

Enterprise Automation with AWX

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- Red Hat Practice Lead
- Sparksoft Corporation

Test Automation



DevSecOps Delivery



Data Science



Contact Center Operations



Enterprise Automation with AWX

(upstream for Ansible Automation Platform)

Agenda

What are we going to chat about?

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Agenda

- Introduction
- What is AWX
- Architecture
- Installation
- Login
- Organizations
- Users
- Credentials (Github)
- Setting up a ping Project
- Ping inventory
- Setting up ssh
- Setting up credentials

- Ping template
- Setting up Apache httpd project
- Web inventory
- Apache template
- Install Apache httpd
- Remove httpd
- MariaDB Project
- MariaDB Inventory
- MariaDB Template
- Install MariaDB
- Remove MariaDB
- Live demo (time permitting)



Introduction

Who am I?

I'm Thomas Cameron (he/him)

- Been working in tech since
 1993
- Started with Novell



 Worked at Microsoft during the Windows 95 launch



Worked at Red Hat for ~ 14 years.



Then went to AWS for 4 years



 Now Red Hat practice lead at Sparksoft Corporation



I'm Thomas Cameron (he/him)

- Community contact:
 - https://camerontech.com
 - thomas.cameron@camerontech.com
 - https://github.com/tdcam
- Professional contact:
 - https://sparksoftcorp.io
 - thomas.cameron@sparksoftcorp.com
 - https://linkedin.com/in/thomascameron

What is AWX

How does it relate to Ansible Automation Platform?

About AWX

- The AWX project—AWX for short—is an open source community project, sponsored by Red Hat, that enables users to better control their community Ansible project use in IT environments. AWX is the upstream project from which the automation controller component is ultimately derived. [1]
- AWX is the upstream project from which Red Hat builds their commercial product, Ansible Automation Platform (AAP).
- The UI you see is almost identical to AAP.
- The installation process is somewhat different, but not terribly

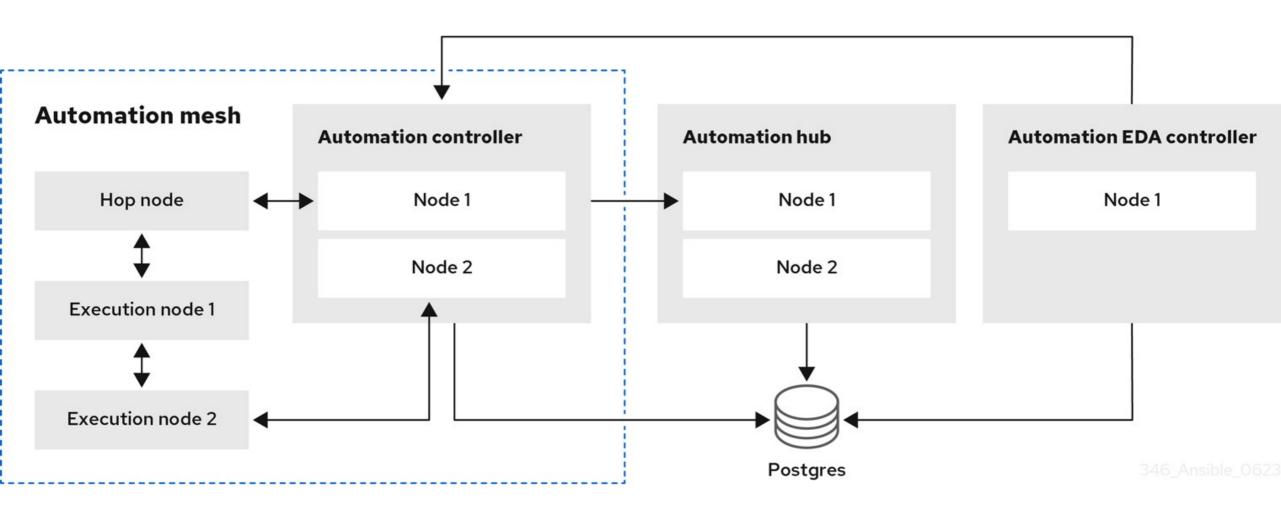
[1] https://www.ansible.com/faq

Architecture

How all this works together

Architecture

- Kubernetes based
- Containers for AWX management
- Containers for job management
- Containers for PostgreSQL
- Containers for the UI



https://access.redhat.com/documentation/en-us/red_hat_ansible_automation_platform/2.4/html/red_hat_ansible_automation_platform_planning_guide/aap_architecture

Installation

For single node

Installation

- I fought with AWX for WEEKS.
- Several resources indicate that it can be run on Fedora, RHEL/CentOS 8, and RHEL/CentOS 9.
- I was unable to get it to run on anything but RHEL8/CentOS Stream 8.

I used kurokobo's k3s method

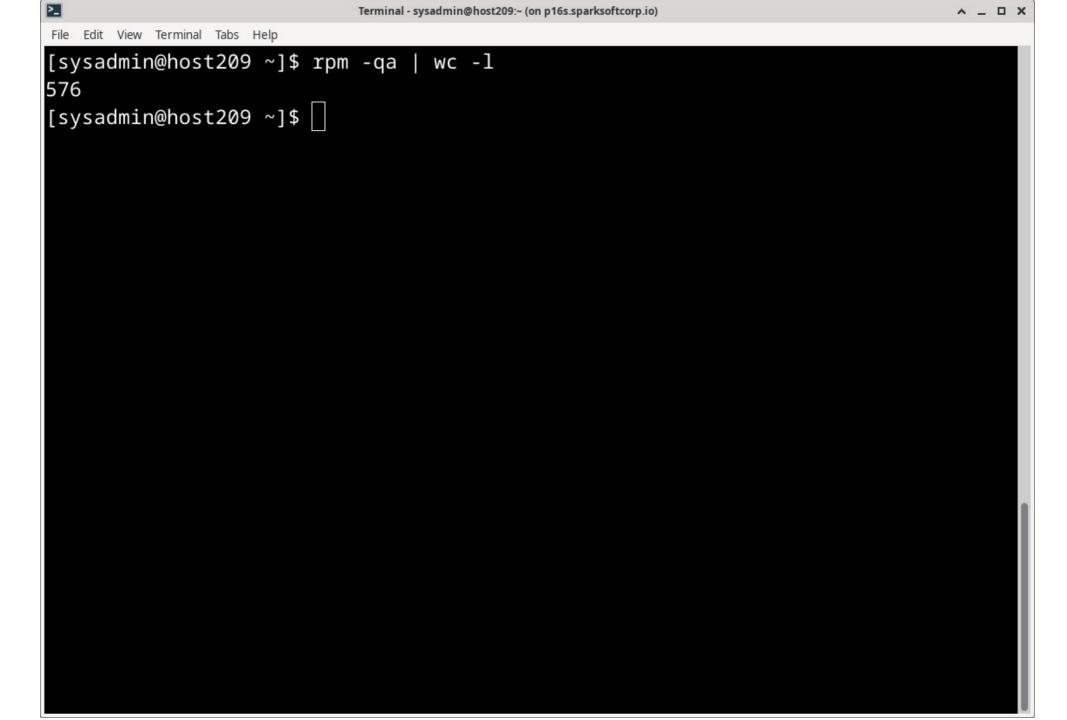
- I tried the AWX Operator and minikube kept hanging
- I tried the docker-compose developer's build and the container builds failed repeatedly
- Was finally told about https://github.com/kurokobo/awx-on-k3s and it ONLY worked on RHEL/Centos Stream 8 (not F39 or RHEL/CentOS Stream 9.

Base Install

I used a minimal installation of CentOS Stream

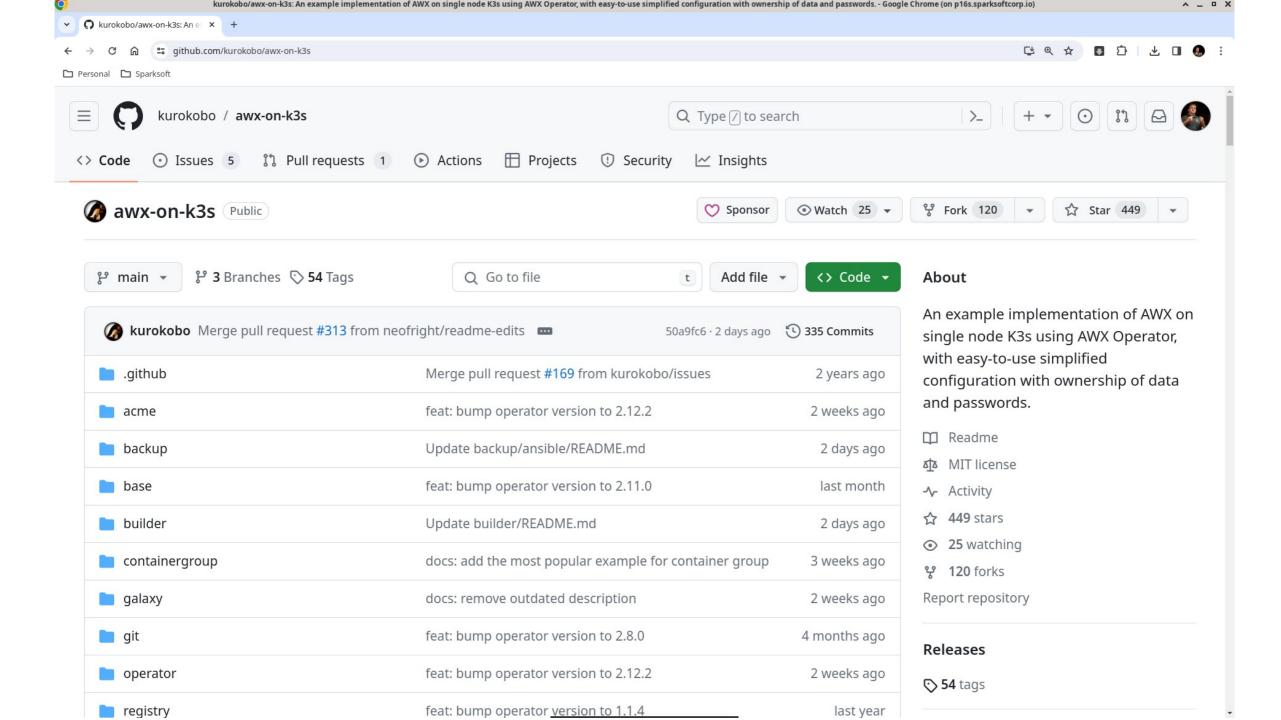
File Edit View Terminal Tabs Help [sysadmin@host209 ~]\$ sudo dnf grouplist Extra Packages for Enterprise Linux 8 - Next - 345 kB/s | 368 kB 00:01 Last metadata expiration check: 0:00:01 ago on Fri 15 Mar 2024 07:02:08 PM UTC. Available Environment Groups: Server with GUI Server Minimal Install Workstation KDE Plasma Workspaces Virtualization Host Custom Operating System Available Groups: Container Management .NET Core Development RPM Development Tools Development Tools **Graphical Administration Tools** Headless Management Legacy UNIX Compatibility Network Servers Scientific Support Security Tools Smart Card Support System Tools

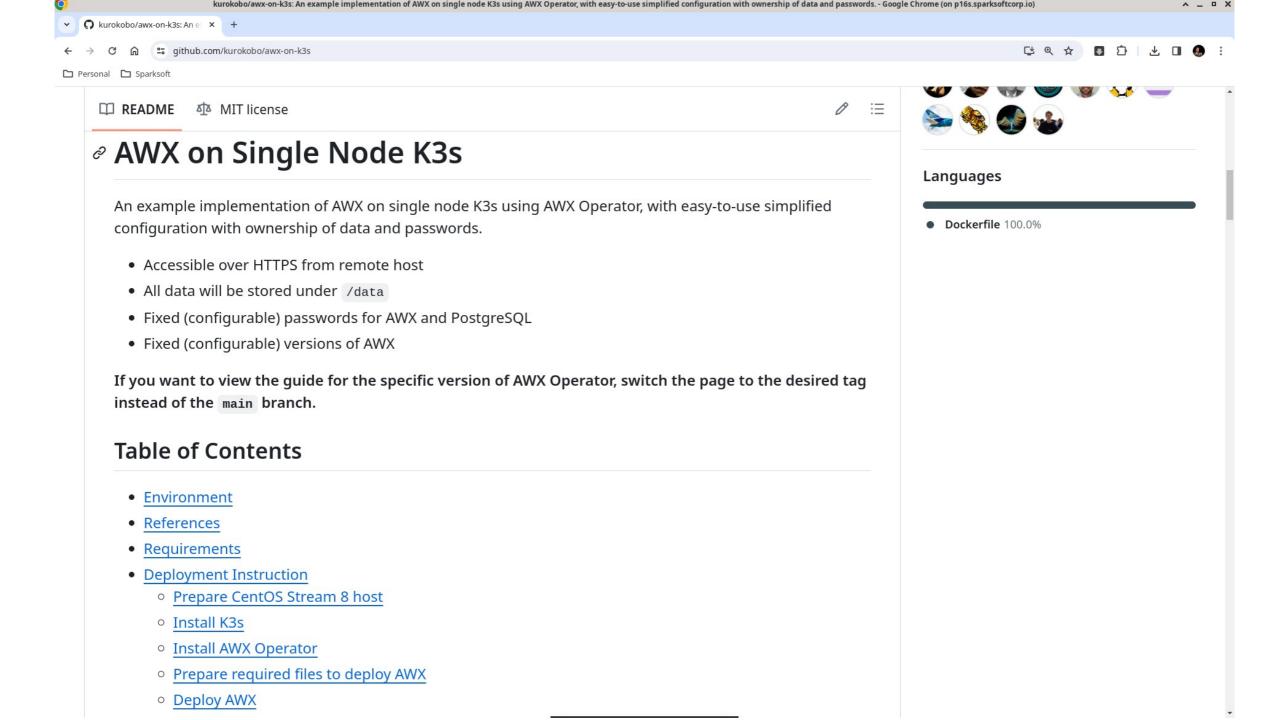
File Edit View Terminal Tabs Help Available Environment Groups: Server with GUI Server Minimal Install Workstation KDE Plasma Workspaces Virtualization Host Custom Operating System Available Groups: Container Management .NET Core Development RPM Development Tools Development Tools **Graphical Administration Tools** Headless Management Legacy UNIX Compatibility Network Servers Scientific Support Security Tools Smart Card Support System Tools Fedora Packager Xfce [sysadmin@host209 ~]\$

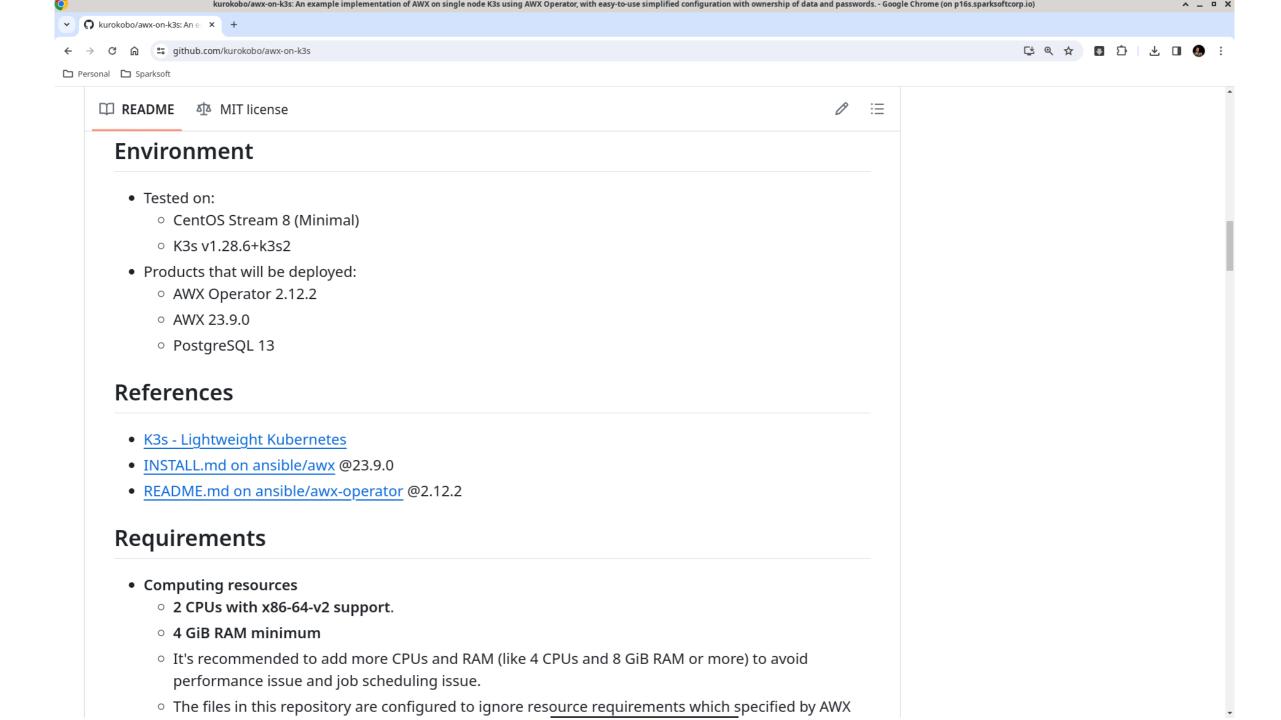


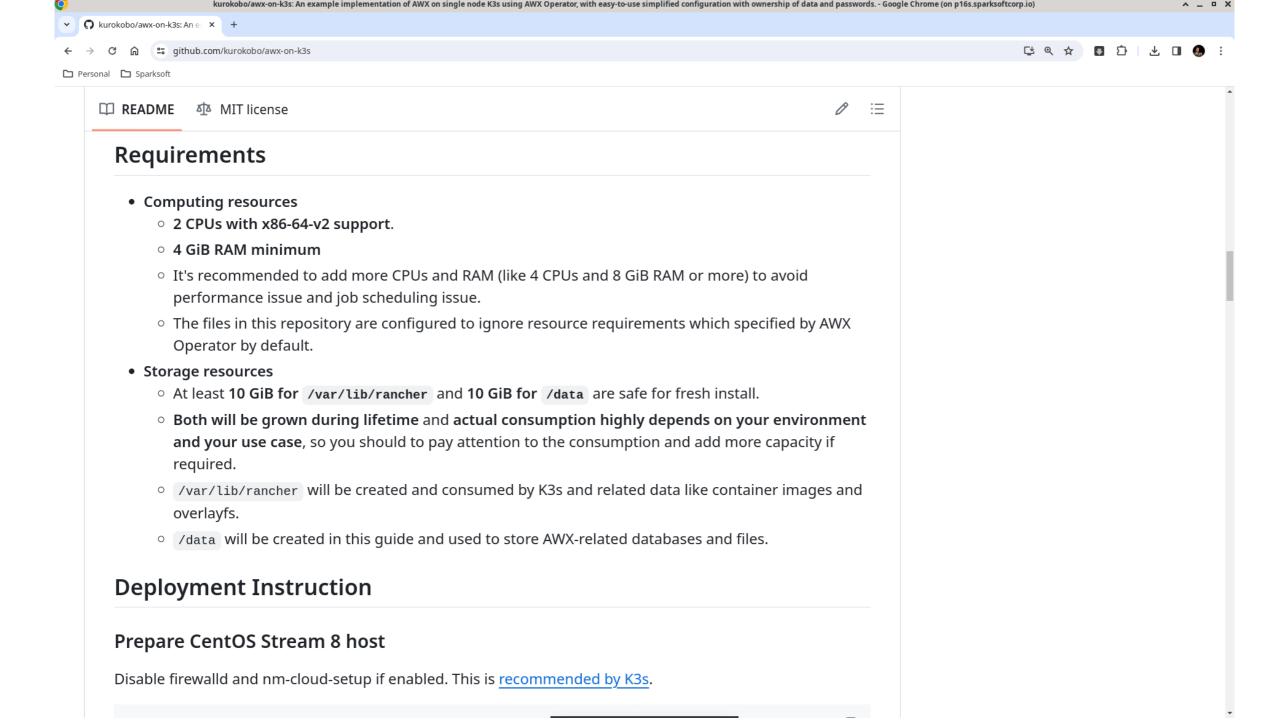
The git repo

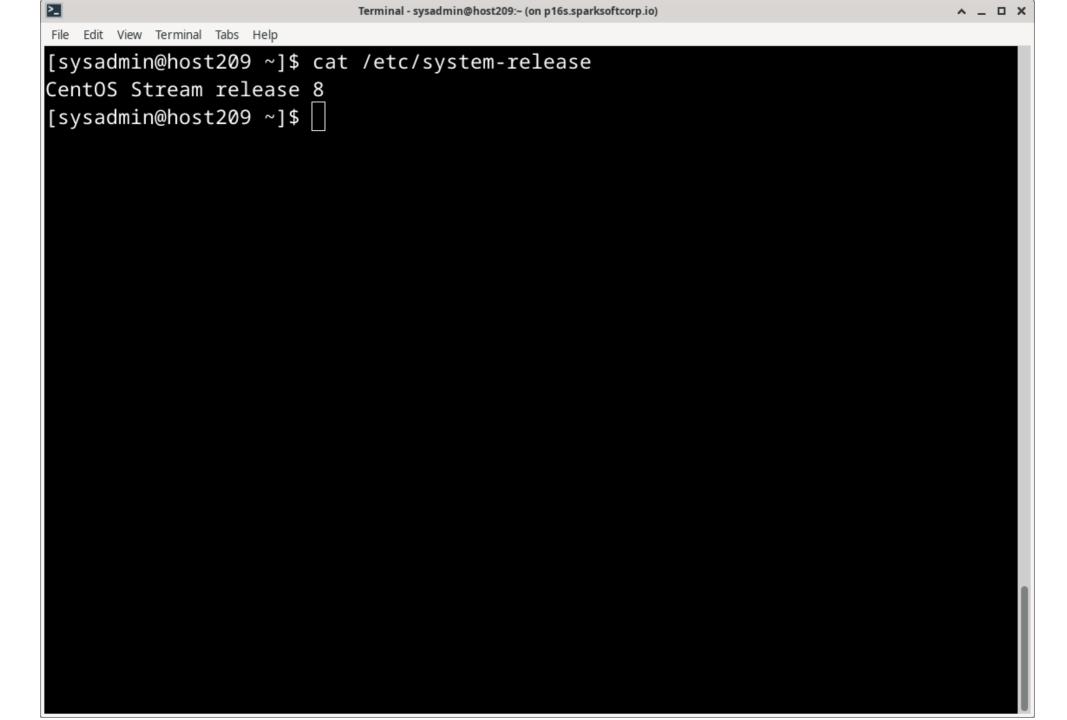
• https://github.com/kurokobo/awx-on-k3s

