

On a DEVELOPMENT environment, you can enable debug by adding `DEBUG=TRUE` to the `customer_settings.py` file (restart after saving changes "systemctl restart httpd")

**/var/opt/cloudbolt/proserv**

- customer\_settings.py
- static
- xui

**/var/opt/cloudbolt/proserv/xui**

- report\_xui
- dashboard\_xui
- admin\_xui

**/var/opt/cloudbolt/proserv/xui/report\_xui**

- templates
- views.py
- urls.py

Inside of every XUI are three primary files

- Templates
- Views
- Urls

The "XUI" folder is where the XUI's are stored

The "Proserv" directory is upgrade-safe. This means that during upgrade, this folder will remain intact and completely untouched. This is the folder where any customizations should be saved.

**TEMPLATES**

Templates control the HTML and the way the code is displayed

**./templates**

- rh\_extension.html
- tab\_extension.html

This template file specifies the way the **TAB** will render on the **RESOURCE HANDLER**

```
<div class="panel panel-default">
<div class="panel-heading">NSX-T Manager</div>
<div class="panel-body">
<table width="100%" class="table table-striped">
<tbody>
<a
href="/network_virtualization/{{nv.network_virtualization_id}}"/>{{
nv.display_name }}</a>
</tbody>
</table>
</div>
```

This template file specifies the way the **TAB** will render on the **SERVER**

```

{% if nsxt_server %}
<div class="btn-toolbar">
<a href="/add_security_tag/{{server.id}}/" class="btn btn-default open-dialog">
{% trans 'Add NSXT Security Tag' %}</a>
</div>
<div class="panel panel-default">
<div class="panel-heading">Current Tags</div>
<div class="panel-body">
<table width="100%" class="table table-striped">
<thead>
<th>Tags</th>
<th>&nbsp;</th>
</thead>
<tbody>
{% for tag in tags %}
<tr>
<td>{{ tag.value }}</td>
<td>
<a title="{% trans 'Delete this sample message' %}"
href="/remove_security_tag/{{ server.id }}/tag/{{ tag.value }}"
class="icon-delete open-dialog"></a>
</td>
</tr>
{% endfor %}
</tbody>
</table>
</div>
```

TabExtensionDelegate  
The tab dictates the logic that controls WHEN a TAB EXTENSION will be deployed

```
class NSXTagTabDelegate(TabExtensionDelegate):
def should_display(self):
try:
rh = self.instance.resource_handler
if check_for_nsxt(rh):
return True
except Exception as e:
return False

class NSXTRHTagTabDelegate(TabExtensionDelegate):
def should_display(self):
# check for nsx-t endpoints
if check_for_nsxt(self.instance):
return True
return False

@tab_extension(model=ResourceHandler, title="NSX-T Tags", delegate=NSXTRHTagTabDelegate)
def nsx_tags_tab(request, obj_id):
....
Given a request, check if the ResourceHandler should display an NSX-T tab
....
rh = ResourceHandler.objects.get(id=obj_id)
rv = NetworkVirtualizationResourceHandlerMapping.objects.get(resource_handler_id=rh.id)
tags = get_all_security_tags(rh)

return render(
request,
f"{TEMPLATE_DIR}/nsxt_rh_tab.html",
dict(tags=tags, rv=rv),
)

@tab_extension(model=Server, title="NSX-T Server Tags", delegate=NSXTagTabDelegate)
def nsxt_tags_tab(request, obj_id):
....
Given a request, check if the Server should display an NSX-T tab
....
server = Server.objects.get(id=obj_id)

tags = server.custom_field_values.filter(field_name="nsxt_tag")

# Check if the server exists in NSX-T
nsxt_server = get_external_id(server, server.resource_handler)

return render(
request,
f"{TEMPLATE_DIR}/nsxt_server_tab.html",
dict(server=server, tags=tags, nsxt_server=nsxt_server),
)
```

**VIEWS**

VIEWS generates the data that is being passed to the HTML template to consume

This tab extensions displays on ResourceHandler objects

This tab extensions displays on SERVER objects

**URLS**

URL file specifies which URL will trigger specified code, from the VIEWS file

```
./urls.py
xui_urlpatterns = [
url(
r"^add_security_tag/(?P<server_id>id+)/$",
add_security_tag,
name="add_security_tag",
),
url(
r"^remove_security_tag/(?P<server_id>id+)/tag/(?P<tag_name>[w-]+)/$",
remove_security_tag,
name="remove_security_tag",
),
]
```

This URL pattern is triggered when the "Add Security Tag" button is clicked

