:</b>	<b>Metadata4:</b> ✓
<b>Custom Generic Code:</b>	<b>ASN:</b>	<b>Metadata5:</b>
<b>Region:</b>		<b>Metadata6:</b>
<b>Tags:</b> Select tags...		<b>Metadata7:</b> ✓
<b>Notes:</b>		<b>Metadata8:</b> abc ✓
<b>Allow sub assignments for this block:</b> OFF		<b>Metadata9:</b>
<b>Propagate attributes to all children:</b> OFF		<b>Metadata10:</b> enter value...
<b>Mark this block as important:</b> OFF		

Close Save

## Working with Constraints in Resources

### Apply a Constraint

To apply a constraint to an Resource field, go to Edit Section, "Manage Fields" tab. Open the edit modal for an assigned field. Select a constraint from the dropdown and click "Save".

Applying a constraint to a field affects all sections to which a field is assigned. In the above example, adding a constraint to a field in QA Test Section 1 will also apply the constraint to the field in the Contact Section. You can see which sections are using the field displayed in the Edit Field modal.

Once a constraint is applied to a field, it will be visible to the user.

Remember to save before exiting the tab to retain changes.

## Constrained Fields in Resources


A constrained field is available to edit from the Resource List Edit Fields modal and the Resource's Fields Gadget.










When a field is viewed that has a constraint applied, a "check" icon will display next to the field input for simple input constraint checks.


If the constraint is of a type that has been set up with a dropdown box, then the dropdown box and placeholder text will be applied:

### Resource Fields: QA Test Resource

Edit resource's Fields. You must visit the Edit Section page if you want to add new fields or remove existing ones.

 Password fields must be encrypted before the update. Unencrypted values are ignored.

Abuse POC  (text)	<input type="text" value="at least 3"/>	
2nd Email  (text)	<input type="text" value="enter email"/>	
Time Zone (text)	<input type="text" value="enter a value..."/>	
IPv4 Address (text)	<input type="text" value="enter a value..."/>	
Hostname  (text)	<input type="text" value="at least 3"/>	
Description (textarea)	<input type="text" value="enter a value..."/>	


 The values which do not meet the constraints will not be saved.










Update & CloseUpdateClose


In this example, a Length Min constraint has been applied to the field "Abuse POC", so if we enter less than three characters into that field, we should get an error and see a visual indicator for the input not meeting the constraint settings:

### Resource Fields: QA Test Resource

Edit resource's Fields. You must visit the Edit Section page if you want to add new fields or remove existing ones.

 Password fields must be encrypted before the update. Unencrypted values are ignored.

Abuse POC  (text)	<input type="text" value="ab"/>	
2nd Email  (text)	<input type="text" value="enter email"/>	
Time Zone (text)	<input type="text" value="enter a value..."/>	
IPv4 Address (text)	<input type="text" value="enter a value..."/>	
Hostname  (text)	<input type="text" value="at least 3"/>	
Description (textarea)	<input type="text" value="enter a value..."/>	

 The values which do not meet the constraints will not be saved.

Update & CloseUpdateClose



On the other hand, a valid input will return to displaying the "valid" success checkmark:

Resource Fields: QA Test Resource

Edit resource's Fields. You must visit the Edit Section page if you want to add new fields or remove existing ones.

⚠ Password fields must be encrypted before the update. Unencrypted values are ignored.

Abuse POC

(text)

test

🗑

2nd Email

(text)

test@test.com

🗑

Time Zone

(text)

enter a value...

🗑

IPv4 Address

(text)

enter a value...

🗑

Hostname

(text)

test

🗑

Description

(textarea)

enter a value...

🗑

ⓘ The values which do not meet the constraints will not be saved.

Update & Close

Update

Close

Constrained fields display the same way in a Resource's Fields Gadget when editing.

Fields

Resource's Fields. You must visit the Edit Section page if you want to add new fields or remove existing ones. Default fields cannot be deleted.

Add field

Select...

Abuse POC

at least 3

🗑

2nd Email

enter email

🗑

⚠ Password fields must be encrypted before the update. Unencrypted values are ignored.

Save

Cancel

A failed constraint input:

Fields

Resource's Fields. You must visit the Edit Section page if you want to add new fields or remove existing ones. Default fields cannot be deleted.

Add field

Select...

Abuse POC

ab

🗑

2nd Email

enter email

🗑

⚠ Password fields must be encrypted before the update. Unencrypted values are ignored.