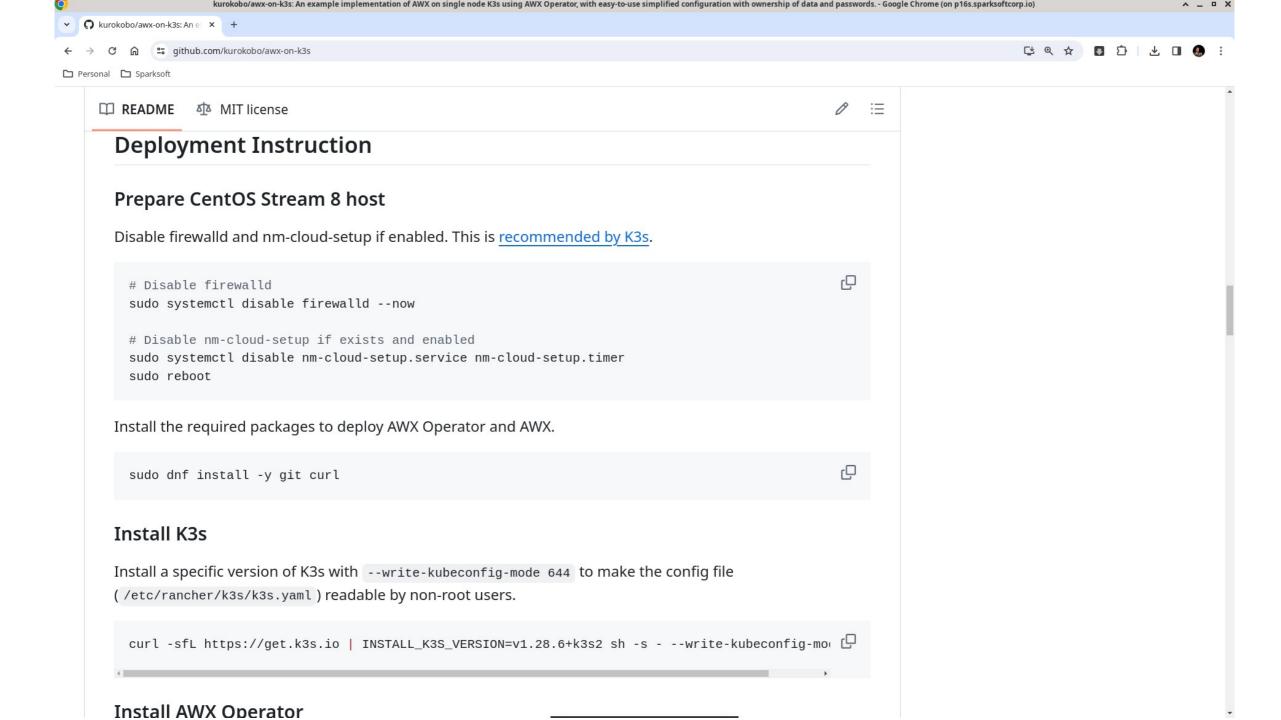


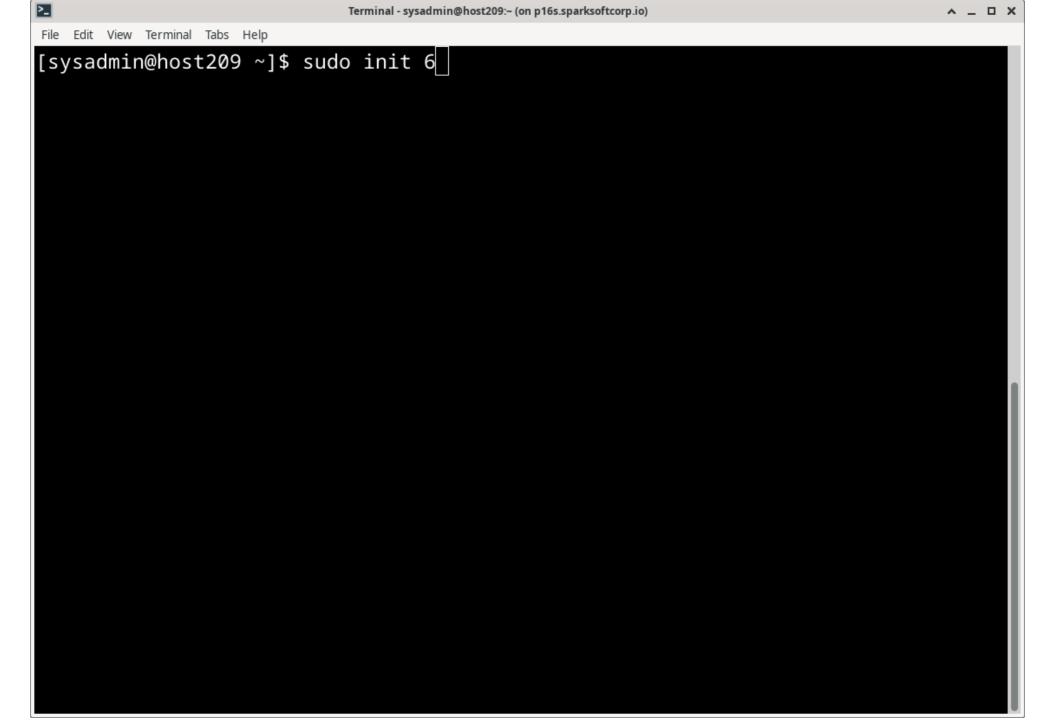






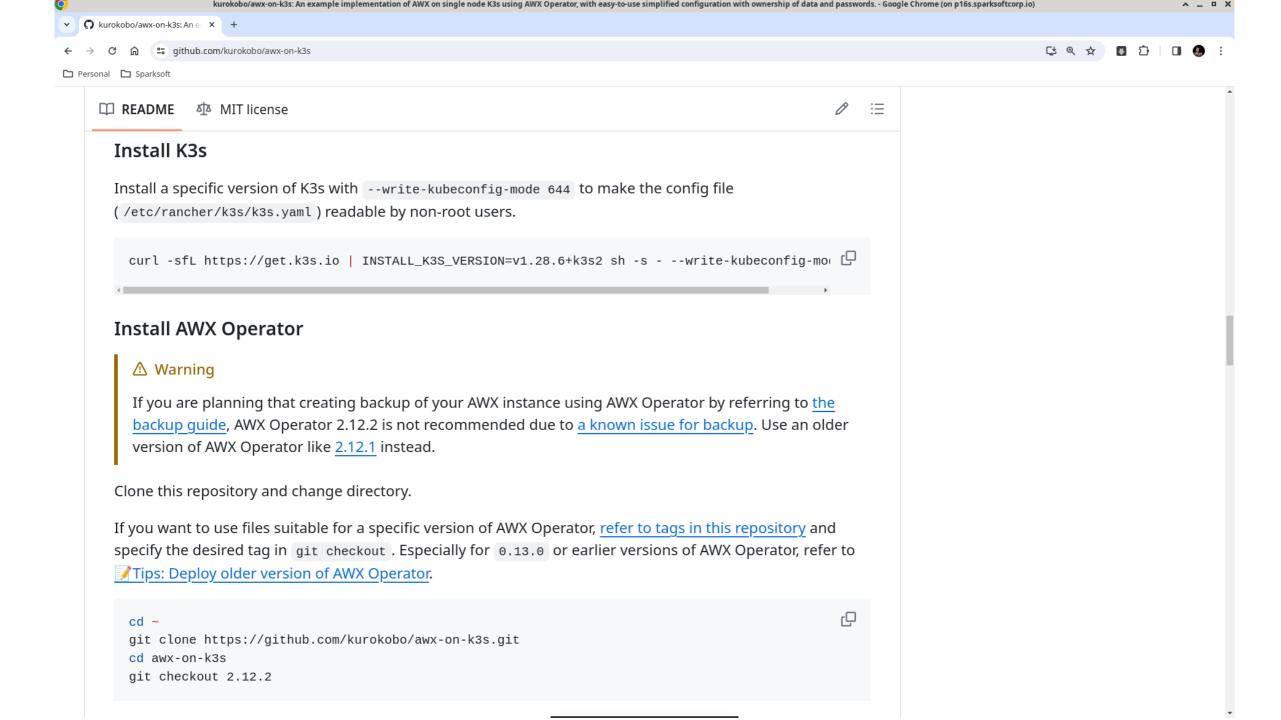






Installing k3s

- I totally understand why it installs this way, but...
 - Anyone else HATE mixing packaged software with downloaded zip files, shell scripts, etc?
 - Glaring at you, snap, flatpak, etc.



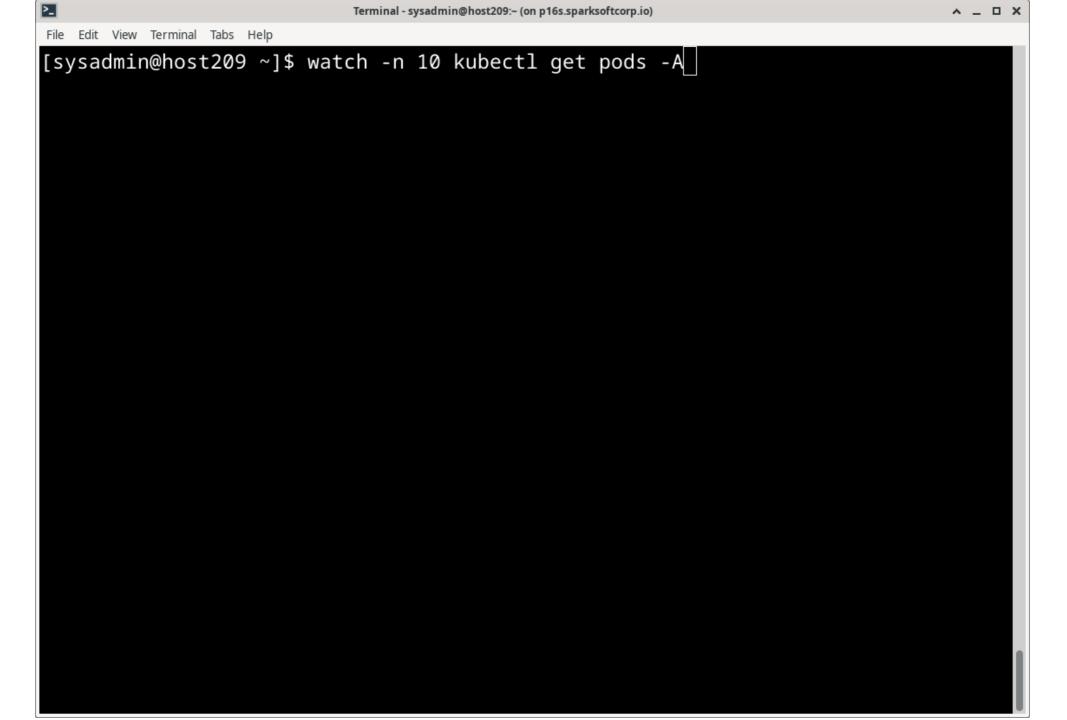
Installed:

Complete!

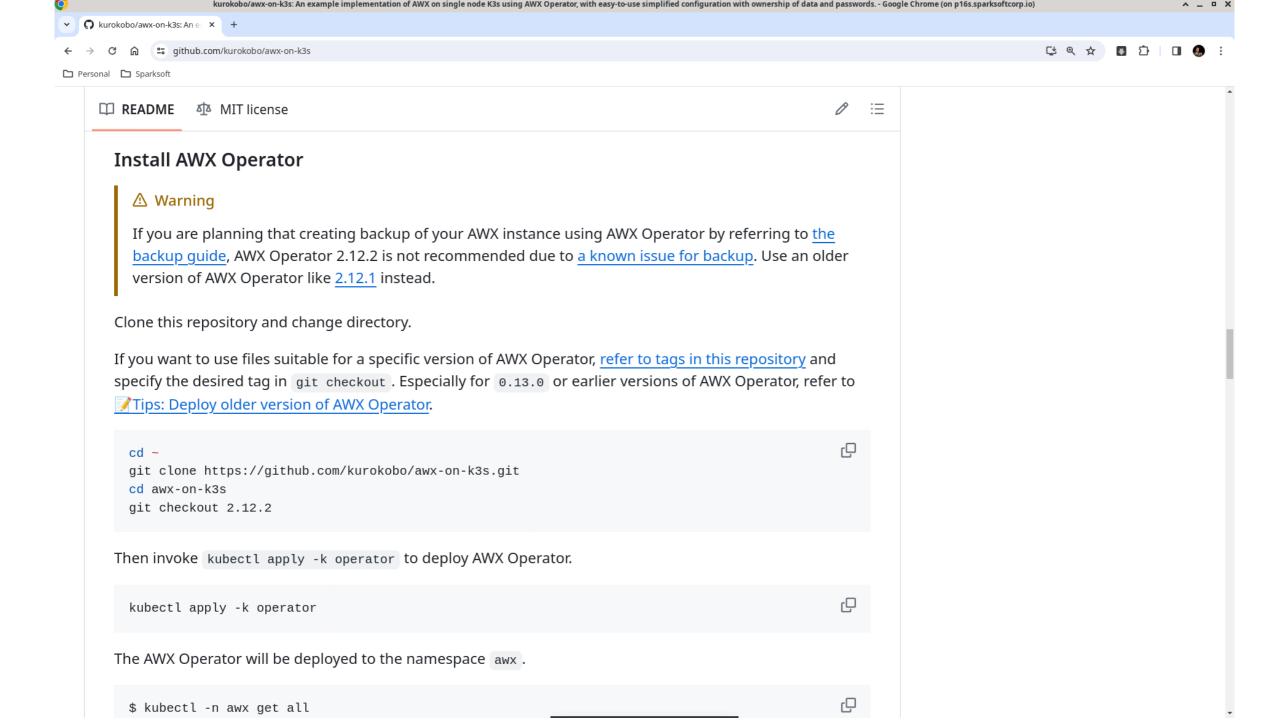
ystemd/system/k3s.service.

[sysadmin@host209 ~]\$

[INFO] systemd: Starting k3s



_	,			
File Edit View Termina	l Tabs Help			
Every 10.0s:	<pre>kubectl get pods -A host209.virtual.lan:</pre>	Fri Mar	15 19:31:23	2024
NAMECDACE	NAME	DEADY	CTATUS	DECT
NAMESPACE	NAME	READY	STATUS	REST
ARTS AGE				
kube-system 3m27s	local-path-provisioner-84db5d44d9-njsgm	1/1	Running	0
kube-system 3m27s	coredns-6799fbcd5-zdf6z	1/1	Running	0
kube-system 3m27s	metrics-server-67c658944b-2sdqw	1/1	Running	0
kube-system 3m27s	helm-install-traefik-crd-8fdz5	0/1	Completed	0
kube-system 3m27s	helm-install-traefik-b2ndr	0/1	Completed	1
kube-system 112s	svclb-traefik-a7122c19-j28lq	2/2	Running	0
kube-system 112s	traefik-f4564c4f4-fx8sn	1/1	Running	0



```
File Edit View Terminal Tabs Help
[sysadmin@host209 ~]$ mkdir -p Downloads/git
[sysadmin@host209 ~]$ cd Downloads/git
```

Cloning into 'awx-on-k3s'...

[sysadmin@host209 git]\$

```
[sysadmin@host209 git]$ git clone https://github.com/kurokobo/awx-on-k3s.git
remote: Enumerating objects: 1964, done.
remote: Counting objects: 100% (804/804), done.
remote: Compressing objects: 100% (332/332), done.
remote: Total 1964 (delta 483), reused 693 (delta 435), pack-reused 1160
Receiving objects: 100% (1964/1964), 495.47 KiB | 1.21 MiB/s, done.
Resolving deltas: 100% (1223/1223), done.
```

```
[sysadmin@host209 git]$ cd awx-on-k3s/
[sysadmin@host209 awx-on-k3s]$ git checkout 2.12.2
Note: switching to '2.12.2'.
```

You are in 'detached HEAD' state. You can look around, make experimental changes and commit them, and you can discard any commits you make in this state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using -c with the switch command. Example:

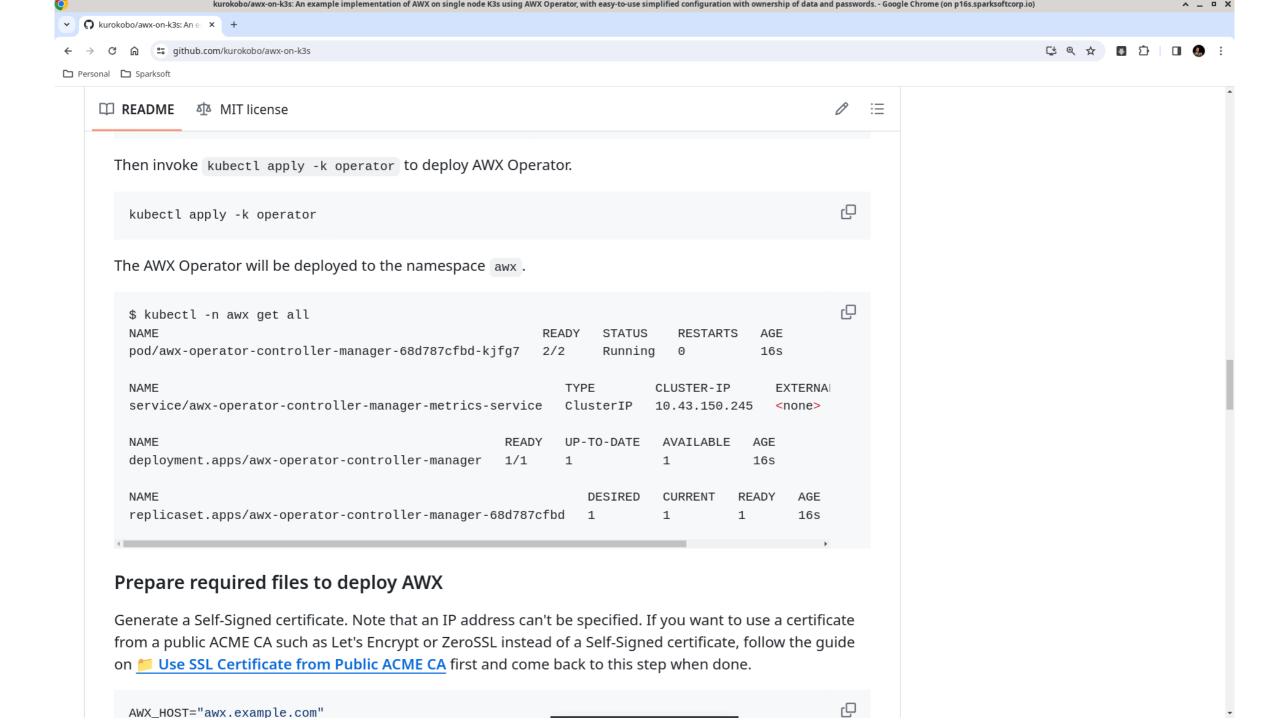
```
git switch -c <new-branch-name>
```

Or undo this operation with:

```
git switch -
```

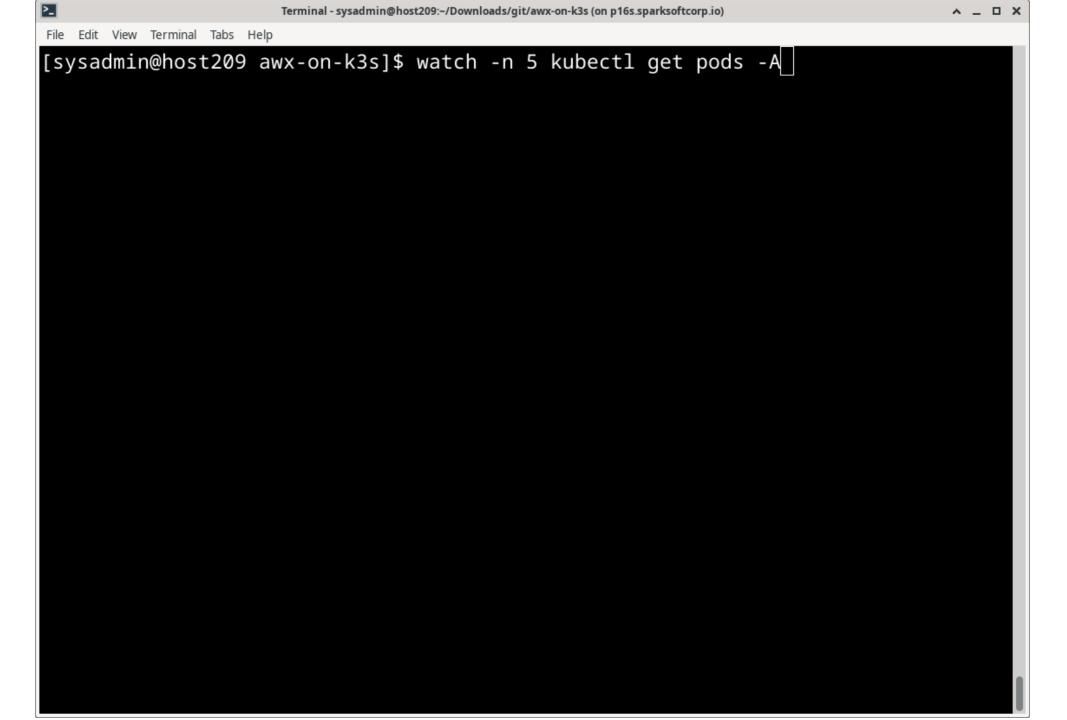
Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at 9c5df88 Merge pull request #312 from kurokobo/docs_misc [sysadmin@host209 awx-on-k3s]\$ |



[sysadmin@host209 awx-on-k3s]\$ kubectl apply -k operator namespace/awx created customresourcedefinition.apiextensions.k8s.io/awxbackups.awx.ansible.com created customresourcedefinition.apiextensions.k8s.io/awxmeshingresses.awx.ansible.com c reated customresourcedefinition.apiextensions.k8s.io/awxrestores.awx.ansible.com create customresourcedefinition.apiextensions.k8s.io/awxs.awx.ansible.com created serviceaccount/awx-operator-controller-manager created role.rbac.authorization.k8s.io/awx-operator-awx-manager-role created role.rbac.authorization.k8s.io/awx-operator-leader-election-role created clusterrole.rbac.authorization.k8s.io/awx-operator-metrics-reader created clusterrole.rbac.authorization.k8s.io/awx-operator-proxy-role created rolebinding.rbac.authorization.k8s.io/awx-operator-awx-manager-rolebinding creat ed rolebinding.rbac.authorization.k8s.io/awx-operator-leader-election-rolebinding c reated clusterrolebinding.rbac.authorization.k8s.io/awx-operator-proxy-rolebinding crea ted configmap/awx-operator-awx-manager-config created secret/redhat-operators-pull-secret created service/awx-operator-controller-manager-metrics-service created deployment.apps/awx-operator-controller-manager created [sysadmin@host209 awx-on-k3s]\$

File Edit View Termin	al labs Help					
[sysadmin@ho	st209 awx-on-k3s]\$ kubectl get pods -A					
NAMESPACE	NAME	READY	STATUS			
	RESTARTS AGE					
kube-system	local-path-provisioner-84db5d44d9-njsgm	1/1	Running			
	0 12m					
kube-system	coredns-6799fbcd5-zdf6z	1/1	Running			
	0 12m					
kube-system	metrics-server-67c658944b-2sdqw	1/1	Running			
	0 12m					
kube-system	helm-install-traefik-crd-8fdz5	0/1	Complet			
ed	0 12m					
,	helm-install-traefik-b2ndr	0/1	Complet			
ed	1 12m					
kube-system	svclb-traefik-a7122c19-j28lq	2/2	Running			
	0 10m					
kube-system	traefik-f4564c4f4-fx8sn	1/1	Running			
	0 10m					
awx	awx-operator-controller-manager-589cdd869b-7ttgf	0/2	Contain			
erCreating	0 31s					
[sysadmin@host209 awx-on-k3s]\$						



rile Eu	it view ierriii	iai iaus neip				
Every	y 5.0s:	kubectl get pods -A hos	st209.virtual.lan:	Fri Mar	15 19:42	:52 2024
NAMES	SPACE	NAME			READY	STATUS
	RESTART	S AGE				
kube	-system	local-path-provisioner-8	84db5d44d9-njsgm		1/1	Running
	0	14m				
kube-	-system	coredns-6799fbcd5-zdf6z			1/1	Running
	0	14m				
kube-	-system	metrics-server-67c658944	4b-2sdqw		1/1	Running
	0	14m				
kube-	-system	helm-install-traefik-cro	d-8fdz5		0/1	Complet
ed	0	14m				
kube-	-system	helm-install-traefik-b2m	ndr		0/1	Complet
ed	1	14m				
kube-	-system	svclb-traefik-a7122c19-	j281q		2/2	Running
	0	13m				
kube-	-system	traefik-f4564c4f4-fx8sn			1/1	Running
	0	13m				J
awx		awx-operator-controller-	-manager-589cdd869l	o-7ttgf	2/2	Running
	0	3m24s				J

File Edit View Terminal Tabs Help [sysadmin@host209 av

[sysadmin@host209 awx-on-k3s]\$ kubectl -n awx get all

NAME READY STATUS RESTARTS AGE

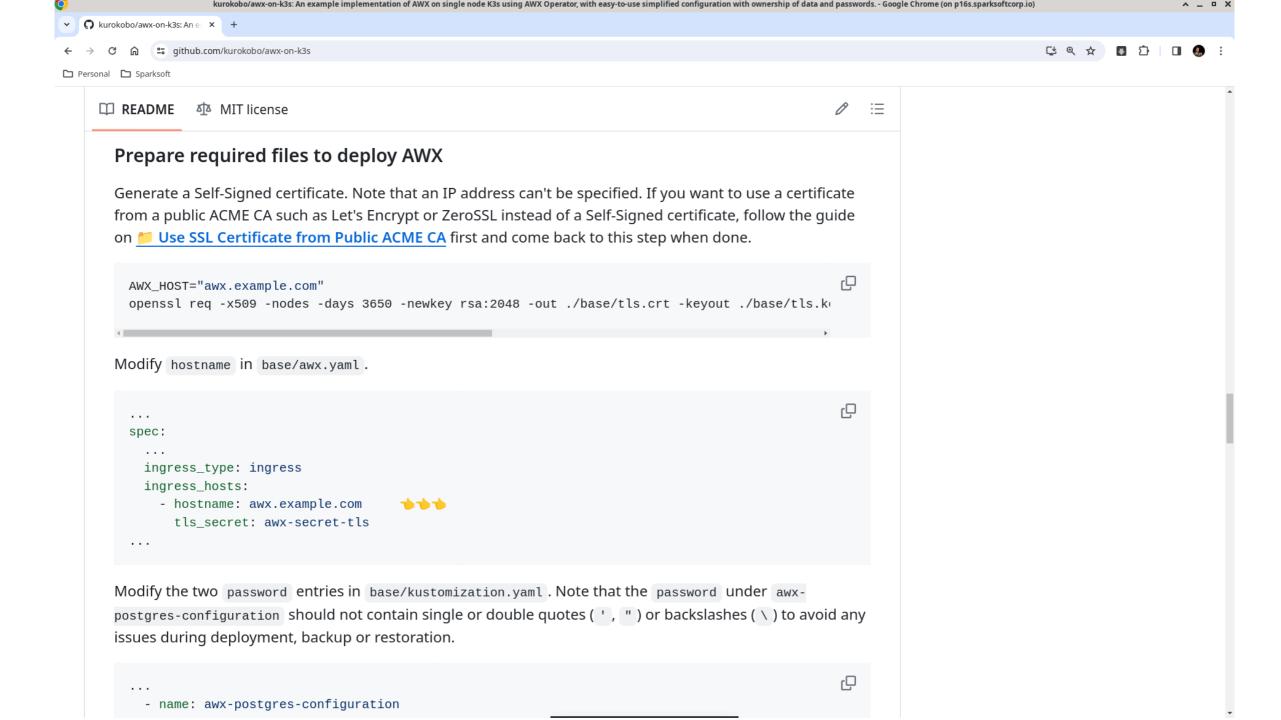
pod/awx-operator-controller-manager-589cdd869b-7ttgf 2/2 Running 0 8m24s

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE service/awx-operator-controller-manager-metrics-service ClusterIP 10.43.79.251 <none> 8443/TCP 8m24s

NAME READY UP-TO-DATE AVAILABLE AGE deployment.apps/awx-operator-controller-manager 1/1 1 8m24s

NAME DESIRED CURRENT READY AGE replicaset.apps/awx-operator-controller-manager-589cdd869b 1 1 1 8m24s

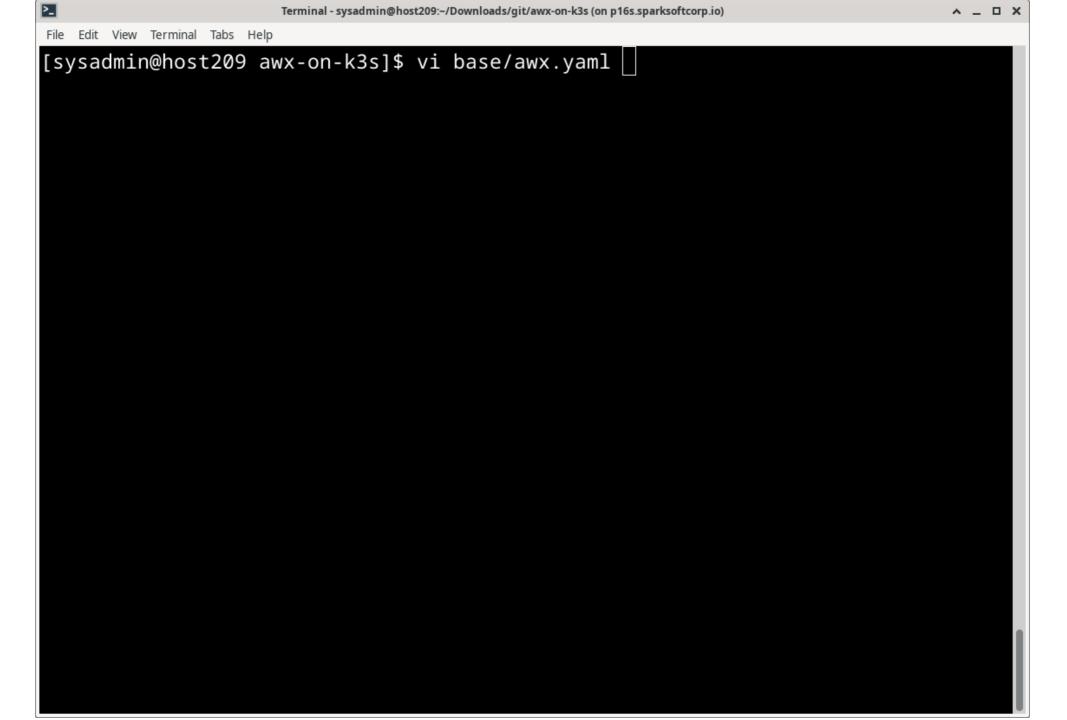
[sysadmin@host209 awx-on-k3s]\$



```
[sysadmin@host209 awx-on-k3s]$ hostname
host209.virtual.lan
[sysadmin@host209 awx-on-k3s]$ hostname -s
host209
[sysadmin@host209 awx-on-k3s]$ cat /etc/hostname
host209.virtual.lan
[sysadmin@host209 awx-on-k3s]$ ping -c 1 host209.virtual.lan
PING host209.virtual.lan (192.168.122.209) 56(84) bytes of data.
64 bytes from host209 (192.168.122.209): icmp_seq=1 ttl=64 time=0.082 ms
--- host209.virtual.lan ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.082/0.082/0.082/0.000 ms
[sysadmin@host209 awx-on-k3s]$ ping -c 1 host209
PING host209.virtual.lan (192.168.122.209) 56(84) bytes of data.
64 bytes from host209 (192.168.122.209): icmp_seq=1 ttl=64 time=0.065 ms
--- host209.virtual.lan ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.065/0.065/0.065/0.000 ms
[sysadmin@host209 awx-on-k3s]$
```

[sysadmin@host209 awx-on-k3s]\$ cat base/tls.key ----BEGIN PRIVATE KEY----

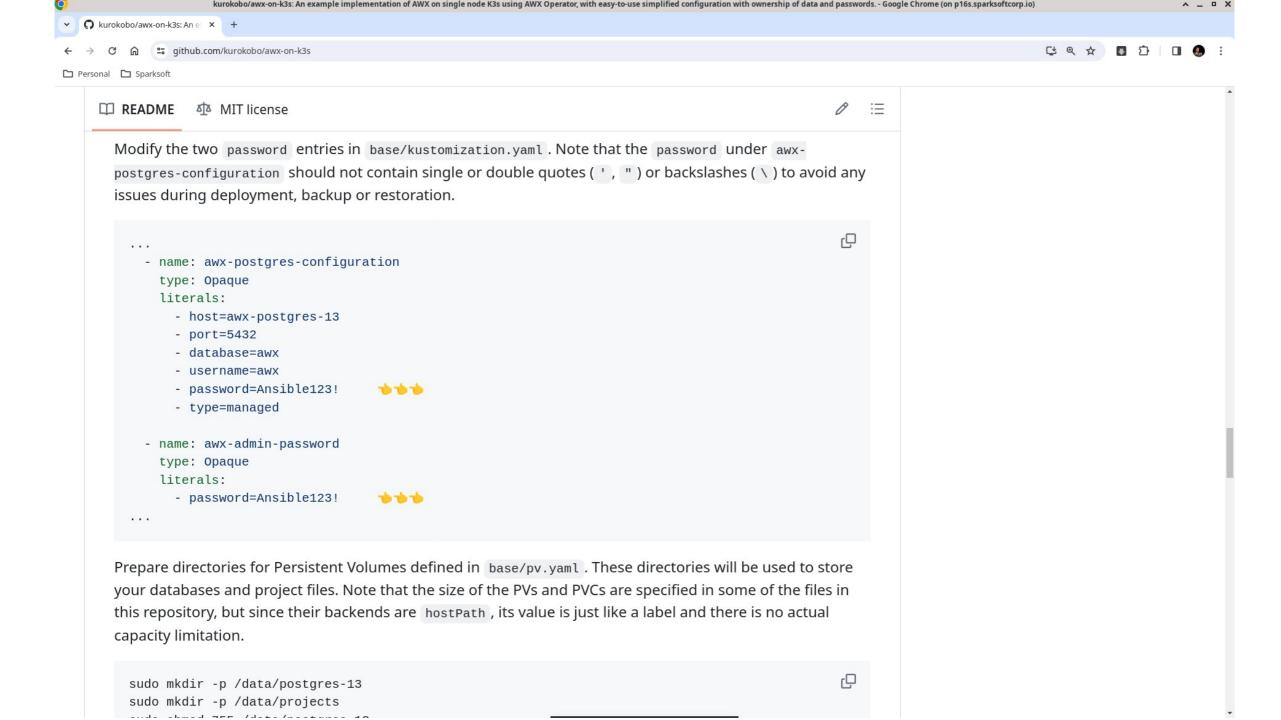
MIIEvAIBADANBgkghkiG9w0BAQEFAASCBKYwggSiAgEAAoIBAQDEJ8tGvf8AR3A2 fhnAaV1pHknS6ooGXwr5BqaKAojd8ro1thv+tMvMLqKnIWED/RQ8hIfx8fxCtGEb Aiqd7LijPZmt1fHahAwQwv4lVuHvJS6belltwXV5giWCSAXBX3W5TROqgwL784Dl bLMCUWDupTrHrpw8XKXYNrU7GTUegqePUcx2UrXAgs0WKgTusbBxHLkyFFfYDtPg o0jAk91N6ULqfDin7BbDcYr1XaWe9KCsAoJo9JVU3G97cJE0z6onggYs/klwgLq9 8IlOgCnOMTF+QNj6S11cjkVF4f2kjfxvJrLjaDaaLccN/RcS2hxw9WIPQg0wRwGy 2Es9OfQ3AgMBAAECggEAVzbmT97cSXB5+RCaPI3chYd9BXVYxzps84o8c/JqjlyE 5KrCyb3z0yalFTBnJVHaNIoss6uHINV4s3yEHFGLSrFx6fPNI/5AKxe3zjxSGnVq wqBksMMqi0sNiF6jiHX8LtaRXuf/ZKzA68En2mj6c0Et4GjHeKMs7fRtIqi0MIrZ Uvk9Yy9d/Hp7rUS4NBmLumrXc5Ou1B95Gcvwaaa4xX32NIIFGNZbPUBK4Ld9FSNO XUQ+q/Ip3uQt1gkMBNVjhyJG7GNDTjUPKnj1c0IhqHcdJK8uLgo0z4ebUlgmvzUD gWaVCjaQiY5ljOAT7bD92BznBFwhjdyjB4w5JfaM2QKBgQDwvTVDcRMBREIyjCMv Jw1lR0DkjlscmYmt7lKc0oUGuqXuOb5givlrtsPhqm6v72AQbh4fah/mf2D5p3yt abKEee+BMsDkDaYH5fHi/85fvkmh53GqWwu9YUUQ0IivV7EOca3h2ofvRMz1BD5H +1N0OVDRIRQKUzEQVHJnMKRJuwKBgQDQlxFvnjKGeig6u5qjRhNlcPIe2wbmd1DI 6i3ulsOoOt/qwoD7XJX/j3sMCpgbtnJ4rJDzmkqPLeqbk8ab5yUNCfiNr9WAbrhj Vtsc8c8vrbGWHBUHISEvP6jfC+JDCLvWWEKh9IGMCy048KGFGAcI2Q+E9lcTRCM+ uSZW36rJtQKBgAH/kBGfPqkkB+ijgSdDC7lrff5nsBnsrFflQopKtQ/5PKddk1b5 ØFg0jCuzXnfXZNS+FUHtf5ZK0GPaIA7QccrnuDU6Vp+N/XLTVc6sk0n6imHtqePg HZjU1d3t3TSXZcDY8LiPN9GkoI7oGhw+2dJ9J06VF7V+00oHaWux26tBAoGARHcB YxiSzu7zm2uOcz8CCM7MufH8TtMk8f1jfCeCKwrACmczPM4D8fEfWzFzAc2dvxwt K7gd9ucEVXJowy1YTPJT4fWv50rwPLL6koKQFb82ReYLxN5L7R1BCYz2BDiupskr

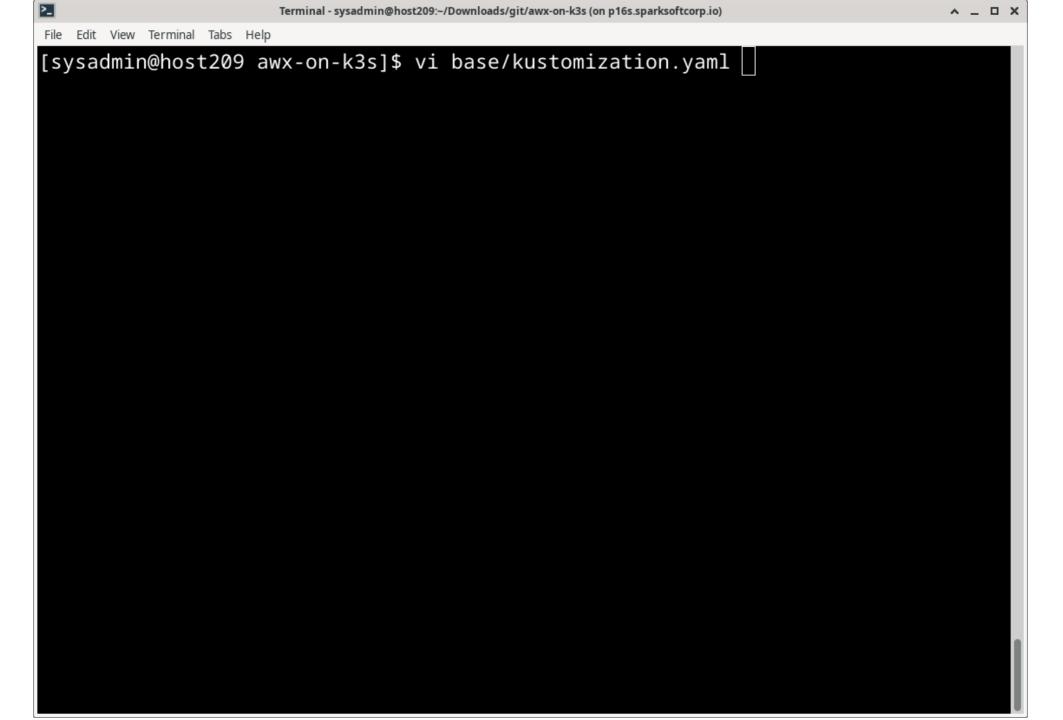


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Top

Top





- name: awx-secret-tls
 type: kubernetes.io/tls
 files:
 - tls.crt
 - tls.key
- name: awx-postgres-configuration

type: Opaque

literals:

- host=awx-postgres-13
- port=5432
- database=awx
- username=awx
- password=Ansible123!
- type=managed
- name: awx-admin-password

type: Opaque

literals:

password=Ansible123!

If you want to specify SECRET_KEY for your AWX manually, uncomment following lines and change the value.

```
Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)
File Edit View Terminal Tabs Help
      - tls.crt
      - tls.key
  - name: awx-postgres-configuration
    type: Opaque
    literals:
      - host=awx-postgres-13
      - port=5432
      database=awx
      username=awx
      - password=20Sparksoft24!

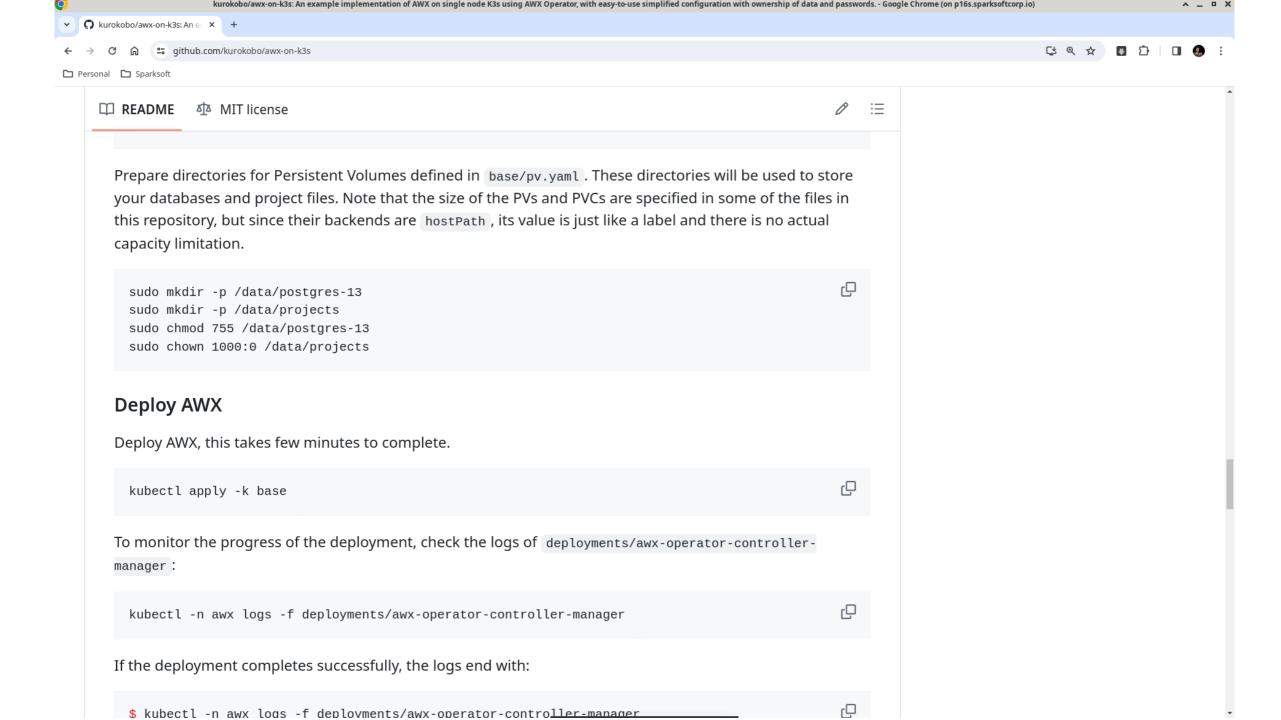
    type=managed

  - name: awx-admin-password
    type: Opaque
    literals:
      - password=20Sparksoft24!
 # If you want to specify SECRET_KEY for your AWX manually, uncomment following
 lines and change the value.
  # Refer AAC documentation for detail about SECRET_KEY.
  # https://docs.ansible.com/automation-controller/latest/html/administration/se
cret_handling.html
```

-- INSERT --

29,32

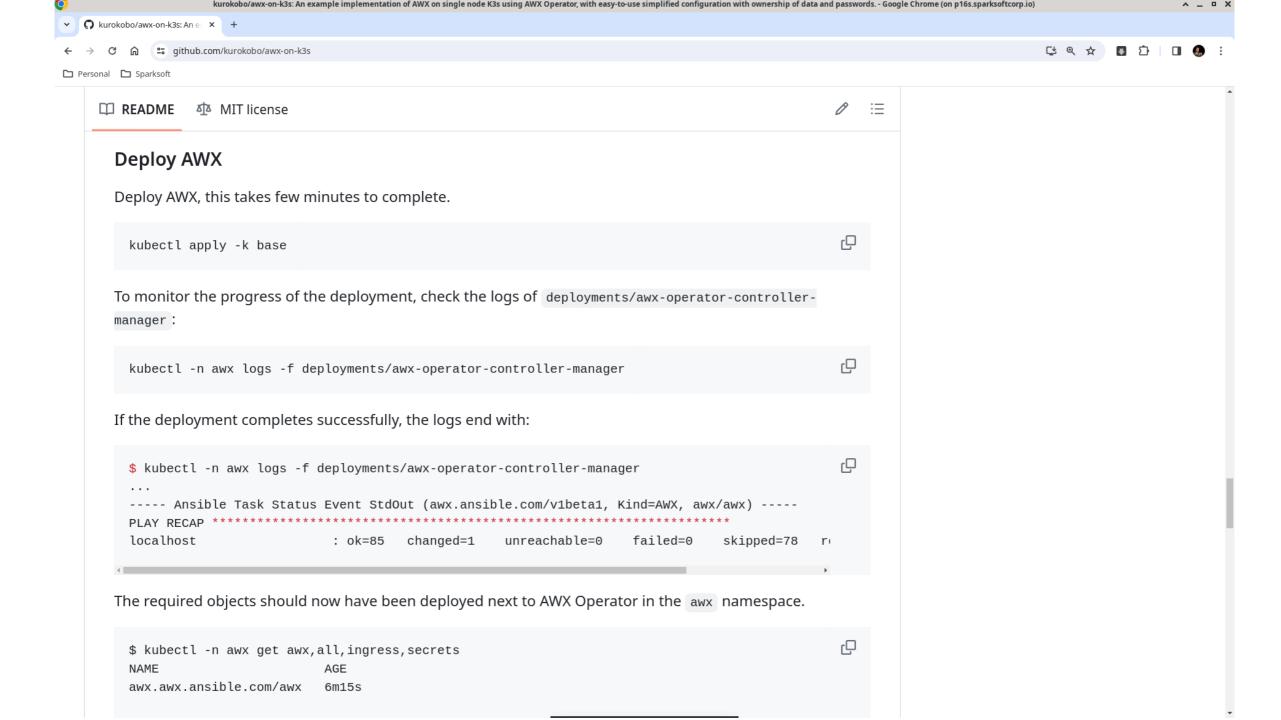
57%

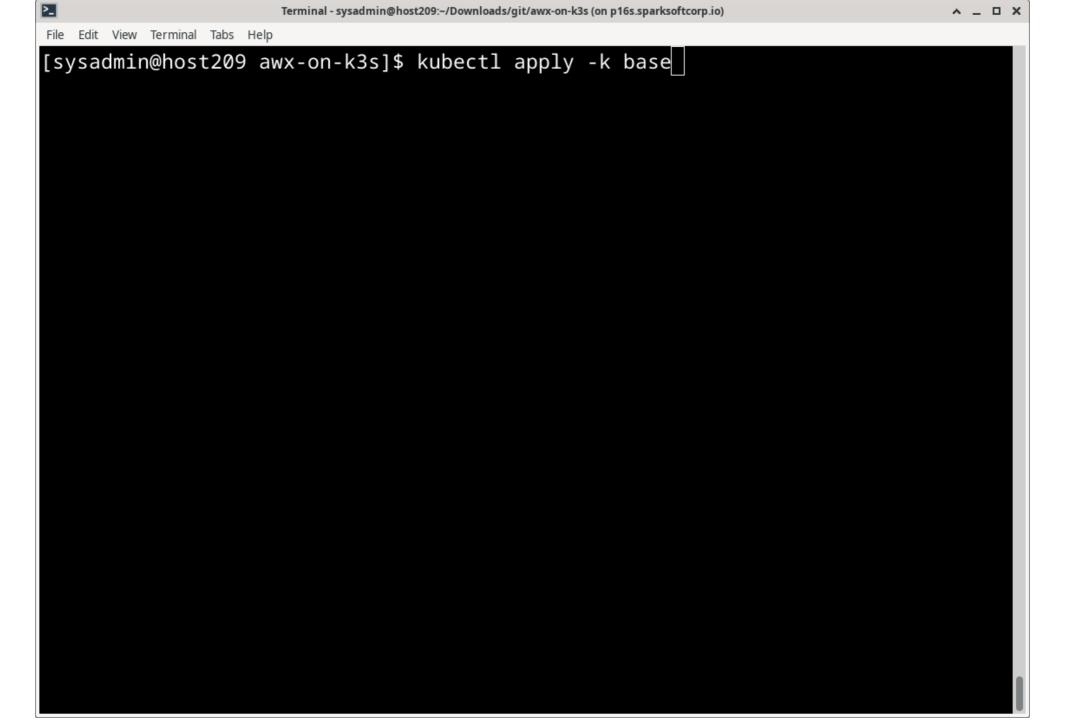


```
Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)
File Edit View Terminal Tabs Help
apiVersion: v1
kind: PersistentVolume
metadata:
  name: awx-postgres-13-volume
spec:
  accessModes:
    - ReadWriteOnce
  persistentVolumeReclaimPolicy: Retain
  capacity:
    storage: 8Gi
  storageClassName: awx-postgres-volume
  hostPath:
    path: /data/postgres-13
apiVersion: v1
kind: PersistentVolume
metadata:
  name: awx-projects-volume
spec:
  accessModes:
    - ReadWriteOnce
base/pv.yaml
```

```
File Edit View Terminal Tabs Help
[sysadmin@host209 awx-on-k3s]$ ls -ld /data/
drwxr-xr-x. 4 root root 41 Mar 15 20:01 /data/
[sysadmin@host209 awx-on-k3s]$ ls -l /data/
total 0
```

```
[sysadmin@host209 awx-on-k3s]$ sudo mkdir -p /data/postgres-13
[sysadmin@host209 awx-on-k3s]$ sudo mkdir -p /data/projects
[sysadmin@host209 awx-on-k3s]$ sudo chmod 755 /data/postgres-13
[sysadmin@host209 awx-on-k3s]$ sudo chown 1000:0 /data/projects
drwxr-xr-x. 2 root root 6 Mar 15 20:01 postgres-13
drwxr-xr-x. 2 sysadmin root 6 Mar 15 20:01 projects
[sysadmin@host209 awx-on-k3s]$
```