Save

Cancel

A valid constraint input:

Fields

Resource's Fields. You must visit the Edit Section page if you want to add new fields or remove existing ones. Default fields cannot be deleted.

Add field Select... ▼

Abuse POC

2nd Email

abd

enter email

Password fields must be encrypted before the update. Unencrypted values are ignored.

Save

Cancel

## Constraint Permissions

Admins can limit which users are bound by certain constraints by clicking "Settings" at upper right.

Constraints

Configuration

Add constraint

Settings

Registered constraints 9

Constraints

0 items selected.

Type: none ▼

Search...

☐ ID Name Compare Updated Options

From there, select "Enable user group permissions" to limit constraint visibility by User Permission Group.

Global Settings

Permissions determine the access level that user groups have on constraints objects. When this option is enabled, administrators must configure which user groups can assign constraints to system events. This can be done by clicking 'Change Binding Permission' on the Constraint Edit page.

☒ Enable user group permissions

Close

Once permissions are enabled a new option will appear when adding and editing a constraint, "Change Binding Permissions".

UI Binding

**Control Type**

Input Field

Indicate the kind of control that the UI element represents

**Element id**

meta1

The object's property in which you want to apply a constraint. Most of the times, the element\_id will correspond to the attribute name but something the UI could use a different id.

**Placeholder**

Max 3

Specifies the placeholder for the control

[Change Binding Permissions](#)

Selecting "Change Binding Permissions" opens the "Change Permissions" dialog box where you can select a group(s) to assign the constraint to. The groups assigned to a constraint are listed below the group selector.

Change Resource Permissions

Assign permissions to '**Max Test binding**' resource:

**Group selector**

Reporting Group x assign

ID	Group Name	Options
5	QA Test Group	remove

Close

To remove a group, just click the "remove" button next to the group name.

Change Resource Permissions

Assign permissions to '**Max Test binding**' resource:

**Group selector**

Reporting Group x assign

ID	Group Name	Options
5	QA Test Group	remove

Close

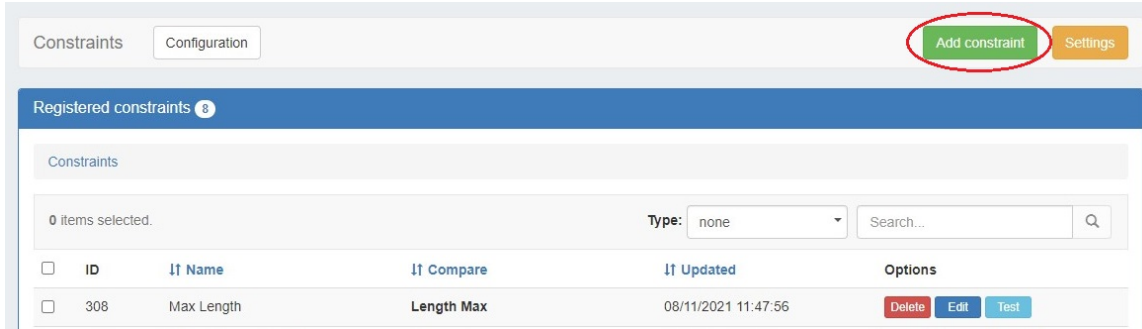
For more information on working with Permission Groups see [Permission Groups](#) and [Working with Groups](#).

Enabling user group permissions applies to all constraints, including those already existing. If no group is assigned to a constraint, it will not be visible in IPAM Manage to any users.

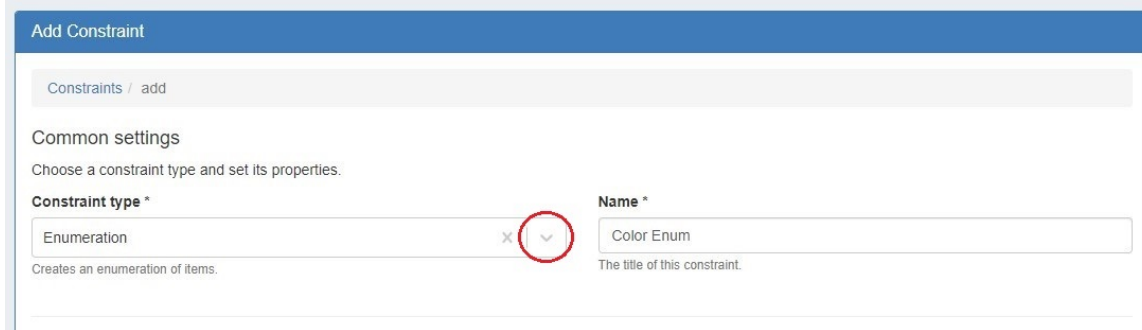
## Example: Adding an Enumeration Constraint Containing Children

This example shows how to add a two-level Enumeration constraint, which are set up having a "parent" constraint at the top level list, and "child" items or constraints on a sub-level.