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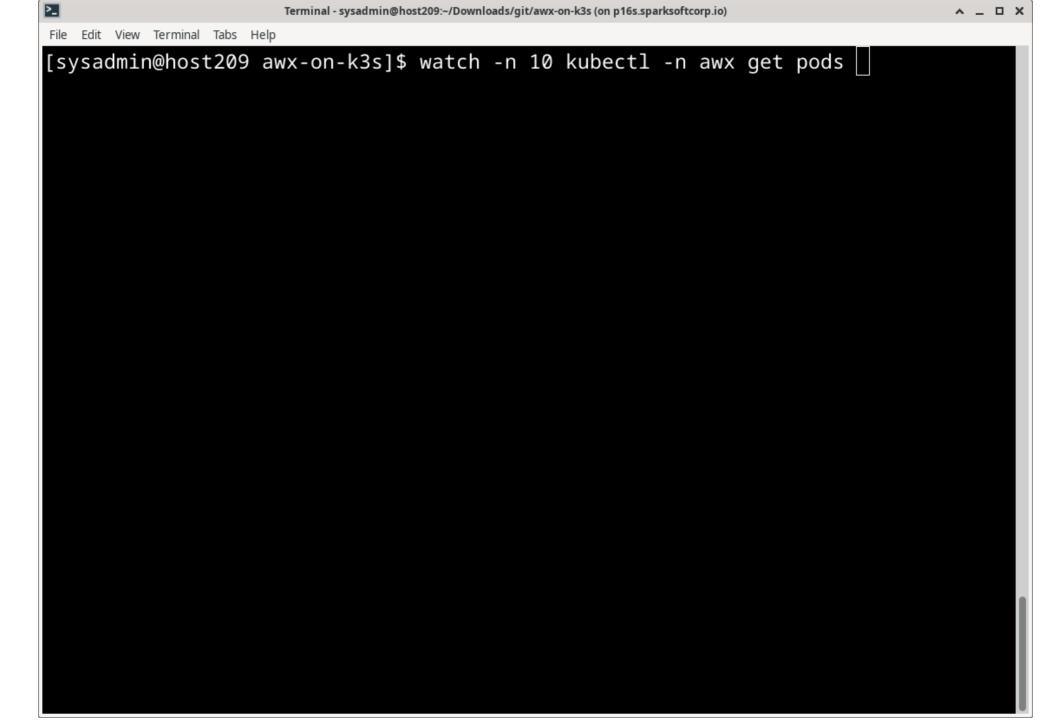
[sysadmin@host209 awx-on-k3s]\$ kubectl apply -k base secret/awx-admin-password created secret/awx-postgres-configuration created secret/awx-secret-tls created persistentvolume/awx-postgres-13-volume created persistentvolume/awx-projects-volume created persistentvolumeclaim/awx-projects-claim created awx.awx.ansible.com/awx created [sysadmin@host209 awx-on-k3s]\$

^ _ D X Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io) File Edit View Terminal Tabs Help [sysadmin@host209 awx-on-k3s]\$ kubectl -n awx logs -f deployments/awx-operator-c ontroller-manager {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"cmd","msg":"Version","Go V ersion":"go1.20.12","G00S":"linux","G0ARCH":"amd64","ansible-operator":"v1.34.0" ,"commit":"d26c43bf94960d292152862a6685696be33190fb"} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"cmd","msg":"Watching names paces","namespaces":["awx"]} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"watches","msg":"Environmen t variable not set; using default value","envVar":"ANSIBLE_VERBOSITY_AWX_AWX_ANS IBLE_COM","default":2} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"watches","msg":"Environmen t variable not set; using default value","envVar":"ANSIBLE_VERBOSITY_AWXBACKUP_A WX_ANSIBLE_COM","default":2} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"watches","msg":"Environmen t variable not set; using default value","envVar":"ANSIBLE_VERBOSITY_AWXRESTORE_ AWX_ANSIBLE_COM","default":2} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"watches","msg":"Environmen t variable not set; using default value","envVar":"ANSIBLE_VERBOSITY_AWXMESHINGR ESS_AWX_ANSIBLE_COM","default":2} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"ansible-controller","msg": "Watching resource","Options.Group":"awx.ansible.com","Options.Version":"v1beta1

", "Options.Kind": "AWX"} {"level":"info","ts":"2024-03-15T20:06:21Z","logger":"ansible-controller","msg": "Watching resource", "Options.Group": "awx.ansible.com", "Options.Version": "v1beta1

2	Terminal - sysadmin@	host209:–/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)		^ _ D X
File Edit View Termin	al Tabs Help			
[sysadmin@ho	st209 awx-on-k3s]	\$ kubectl get pods -A		
NAMESPACE	NAME		READY	STATUS
	RESTARTS /	AGE		
kube-system	helm-install-tra	aefik-b2ndr	0/1	Complet
ed	1	40m		
kube-system	helm-install-tra	aefik-crd-8fdz5	0/1	Complet
ed	0	40m		
kube-system	local-path-prov	isioner-84db5d44d9-njsgm	1/1	Running
	1 (2m38s ago)	40m		
kube-system	coredns-6799fbc	d5-zdf6z	1/1	Running
	1 (2m38s ago) 4	40m		
kube-system	svclb-traefik-a	7122c19-j28lq	2/2	Running
	2 (2m38s ago)	39m		
kube-system	traefik-f4564c4	f4-fx8sn	1/1	Running
	1 (2m38s ago)	39m		
awx	awx-operator-co	ntroller-manager-589cdd869b-7ttgf	2/2	Running
	2 (2m38s ago) 2	29m		
kube-system	metrics-server-6	67c658944b-2sdqw	1/1	Running
	1 (2m38s ago)	40m		
awx	awx-postgres-13	-0	0/1	Contain
erCreating		44 <u>s</u>		
[sysadmin@ho	st209 awx-on-k3s]	\$		

```
TASK [installer : Apply deployment resources] ***************************
task path: /opt/ansible/roles/installer/tasks/resources_configuration.yml:248
{"level":"info","ts":"2024-03-15T20:09:58Z","logger":"proxy","msg":"Cache miss:
apps/v1, Kind=Deployment, awx/awx-task"}
{"level":"info","ts":"2024-03-15T20:09:58Z","logger":"proxy","msg":"Cache miss:
apps/v1, Kind=Deployment, awx/awx-task"}
{"level":"info","ts":"2024-03-15T20:09:58Z","logger":"proxy","msg":"Injecting ow
ner reference"}
{"level":"info","ts":"2024-03-15T20:09:58Z","logger":"proxy","msg":"Watching chi
ld resource","kind":"apps/v1, Kind=Deployment","enqueue_kind":"awx.ansible.com/v
1beta1, Kind=AWX"}
{"level":"info","ts":"2024-03-15T20:09:58Z","msg":"Starting EventSource","contro
ller":"awx-controller","source":"kind source: *unstructured.Unstructured"}
{"level":"info","ts":"2024-03-15T20:09:58Z","logger":"proxy","msg":"Cache miss:
apps/v1, Kind=Deployment, awx/awx-task"}
{"level":"info","ts":"2024-03-15T20:10:03Z","logger":"proxy","msg":"Read object
from cache","resource":{"IsResourceRequest":true,"Path":"/apis/apps/v1/namespace
s/awx/deployments/awx-task","Verb":"get","APIPrefix":"apis","APIGroup":"apps","A
PIVersion":"v1","Namespace":"awx","Resource":"deployments","Subresource":"","Nam
e":"awx-task","Parts":["deployments","awx-task"]}}
```



File Edit View Terminal Tabs Help			
Every 10.0s: kubectl -n awx ge host209.virtual	.lan: Fr	i Mar 15 20:16:32	2024
NAME	READY	STATUS	RES
TARTS AGE			
awx-operator-controller-manager-589cdd869b-7ttgf	2/2	Running	2 (
10m ago) 37m			
awx-postgres-13-0	1/1	Running	0
8m21s			
awx-task-64b7645886-gsfkl	0/4	PodInitializing	0
6m34s			
awx-web-986fc97fd-tbkpx	0/3	PodInitializing	0
4m33s			

File Edit View Terminal Tabs Help

Every 10.0s: kubectl -n awx ge host209.virtual	.lan: Fr	i Mar 15 2	20:20:57 2024
NAME	READY	STATUS	RESTARTS
AGE awx-operator-controller-manager-589cdd869b-7ttgf	2/2	Running	2 (14m ago)
41m	1 / 1	Dunaina	
awx-postgres-13-0 12m	1/1	Running	0
awx-web-986fc97fd-tbkpx	3/3	Running	0
8m58s awx-task-64b7645886-gsfkl	4/4	Running	0
10m			

File Edit View Terminal Tabs Help

[sysadmin@hos	st209 awx-on-k3s]\$ kubectl get pods -A							
NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE			
kube-system	helm-install-traefik-b2ndr	0/1	Completed	1	46m			
kube-system	helm-install-traefik-crd-8fdz5	0/1	Completed	0	46m			
kube-system	local-path-provisioner-84db5d44d9-njsgm	1/1	Running	1 (8m19s ago)	46m			
kube-system	coredns-6799fbcd5-zdf6z	1/1	Running	1 (8m19s ago)	46m			
kube-system	svclb-traefik-a7122c19-j28lq	2/2	Running	2 (8m19s ago)	45m			
kube-system	traefik-f4564c4f4-fx8sn	1/1	Running	1 (8m19s ago)	45m			
awx	awx-operator-controller-manager-589cdd869b-7ttgf	2/2	Running	2 (8m19s ago)	35m			
kube-system	metrics-server-67c658944b-2sdqw	1/1	Running	1 (8m19s ago)	46m			
awx	awx-postgres-13-0	1/1	Running	0	6m25s			
awx	awx-task-64b7645886-gsfkl	0/4	PodInitializing	0	4m38s			
awx	awx-web-986fc97fd_tbkpx	0/3	PodInitializing	0	2m37s			
[sysadmin@host209 awx-on-k3s]\$								

Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)

File Edit View Terminal Tabs He

[sysadmin@host209 awx-on-k3s]\$ kubectl get pods -A							
NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE		
kube-system	helm-install-traefik-b2ndr	0/1	Completed	1	53m		
kube-system	helm-install-traefik-crd-8fdz5	0/1	Completed	0	53m		
kube-system	local-path-provisioner-84db5d44d9-njsgm	1/1	Running	1 (15m ago)	53m		
kube-system	coredns-6799fbcd5-zdf6z	1/1	Running	1 (15m ago)	53m		
kube-system	svclb-traefik-a7122c19-j28lq	2/2	Running	2 (15m ago)	52m		
kube-system	traefik-f4564c4f4-fx8sn	1/1	Running	1 (15m ago)	52m		
awx	awx-operator-controller-manager-589cdd869b-7ttgf	2/2	Running	2 (15m ago)	42m		
kube-system	metrics-server-67c658944b-2sdqw	1/1	Running	1 (15m ago)	53m		
awx	awx-postgres-13-0	1/1	Running	0	13m		
awx	awx-web-986fc97fd-tbkpx	3/3	Running	0	9m49s		
awx	awx-task-64b76458 <u>8</u> 6-gsfkl	4/4	Running	0	11m		
[sysadmin@host209 awx-on-k3s]\$							

File Edit View Terminal Tabs Help [sysadmin@host209 awx-on-k3s]\$ kubectl -n awx get awx,all,ingress,secrets NAME AGE awx.awx.ansible.com/awx 11m NAME READY STATUS RESTART AGE pod/awx-operator-controller-manager-589cdd869b-7ttgf Running 2 (13m 2/2 40m ago) pod/awx-postgres-13-0 1/1 Running 11m pod/awx-web-986fc97fd-tbkpx Running 3/3 0 7m45s pod/awx-task-64b7645886-gsfkl 4/4 Running 0 9m46s NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE service/awx-operator-controller-manager-metrics-service ClusterIP 10.43.79.2 8443/TCP 40m 51 <none> ClusterIP service/awx-postgres-13 None <none> 5432/TCP 11m ClusterIP service/awx-service 10.43.29.2 55 80/TCP 9m48s <none>

Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)				
File Edit View Terminal Tabs Help				
NAME		READY	UP-TO-DATE	AVAILABLE
AGE				
<pre>deployment.apps/awx-operator-controller 40m</pre>	-manager	1/1	1	1
deployment.apps/awx-web 7m45s		1/1	1	1
deployment.apps/awx-task 9m46s		1/1	1	1
NAME READY AGE			DESIRED	CURRENT
replicaset.apps/awx-operator-controller	-manager-5	89cdd869	b 1	1
1 40m				
replicaset.apps/awx-web-986fc97fd			1	1
1 7m45s				
replicaset.apps/awx-task-64b7645886			1	1
1 9m46s				
NAME READ	Y AGE			
statefulset.apps/awx-postgres-13 1/1	11m			
NAME	CLASS	HOSTS		ADDRESS
PORTS AGE				
ingress networking k8s in/awy_ingress	traefik	host200	virtual lan	192 168

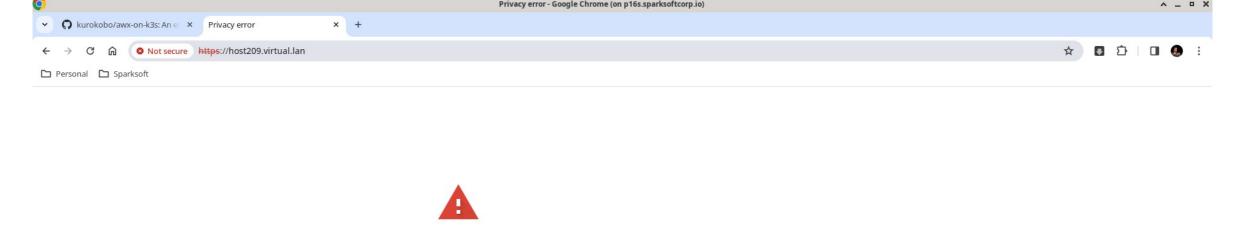
```
Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)
File Edit View Terminal Tabs Help
3711","EventData.Name":"installer : Start installation if auto_upgrade is false
and deployment is missing"}
    TASK [installer : Start installation if auto_upgrade is false and deployment is
missing] ***
task path: /opt/ansible/roles/installer/tasks/main.yml:31
{"level":"info","ts":"2024-03-15T20:20:54Z","logger":"runner","msg":"Ansible-run
ner exited successfully","job":"1436326678469083711","name":"awx","namespace":"a
wx"}
----- Ansible Task Status Event StdOut (awx.ansible.com/v1beta1, Kind=AWX, awx/a
wx) ----
localhost
                       : ok=85
                                changed=1 unreachable=0
                                                          failed=0
kipped=78
                    ignored=1
         rescued=0
```

```
Terminal - sysadmin@host209:~/Downloads/git/awx-on-k3s (on p16s.sparksoftcorp.io)
File Edit View Terminal Tabs Help
3711","EventData.Name":"installer : Start installation if auto_upgrade is false
and deployment is missing"}
     ------Ansible Task StdOut ------
TASK [installer : Start installation if auto_upgrade is false and deployment is
missing] ***
task path: /opt/ansible/roles/installer/tasks/main.yml:31
{"level":"info","ts":"2024-03-15T20:20:54Z","logger":"runner","msg":"Ansible-run
ner exited successfully","job":"1436326678469083711","name":"awx","namespace":"a
wx"}
----- Ansible Task Status Event StdOut (awx.ansible.com/v1beta1, Kind=AWX, awx/a
wx) ----
          *************************
PLAY RECAP
localhost
                          : ok=85
                                   changed=1 unreachable=0
                                                                failed=0
                       ignored=1
           rescued=0
```

kipped=78

Log In

Finally, we get to explore the UI



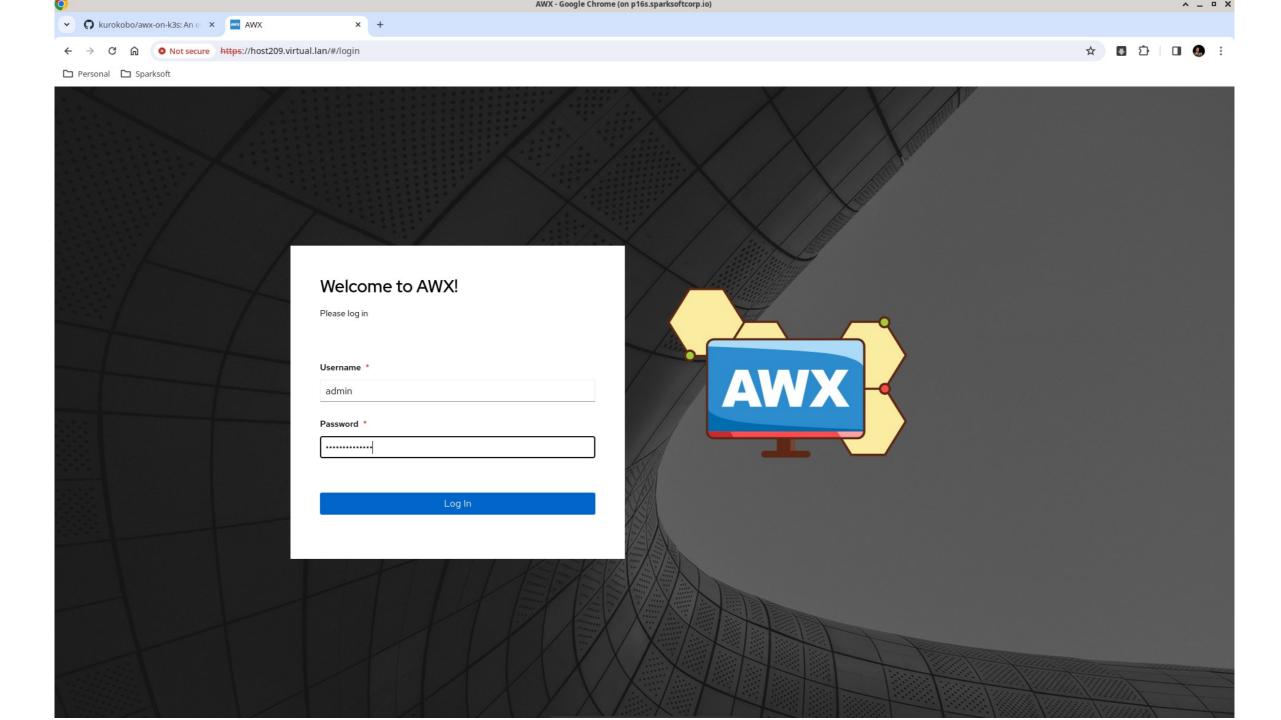
Your connection is not private

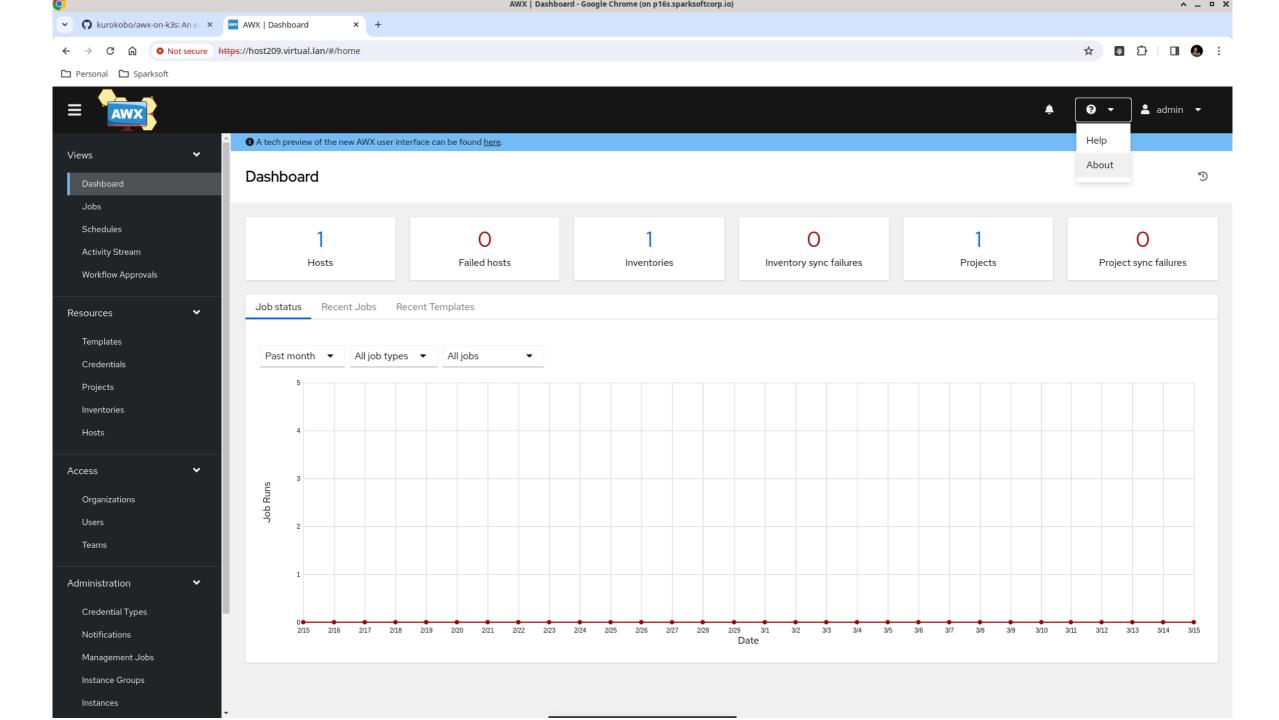
Attackers might be trying to steal your information from **host209.virtual.lan** (for example, passwords, messages, or credit cards). <u>Learn more</u>