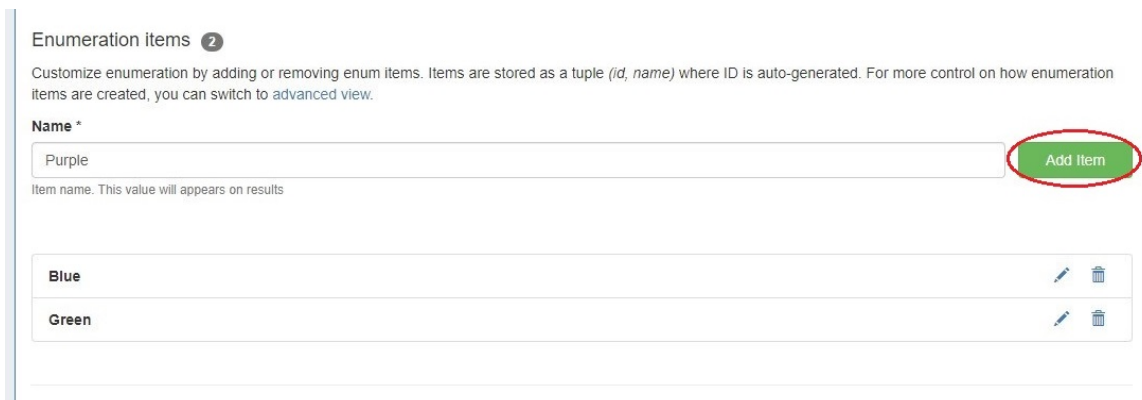
From the Constraints "Configuration" page, click "Add Constraint".



Select "Enumeration" for the constraint type and enter a name.



In the section "Enumeration items" enter a name for an option and click "Add Item". Repeat for any additional values that you wish to make available in your enumeration dropdown. You can edit or delete options via the row icons.



In the "UI Properties" section, you may enter custom placeholder text or enable multiple item selection. When done, click "Add Constraint".

**UI Properties**

Allow users to control certain aspects of the UI control.

**Control Type**

Dropdown Control

Indicate the kind of control that the UI element represents (read only)

**Scrolling results size**

20

This controls the infinite scrolling behaviour.

☐ Enable multiple item selection

This option enables multi-select mode.

**Placeholder**

pick a color

Specifies the placeholder for the control. Maximum 100 characters (88 remaining).

**Export type**

☐ id ☒ name

Specifies whether 'id' or 'name' must be exported and stored when submitting a form. This setting will show the field displayed as a number (item id) or as a text (item name) and will affect exported .csv files and api calls.

\* Indicates required fields

**Add constraint** Cancel

"Export type" specifies whether an id or name should be exported when submitting a form and will affect exported .csv files and api calls.

On the main Constraints List, open the action menu and select "Test".

A display dropdown box will appear. Click inside of it to confirm your child items show as selectable options.

**Test Constraint**

Try 'Color Enum' constraint by entering a value in the input below:

**Enter value**

pick a color

Blue

Green

Purple

Close

## Using the Enumeration

To see the constraint in action in IPAM or Resources, navigate to a block or field and open Edit. Select the field to which you applied the enumeration to view/select constraint items from the dropdown

Edit Attributes: **8.8.3.128/27** (8.8.3.128 - 8.8.3.159)  
Assigned to: [QA Test Resource 2](#)

RIR:	1918	LIR :		NAT:	xxxxyy or xxxxxxxxxyy
Domain	Test Domain 2 x	VLAN:	5 - VLAN 5 x	Metadata1:	only 6 ✓
ID Code:		ASN:		Metadata2:	pick a color
Region:	Boston, MA			Metadata3:	Searching...
Tags:	x Cable x Customer x			Metadata4:	Blue
Notes:	Internal space			Metadata5:	Green
				Metadata6:	Purple
				Metadata7:	
				Metadata8:	

Allow sub assignments for this block: ☒ ON  
Propagate attributes to all children: ☐ OFF  
Mark this block as important: ☐ OFF

Close Save

## Additional Information

For additional information on working with IPAM Manage or IPAM Blocks, see

- [IPAM Tab](#)
- [IPAM Administration](#)
- [Customizing Fields](#)