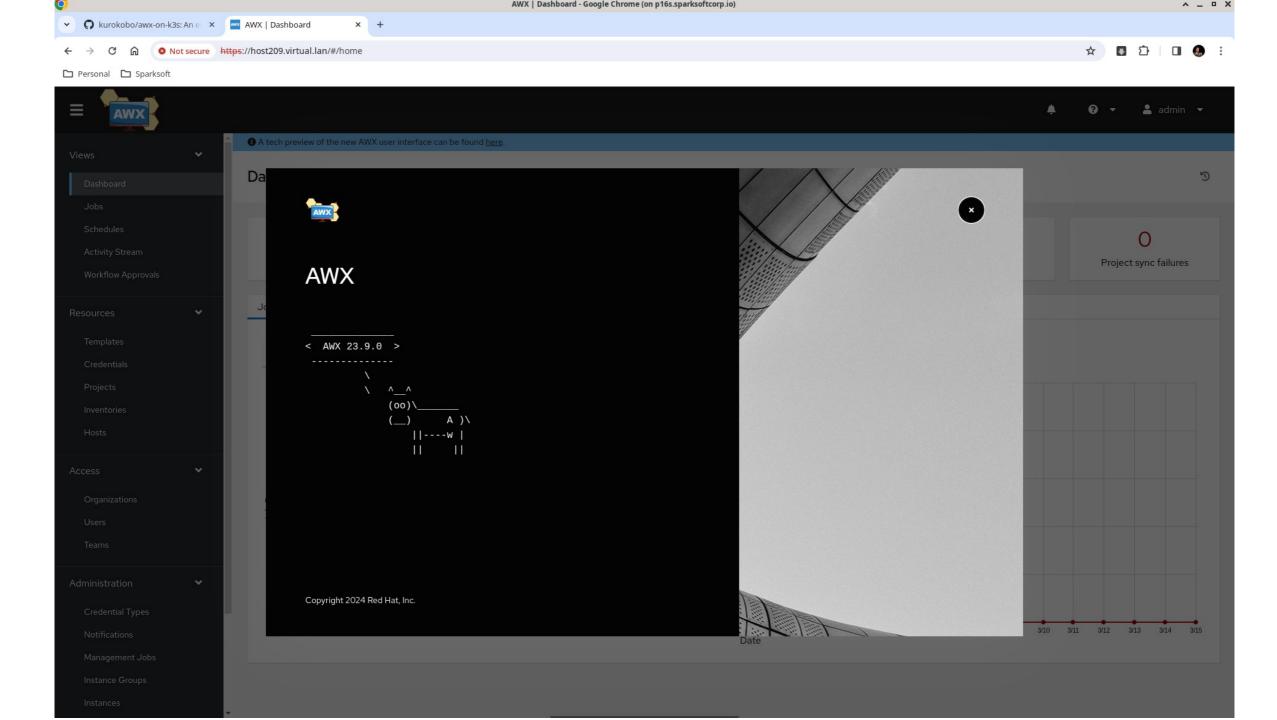
NET::ERR_CERT_AUTHORITY_INVALID

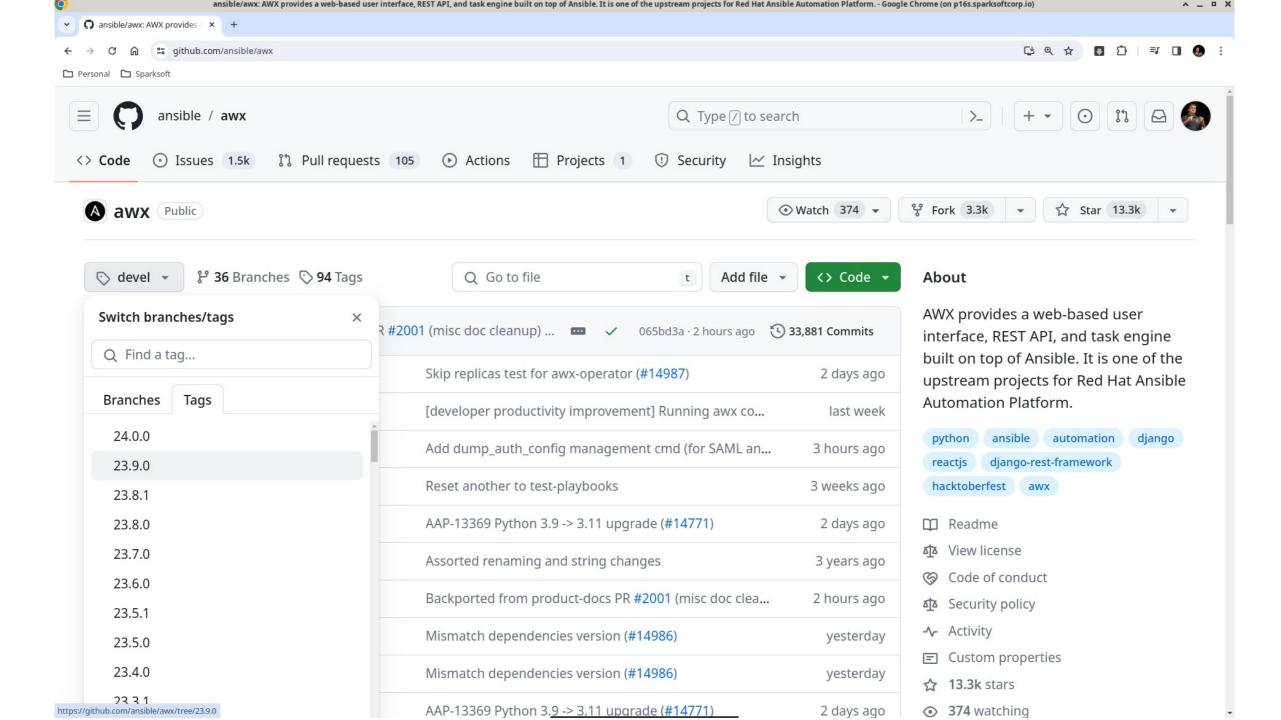
Advanced

Back to safety



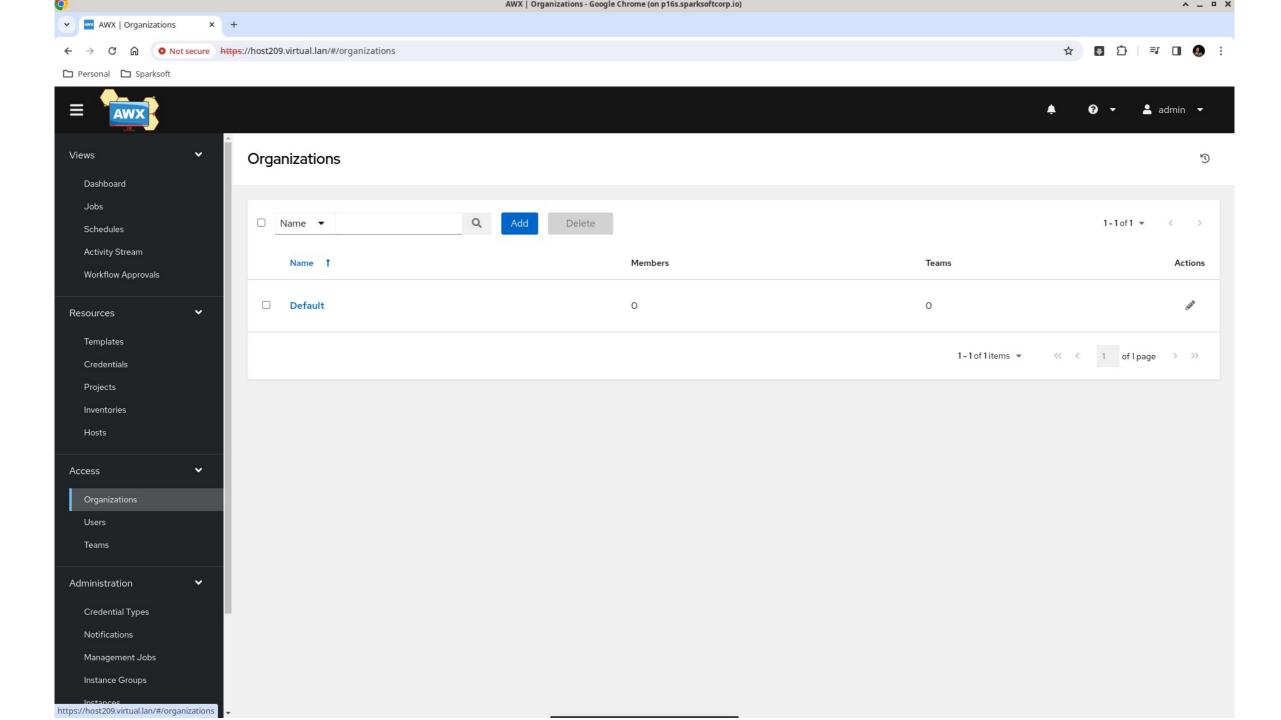


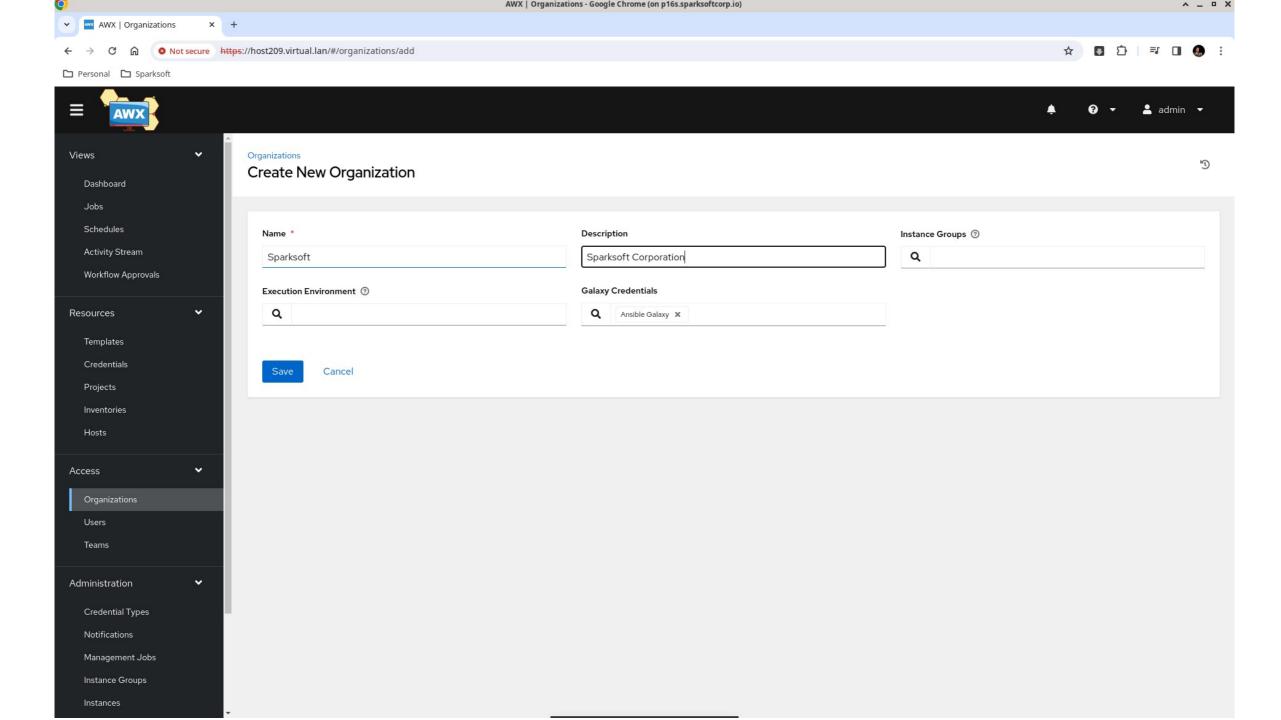


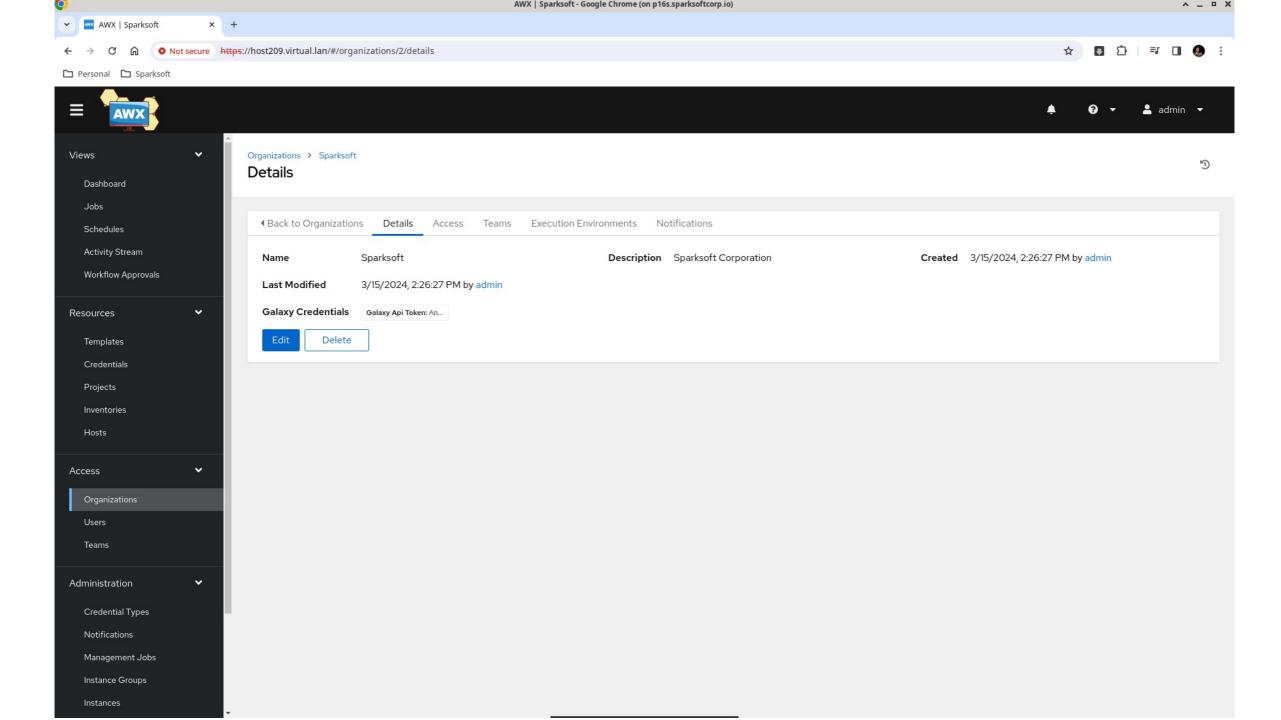


Organizations

To carve up your enterprise

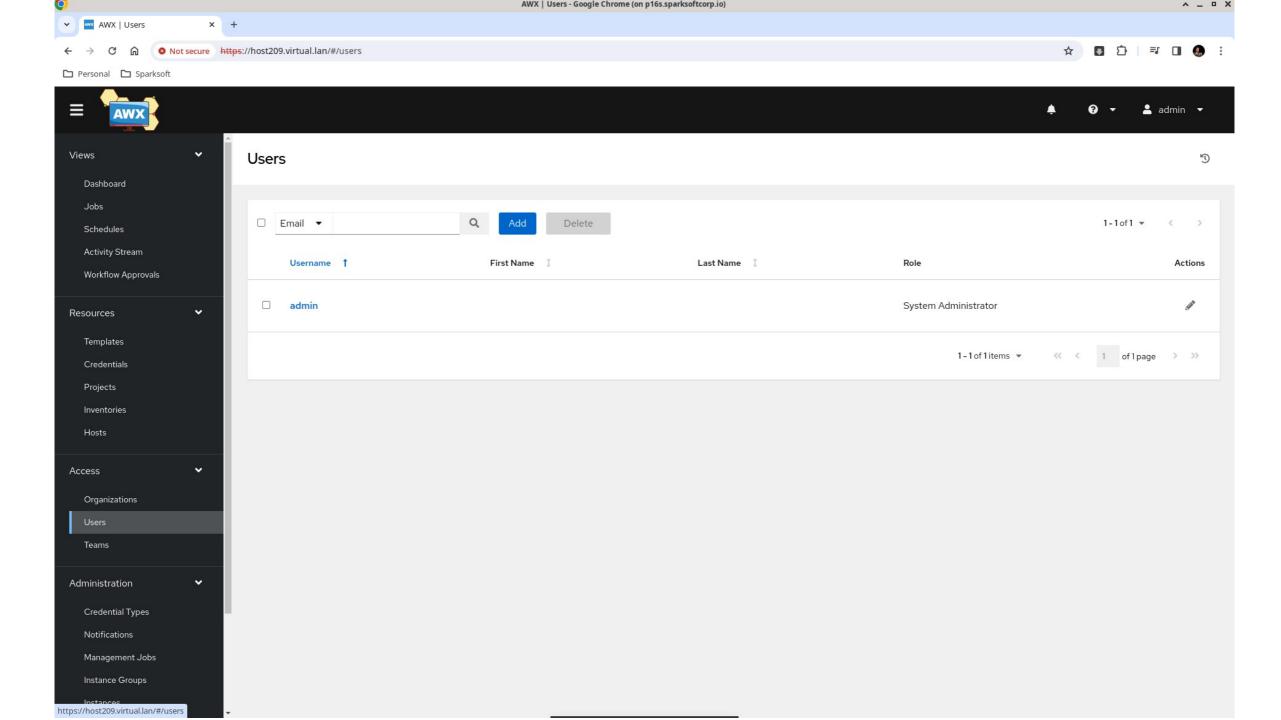


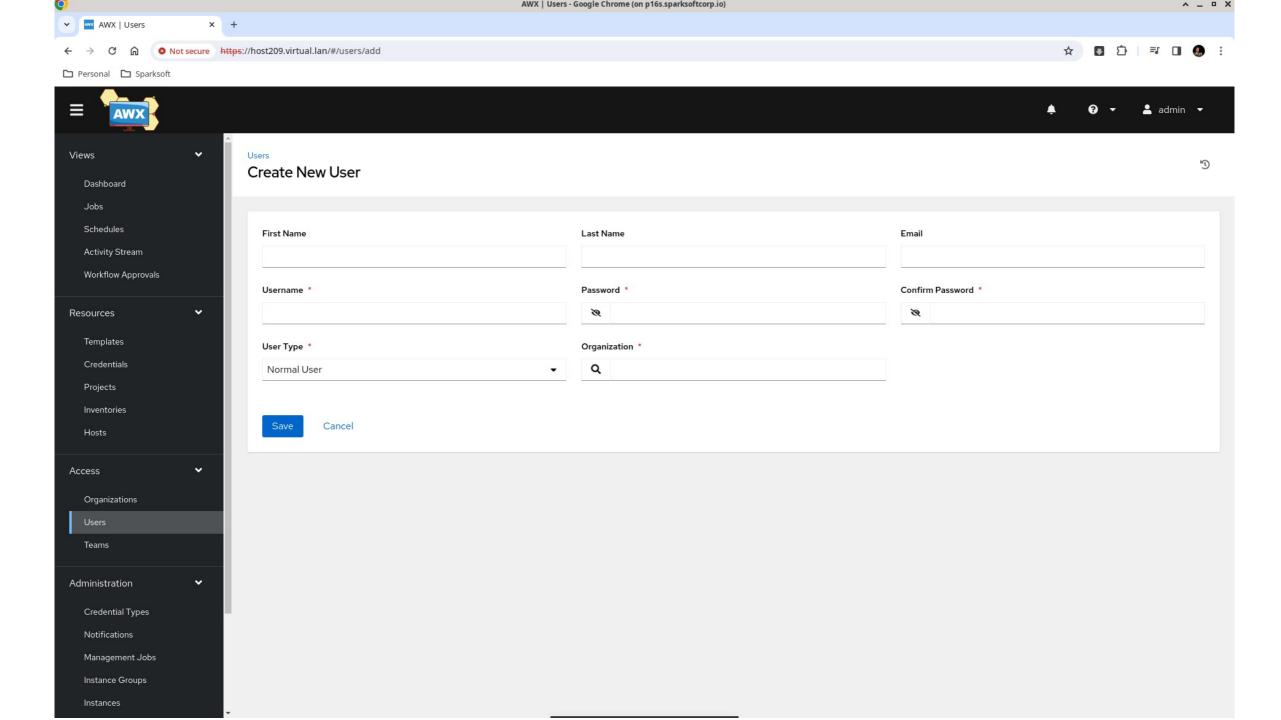


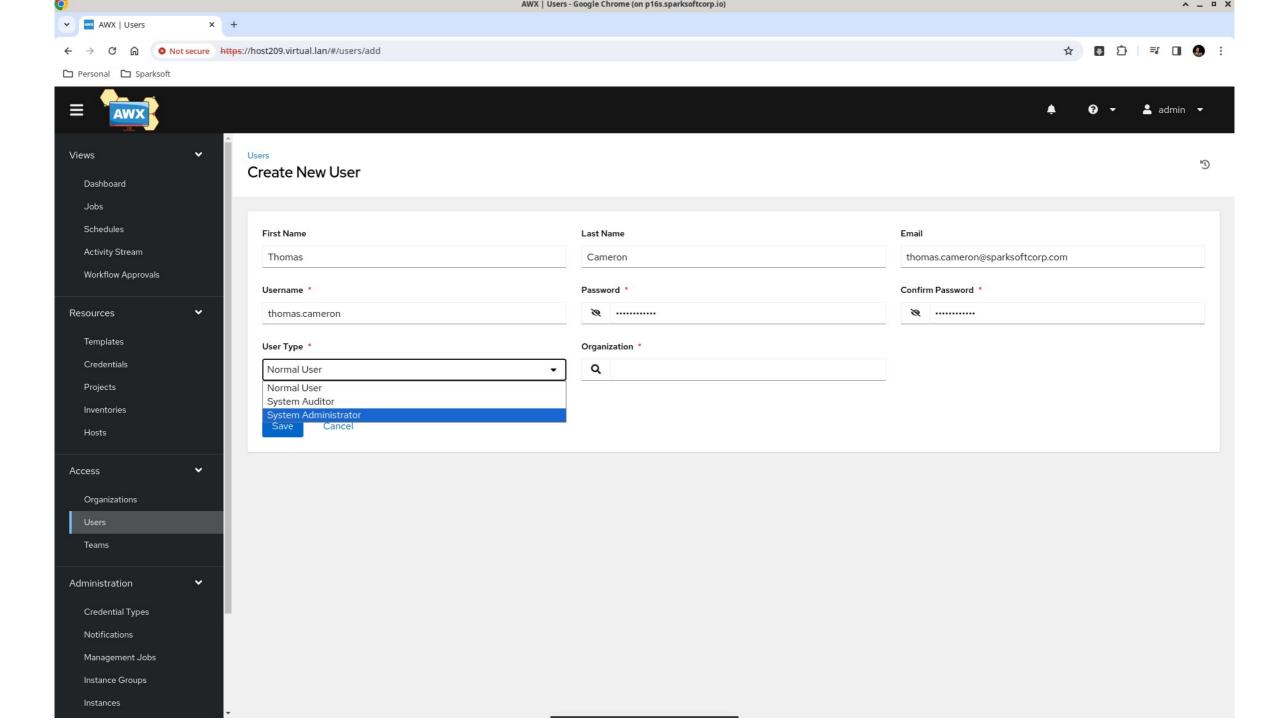


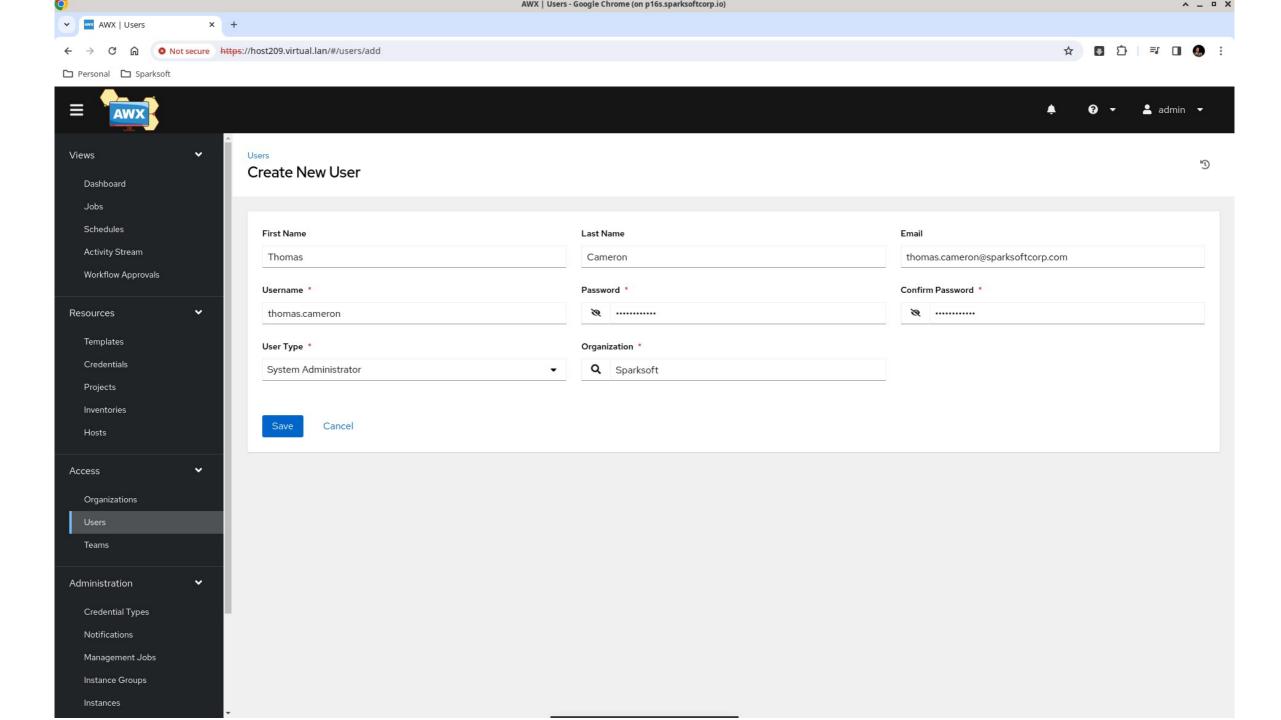
Users

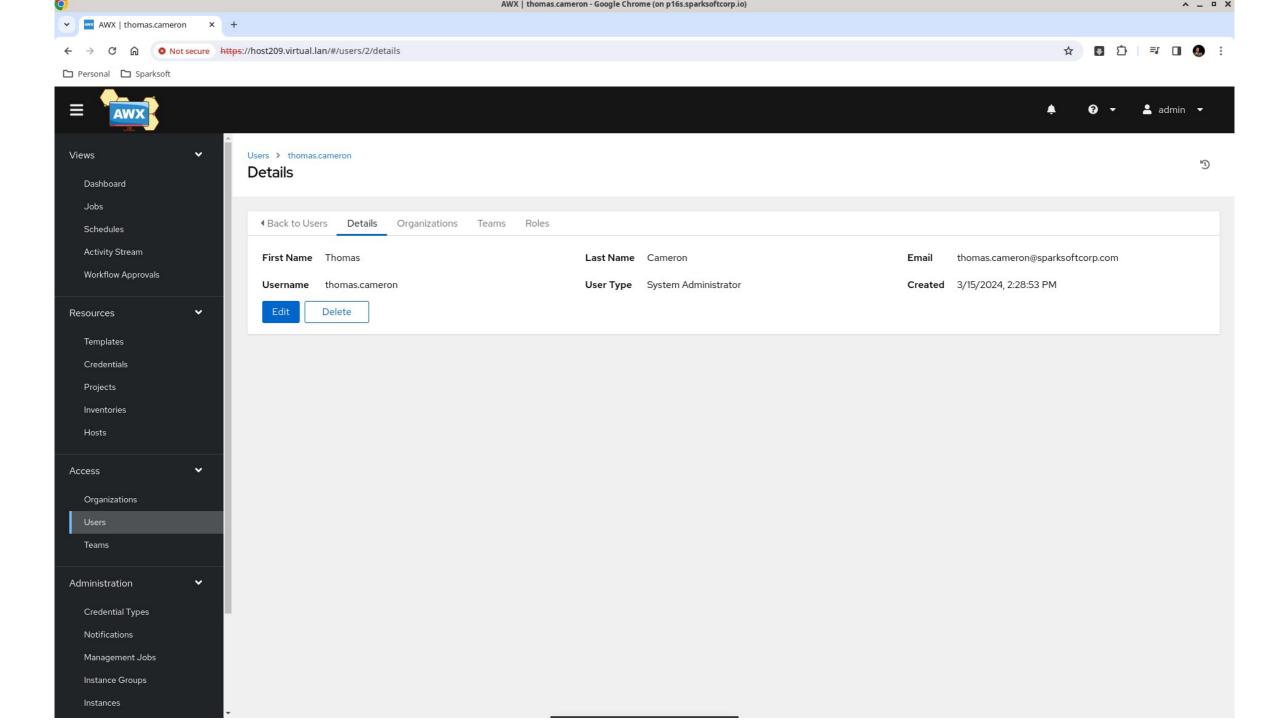
For assigning permissions

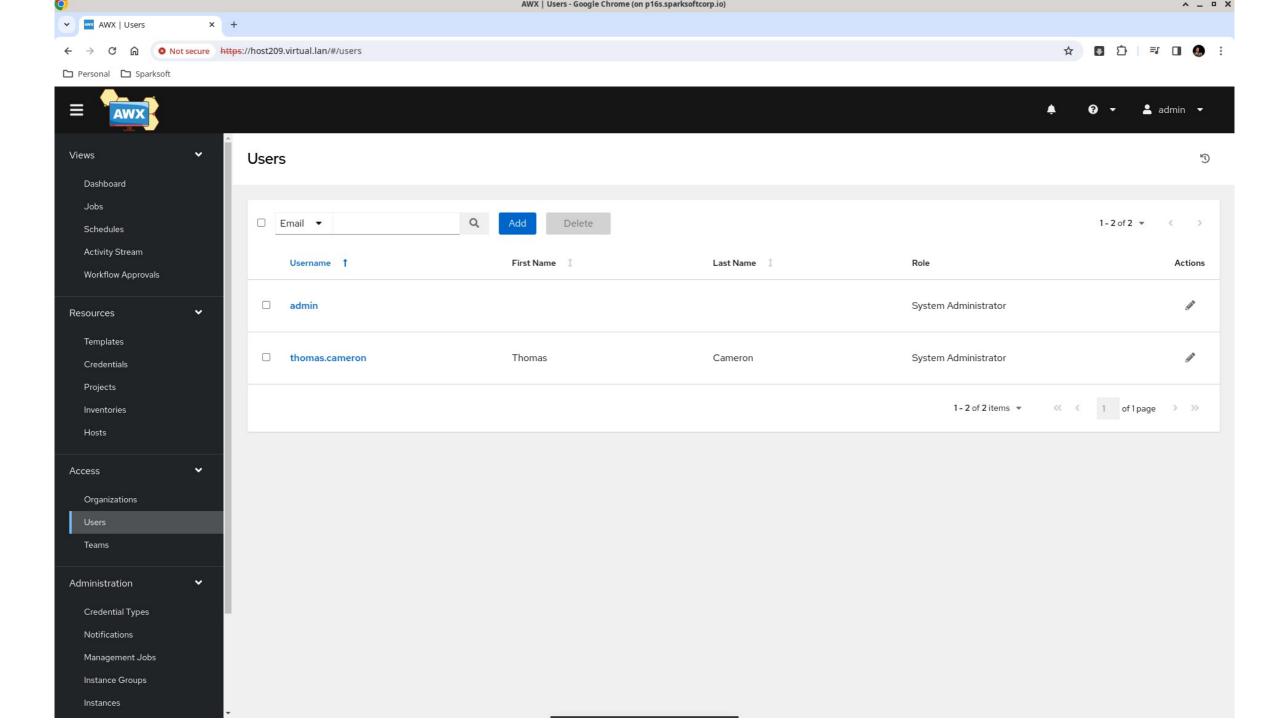






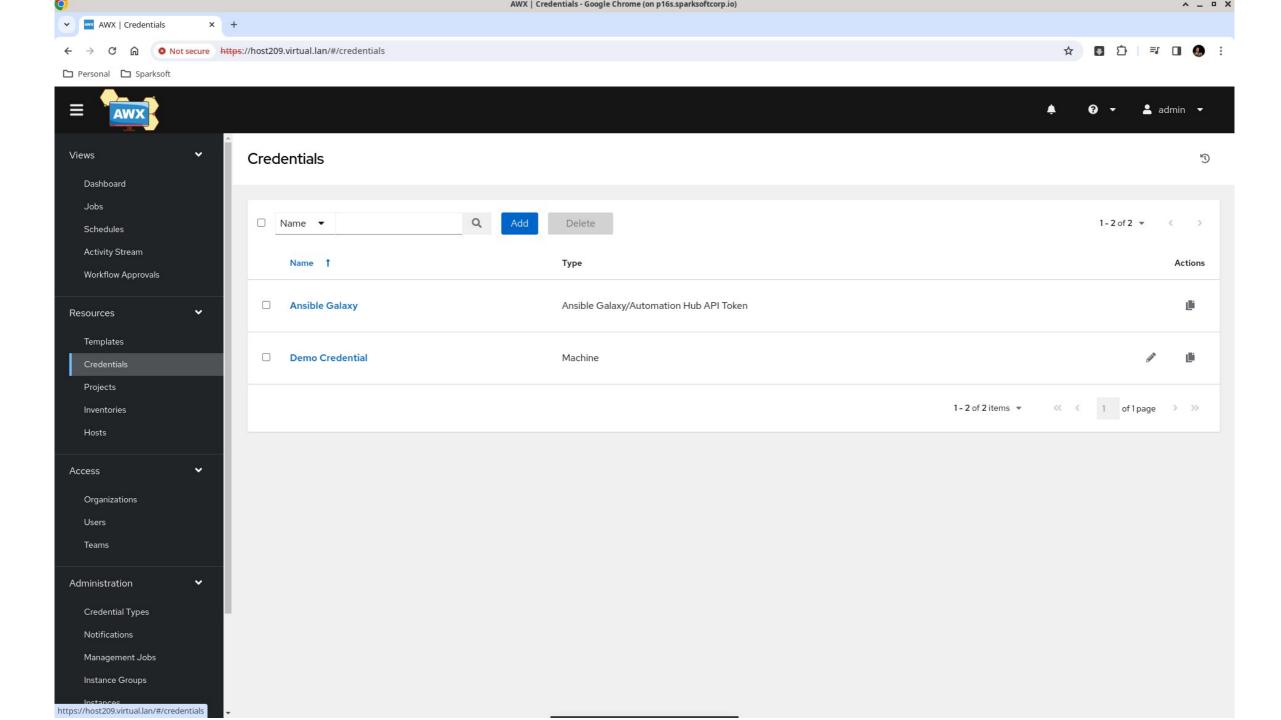


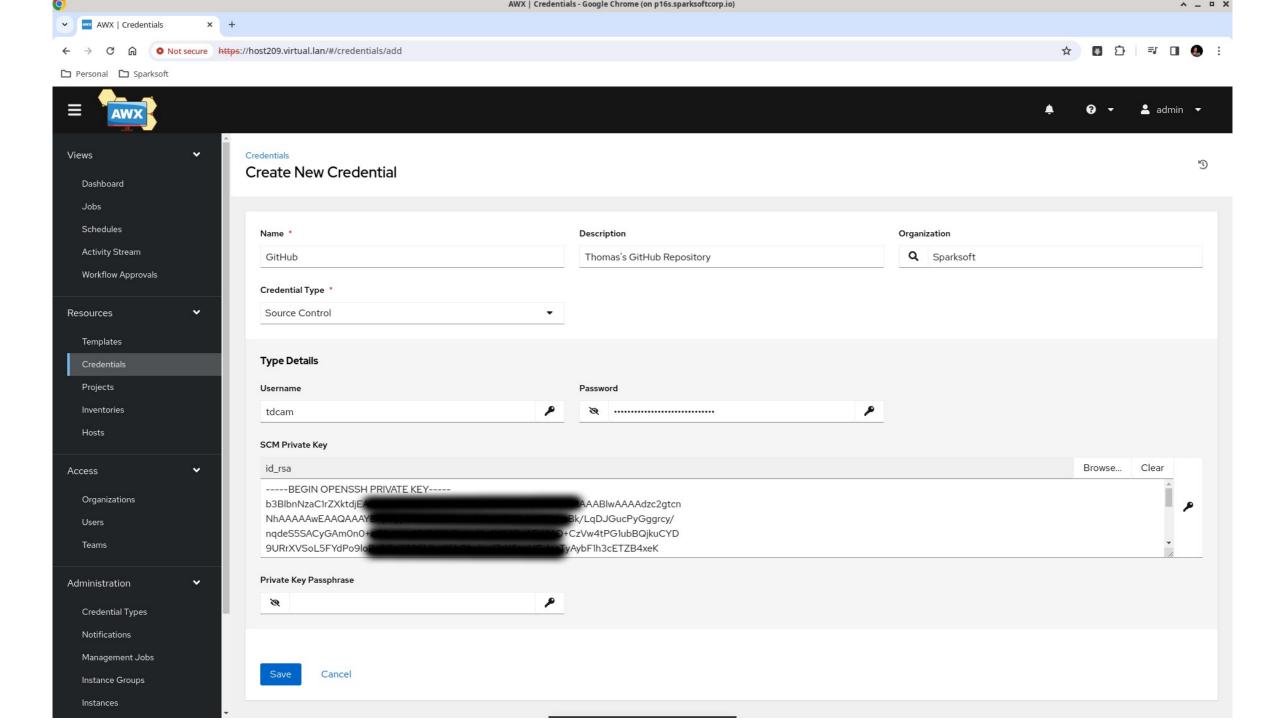


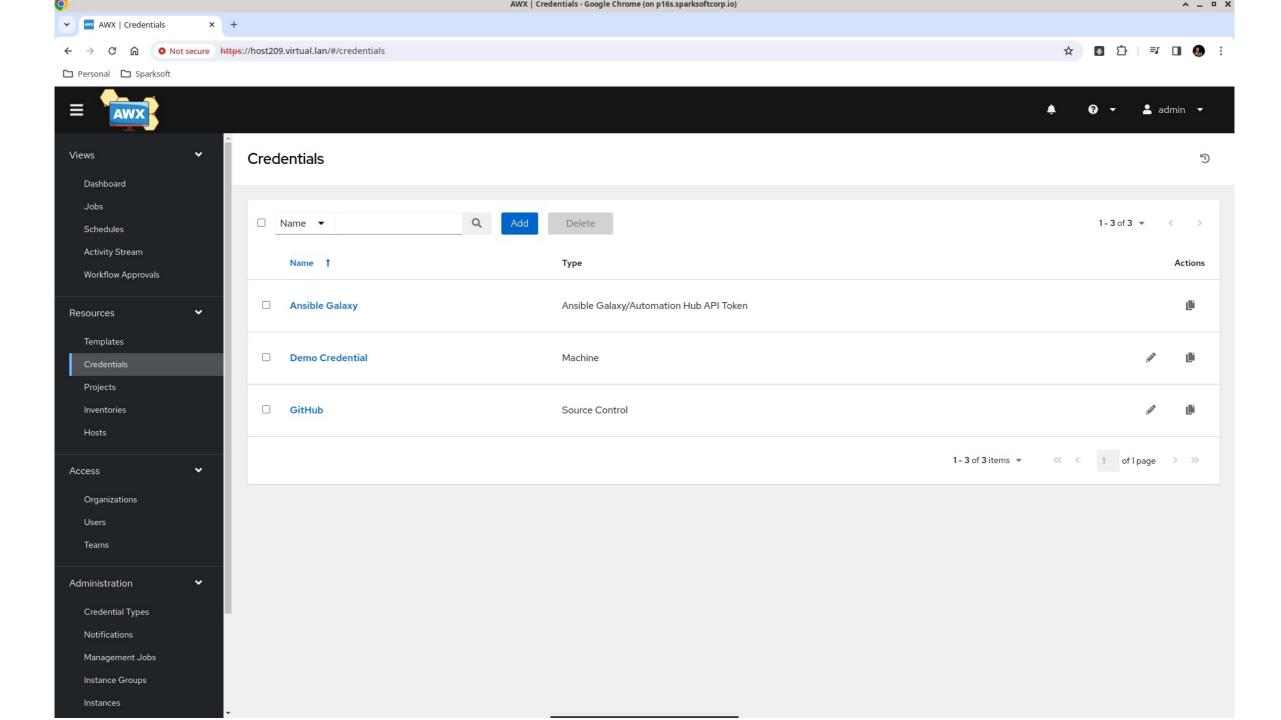


Credentials

Github

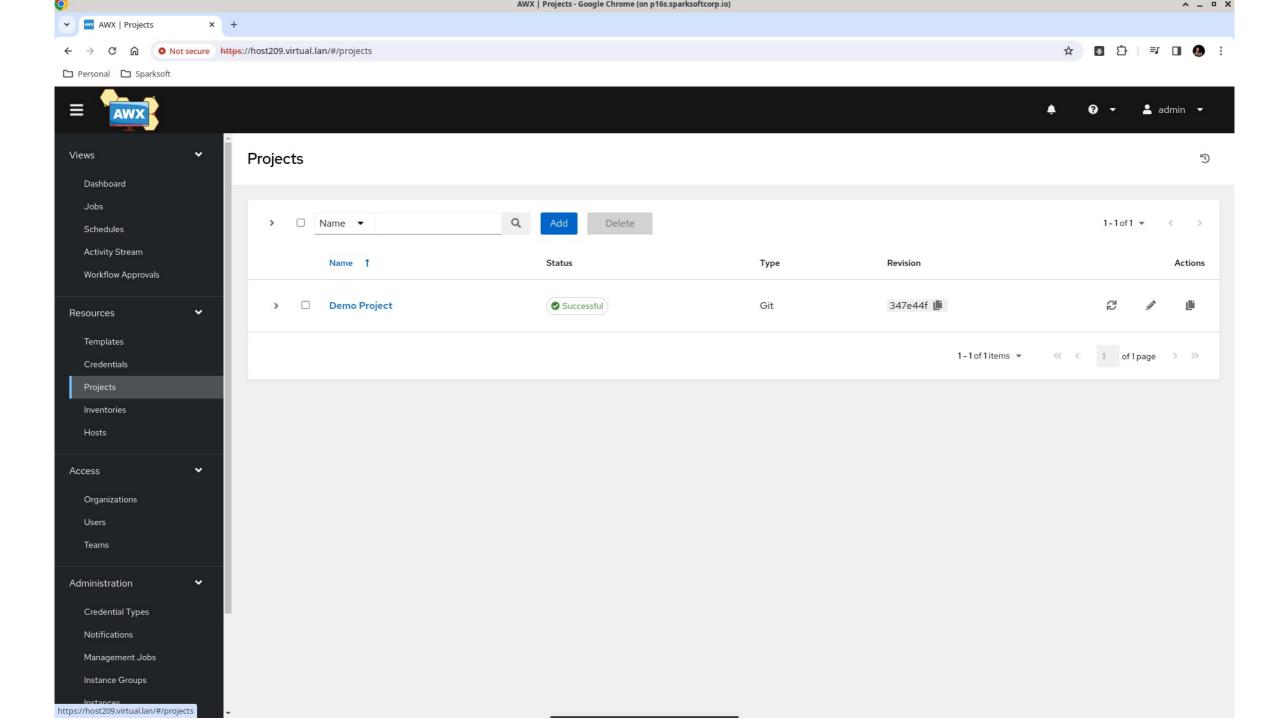


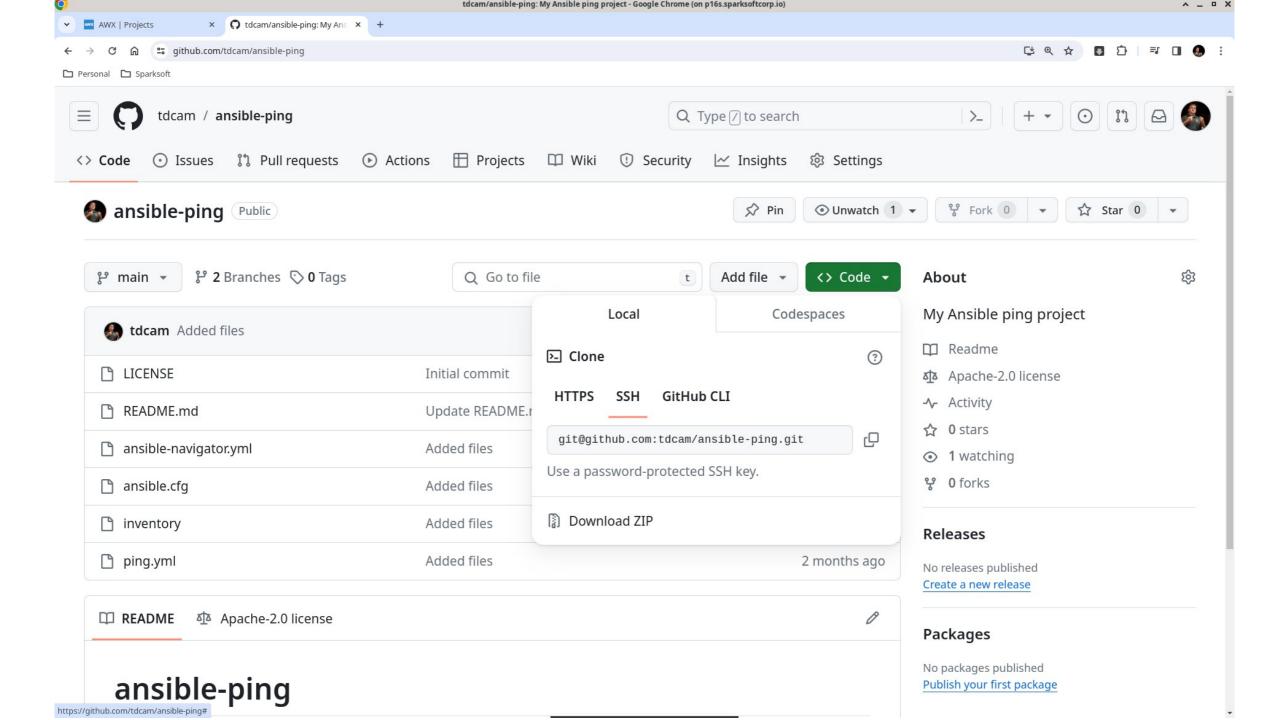


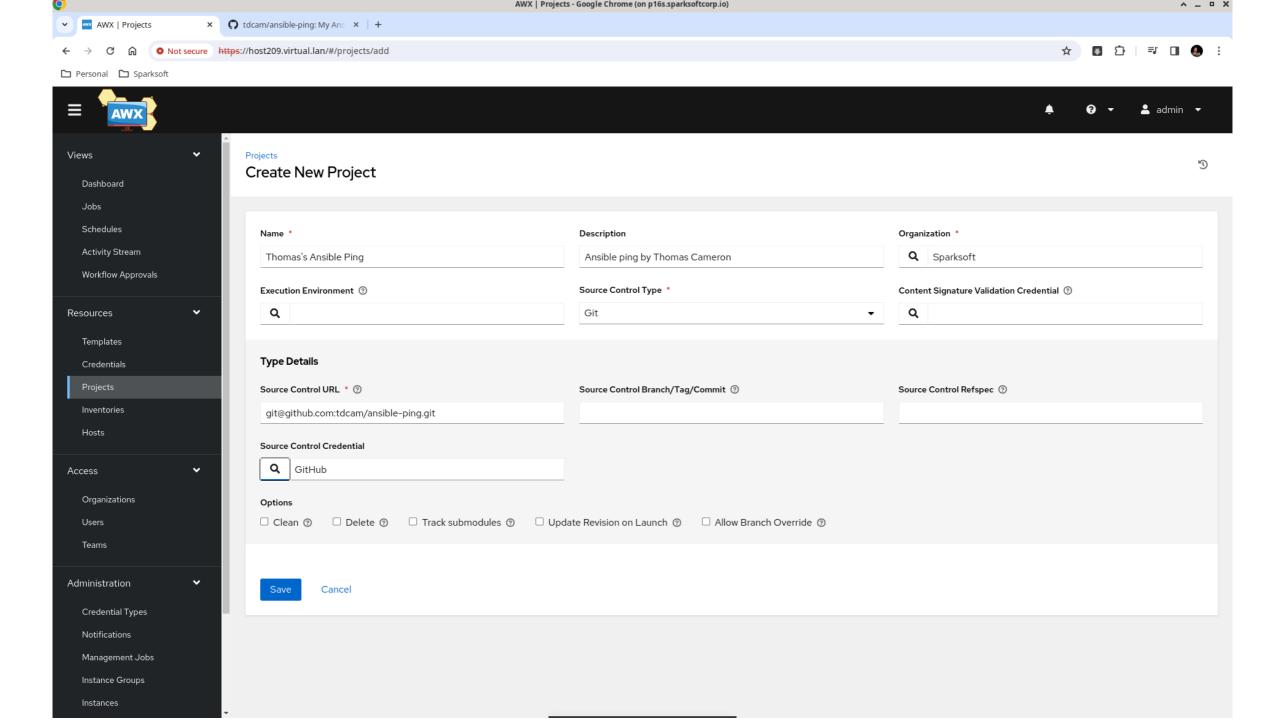


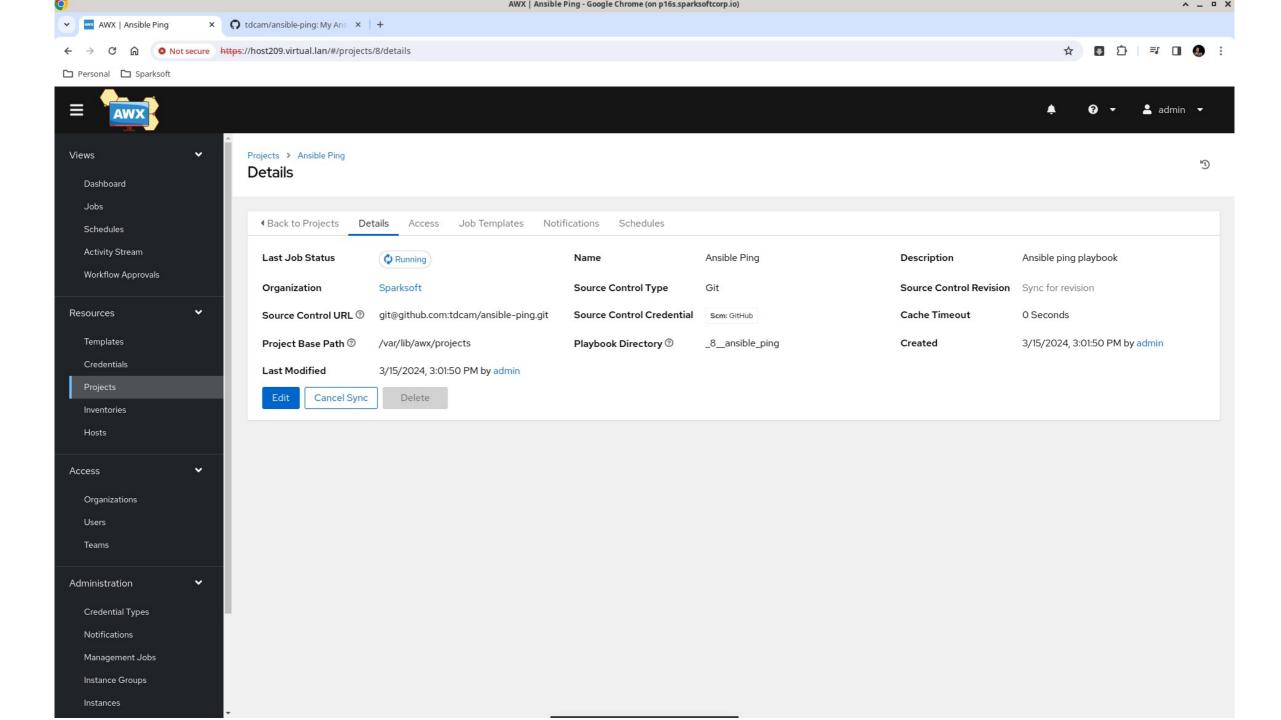
Setting up Ansible ping

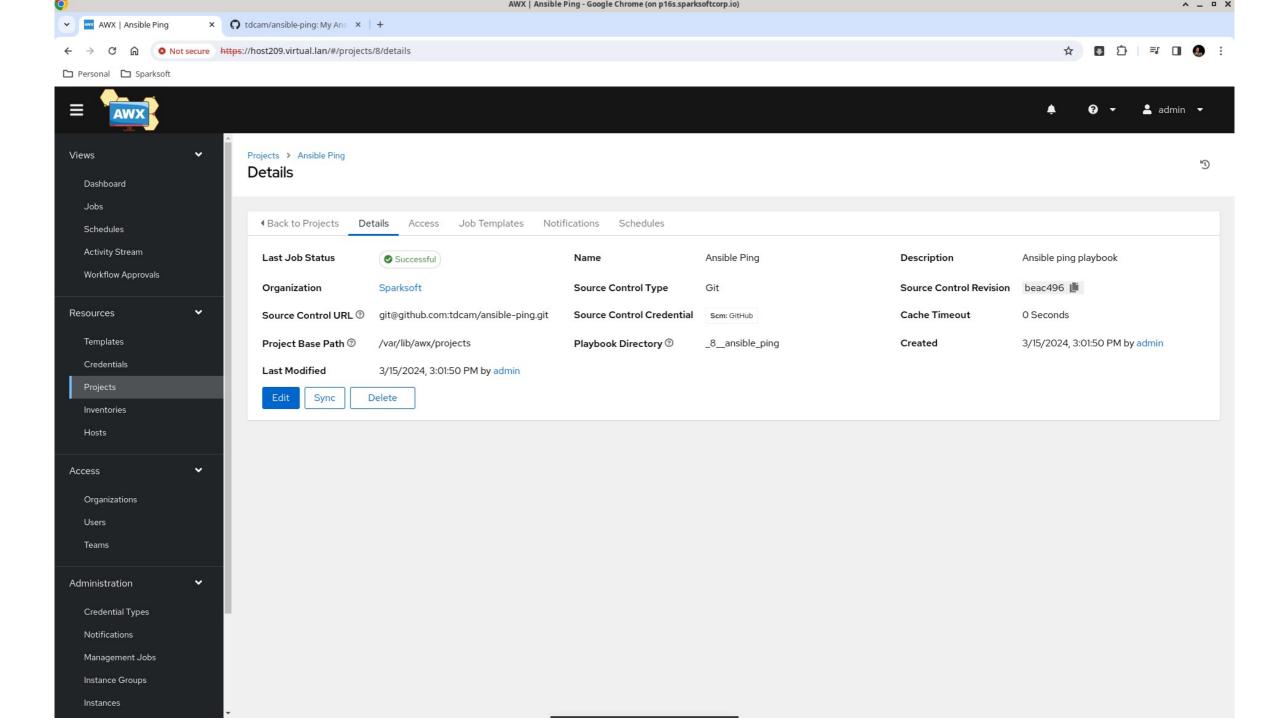
A simple test to see if connectivity is right

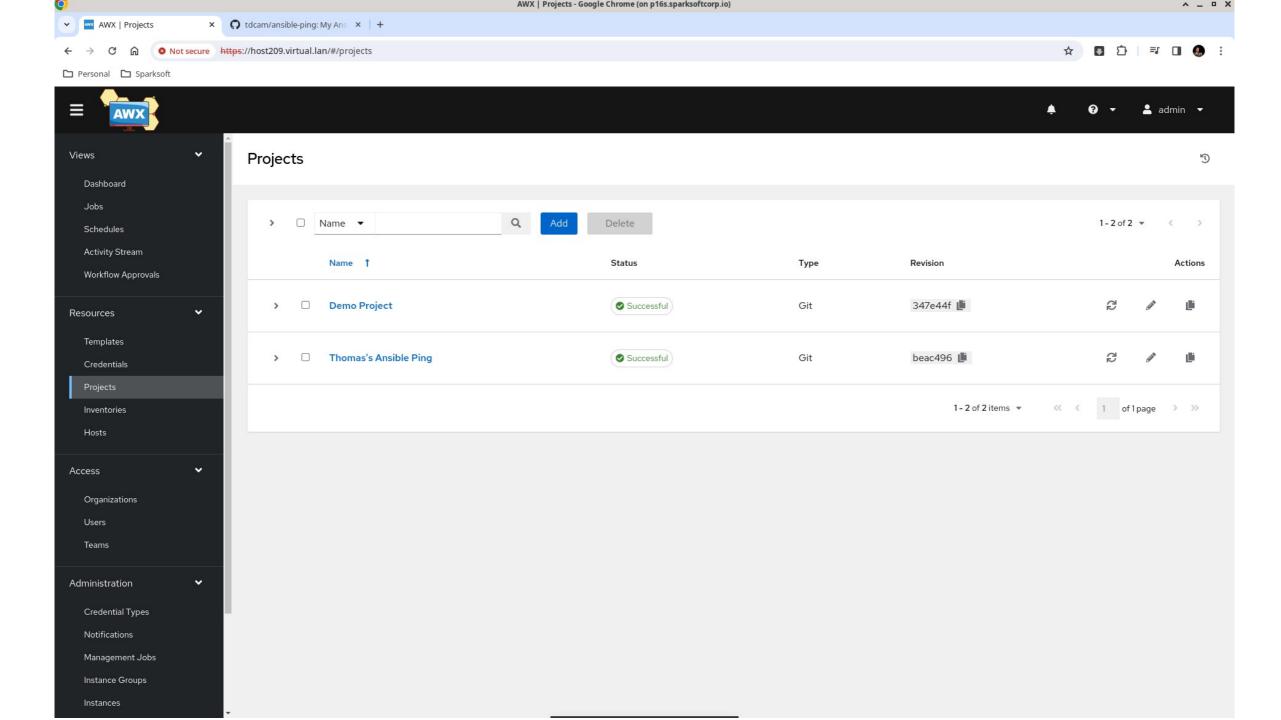






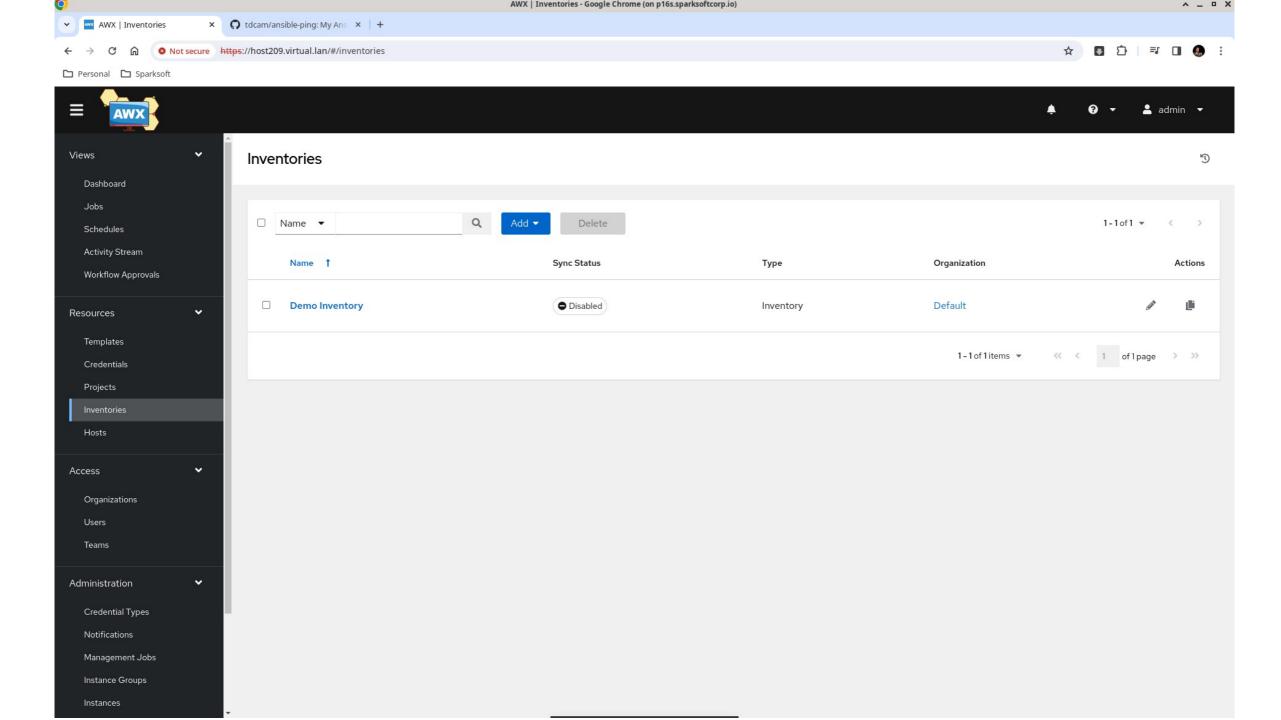


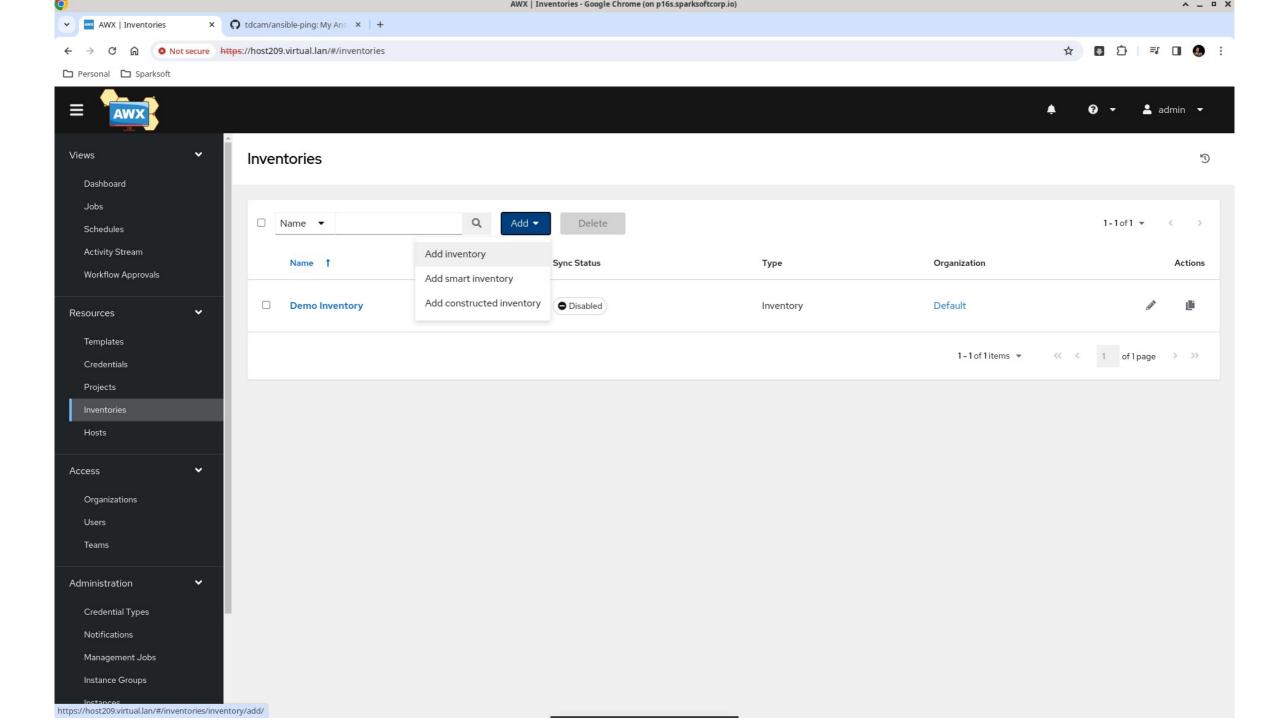


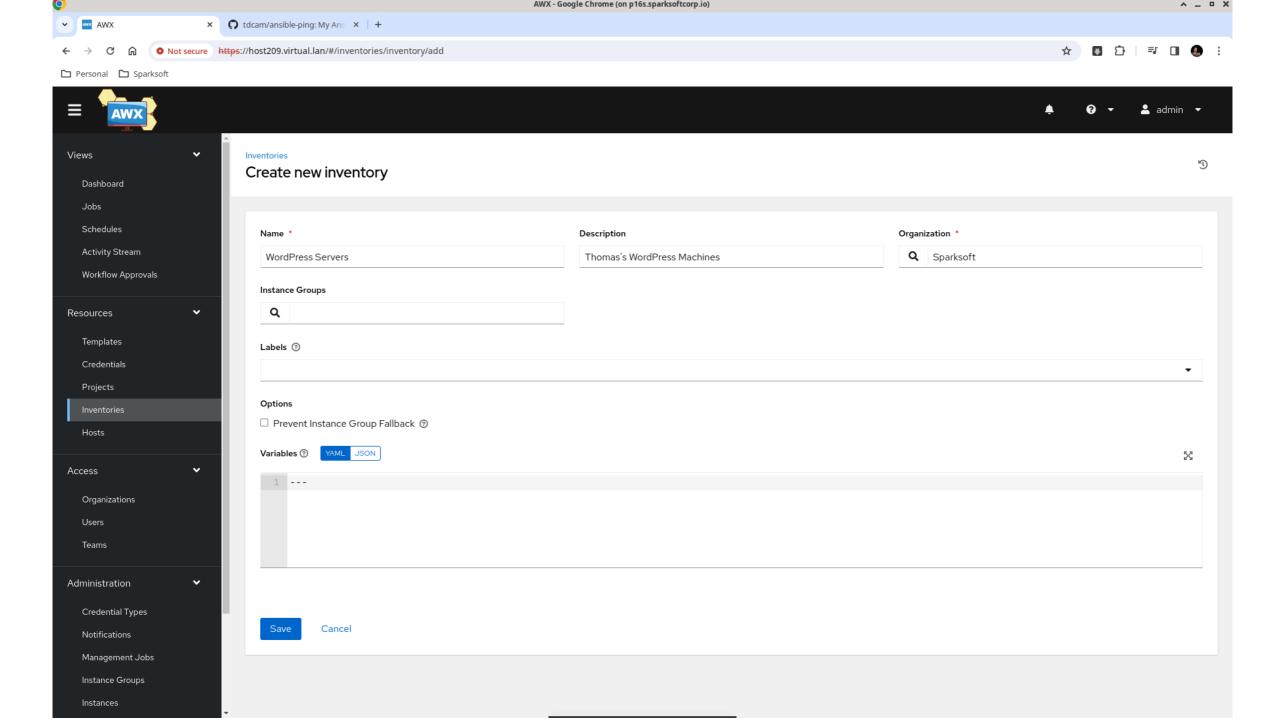


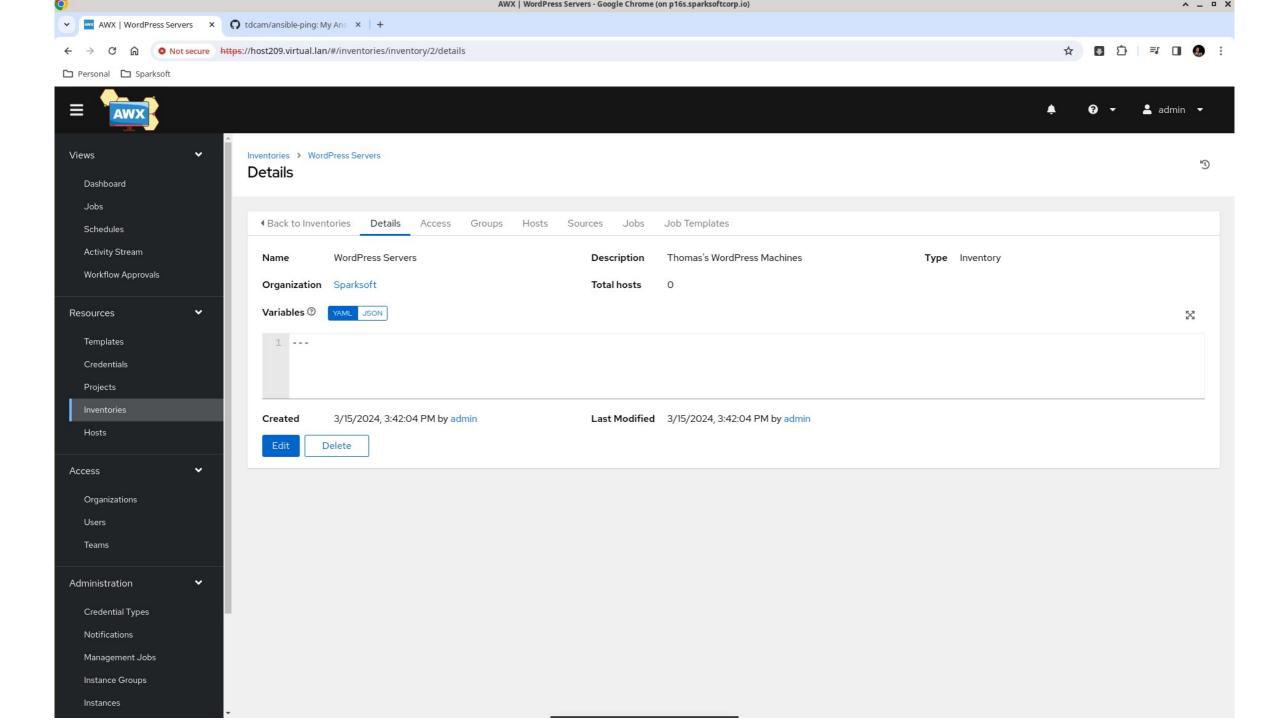
Ping inventory

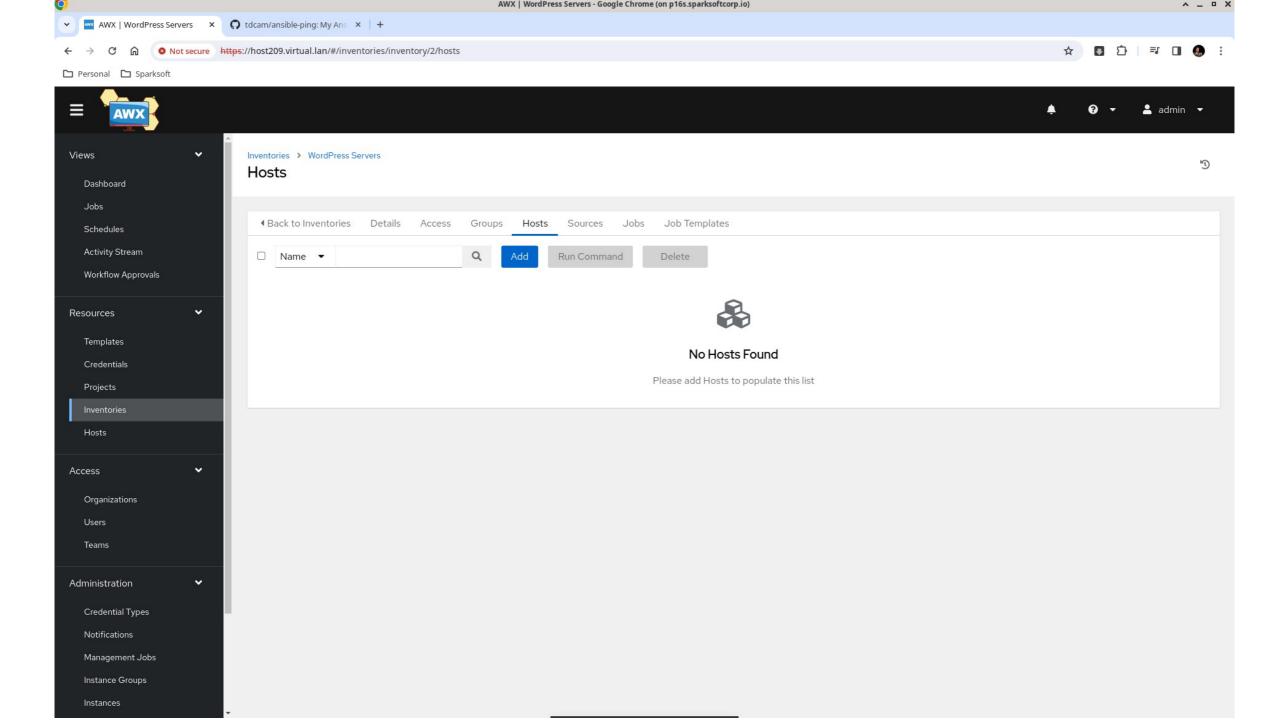
What systems do you want to run this on?

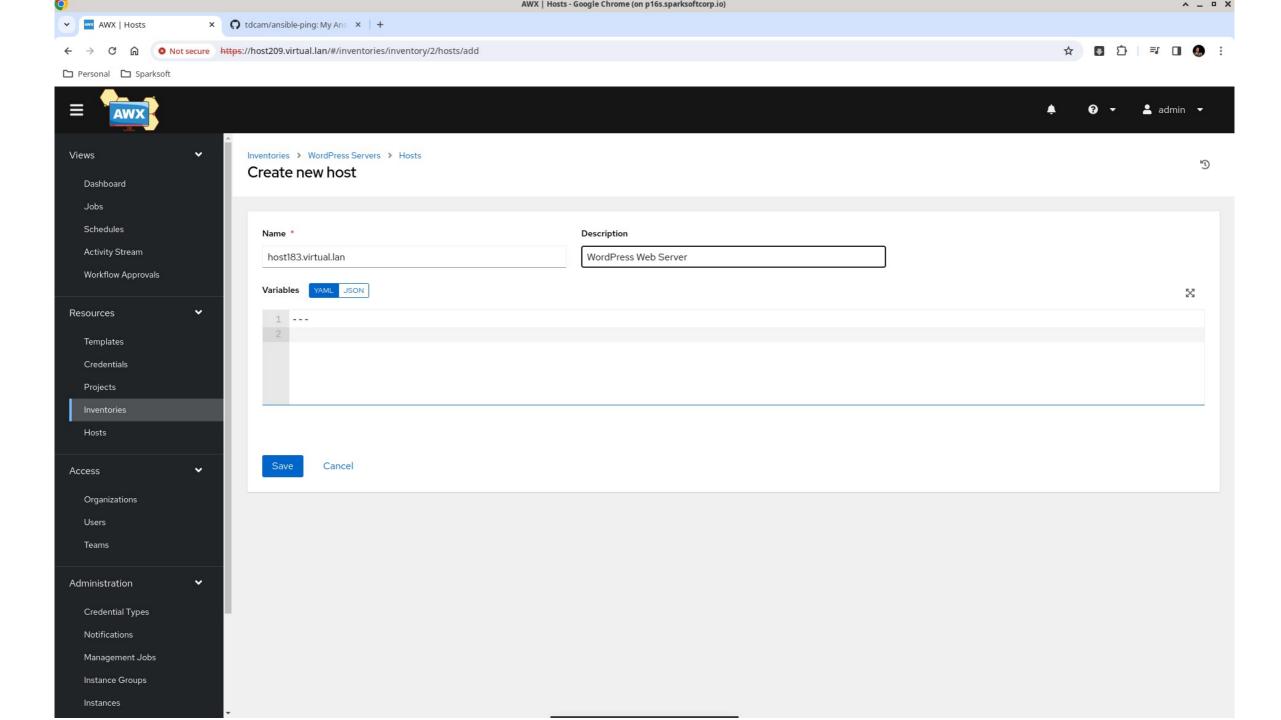


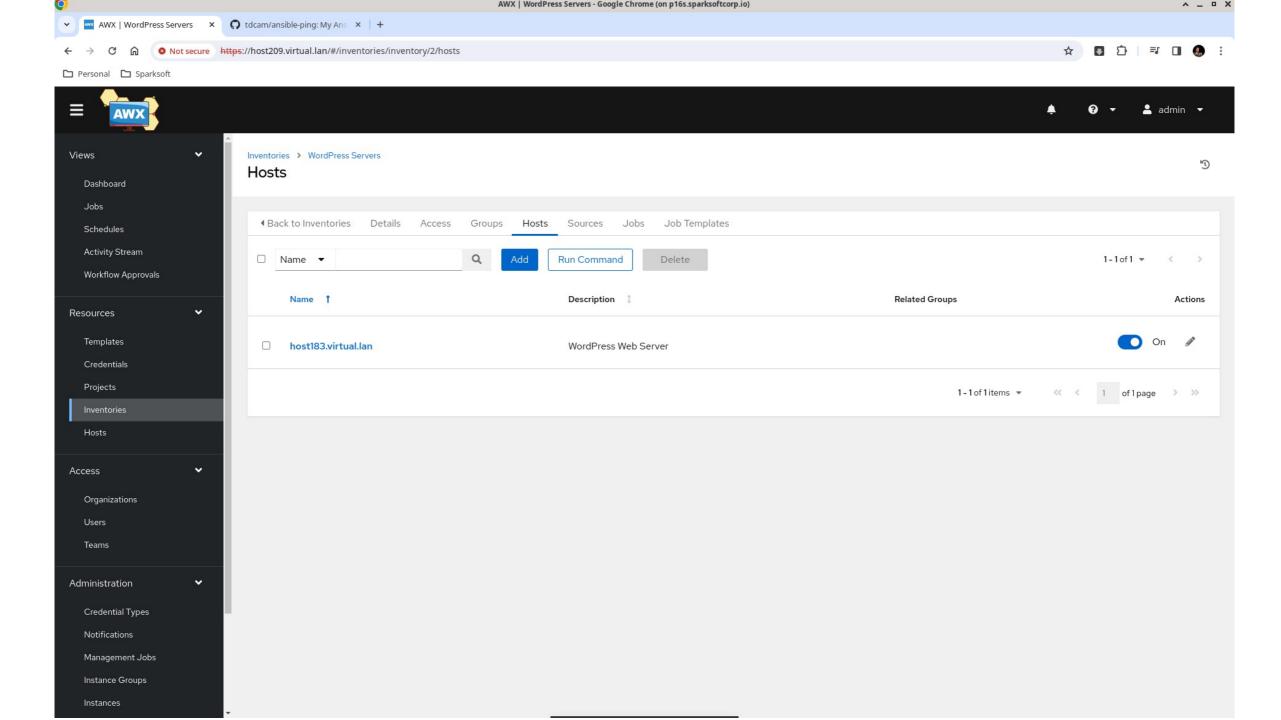


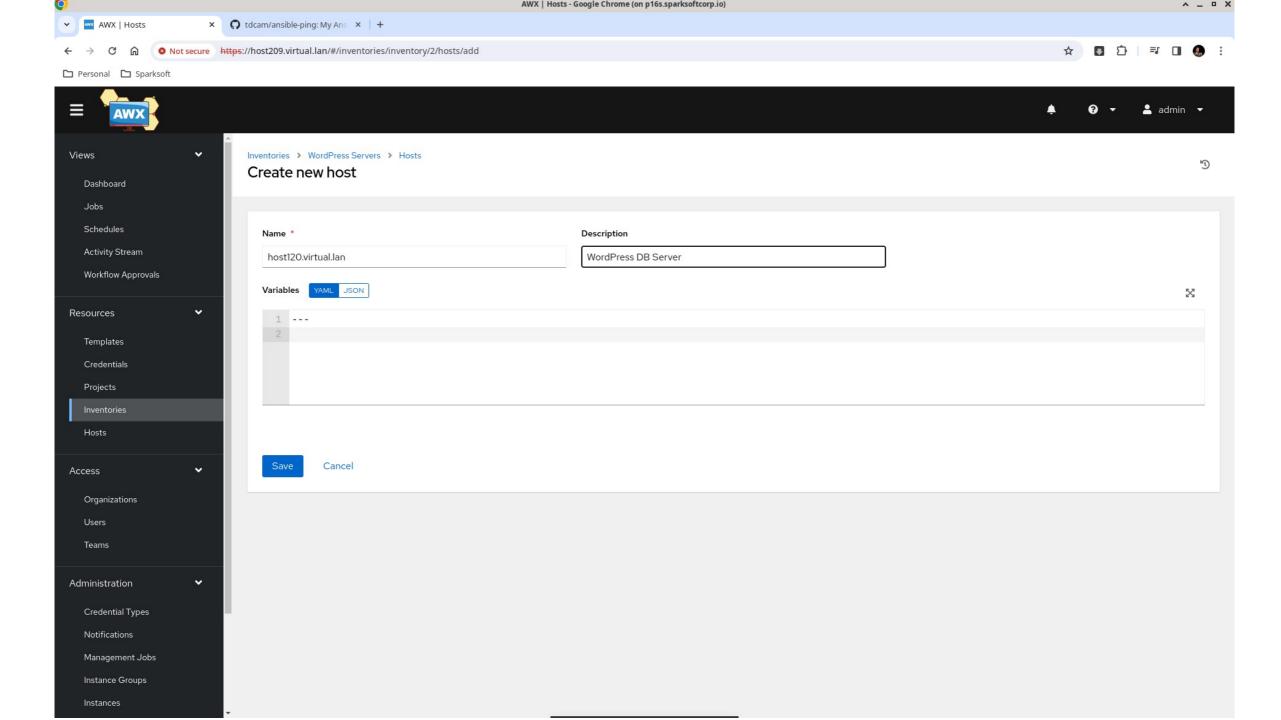


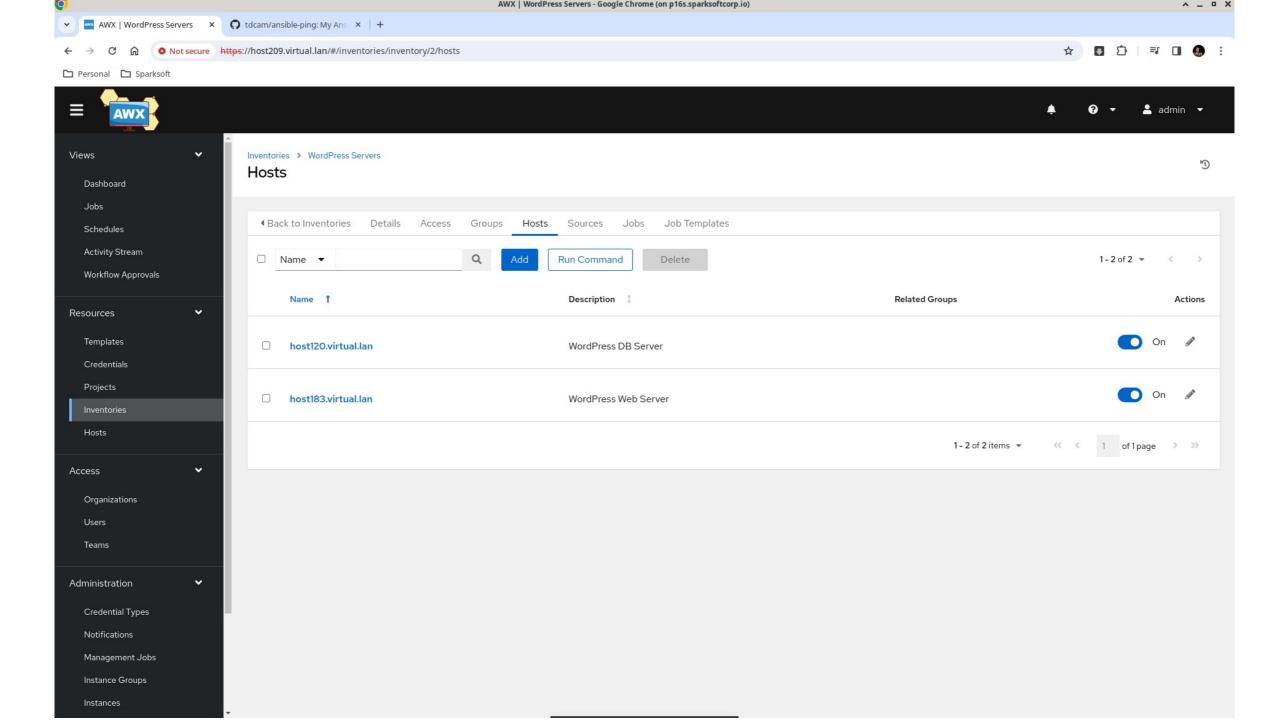












Set up ssh

It's preferred that you have passwordless ssh logins

ssh

- Normally, I build my machines with kickstarts
 - I add the remote user (sysadmin) with NO password
 - I write the pub key to /home/sysadmin/.ssh and make sure ownership and permissions are set
- In this example, I just wanted to show you what the manual process looks like

File Edit View Terminal Tabs Help

sysadmin@p16s:~\$ ssh-copy-id -i /home/sysadmin/.ssh/id_ecdsa.pub sysadmin@host12
0.virtual.lan

/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/sysadmin/.s sh/id_ecdsa.pub"

/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed

/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompt ed now it is to install the new keys

sysadmin@host120.virtual.lan's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'sysadmin@host120.virtual.lan'" and check to make sure that only the key(s) you wanted were added.

sysadmin@p16s:~\$

File Edit View Terminal Tabs Help

sysadmin@p16s:~\$ ssh-copy-id -i /home/sysadmin/.ssh/id_ecdsa.pub host183.virtual
.lan

/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/sysadmin/.s sh/id_ecdsa.pub"

/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed

/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompt ed now it is to install the new keys

sysadmin@host183.virtual.lan's password:

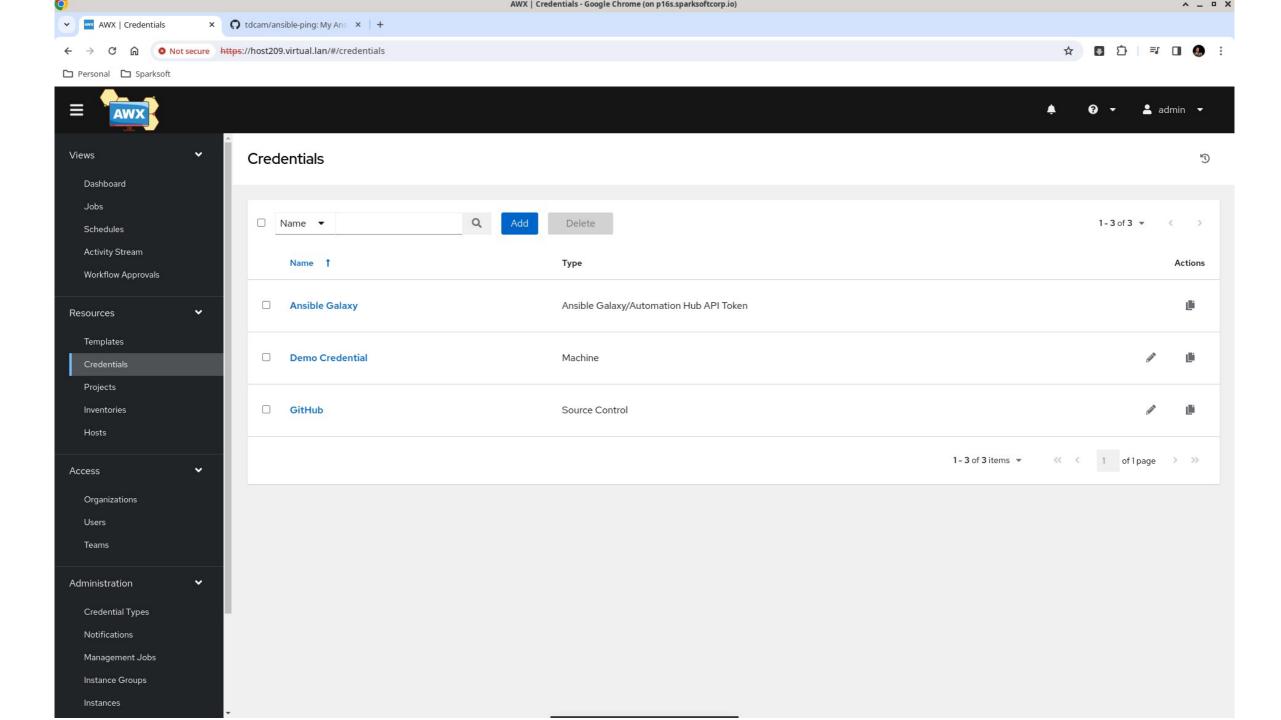
Number of key(s) added: 1

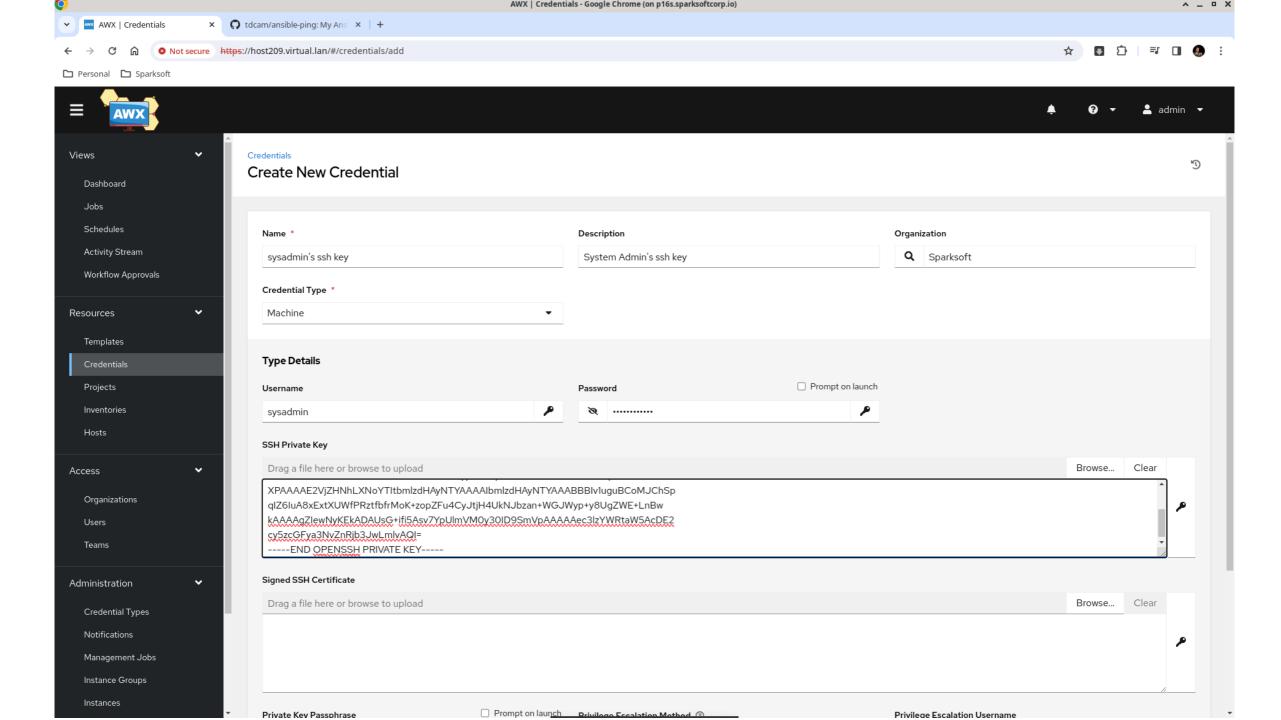
Now try logging into the machine, with: "ssh 'host183.virtual.lan'" and check to make sure that only the key(s) you wanted were added.

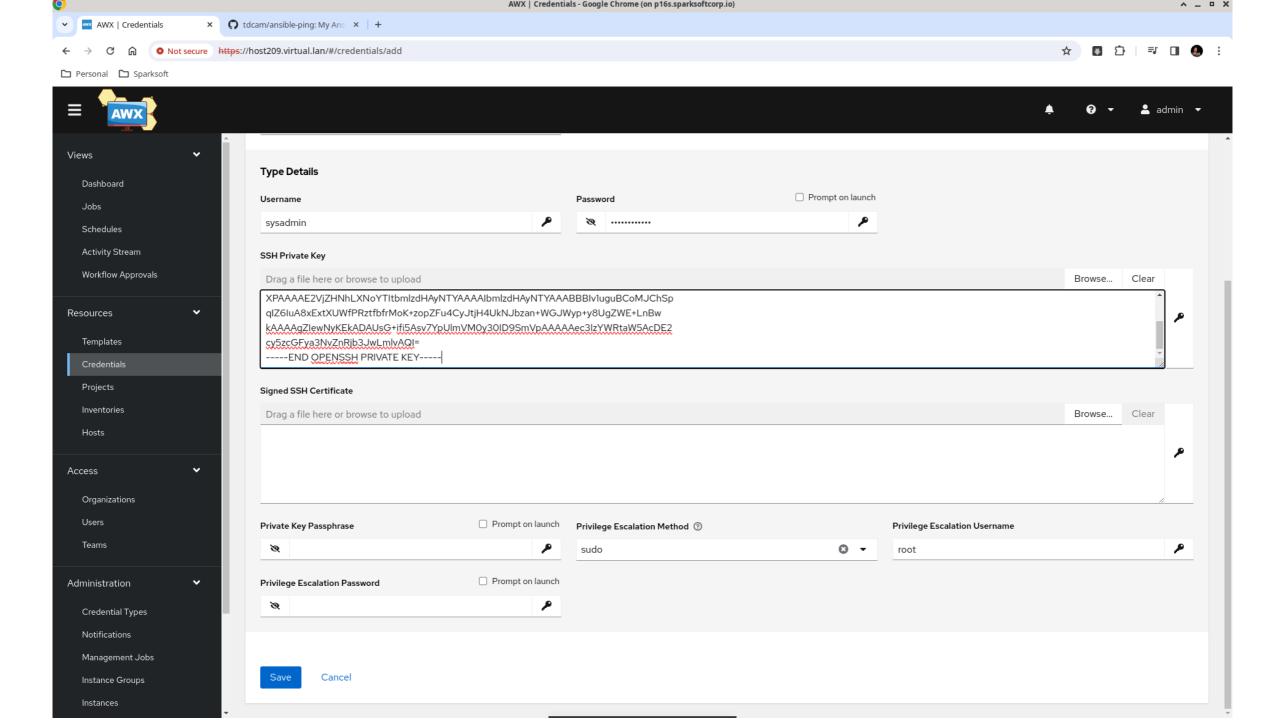
sysadmin@p16s:~\$

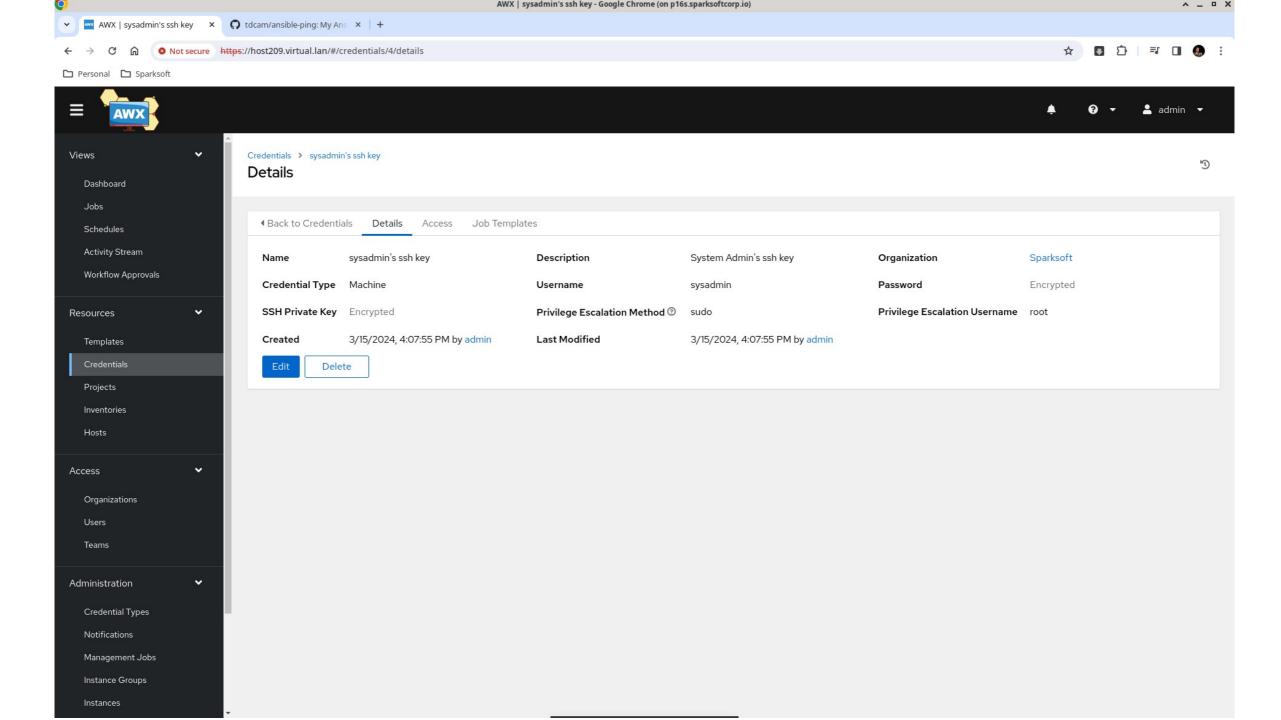
Credentials (managed machines)

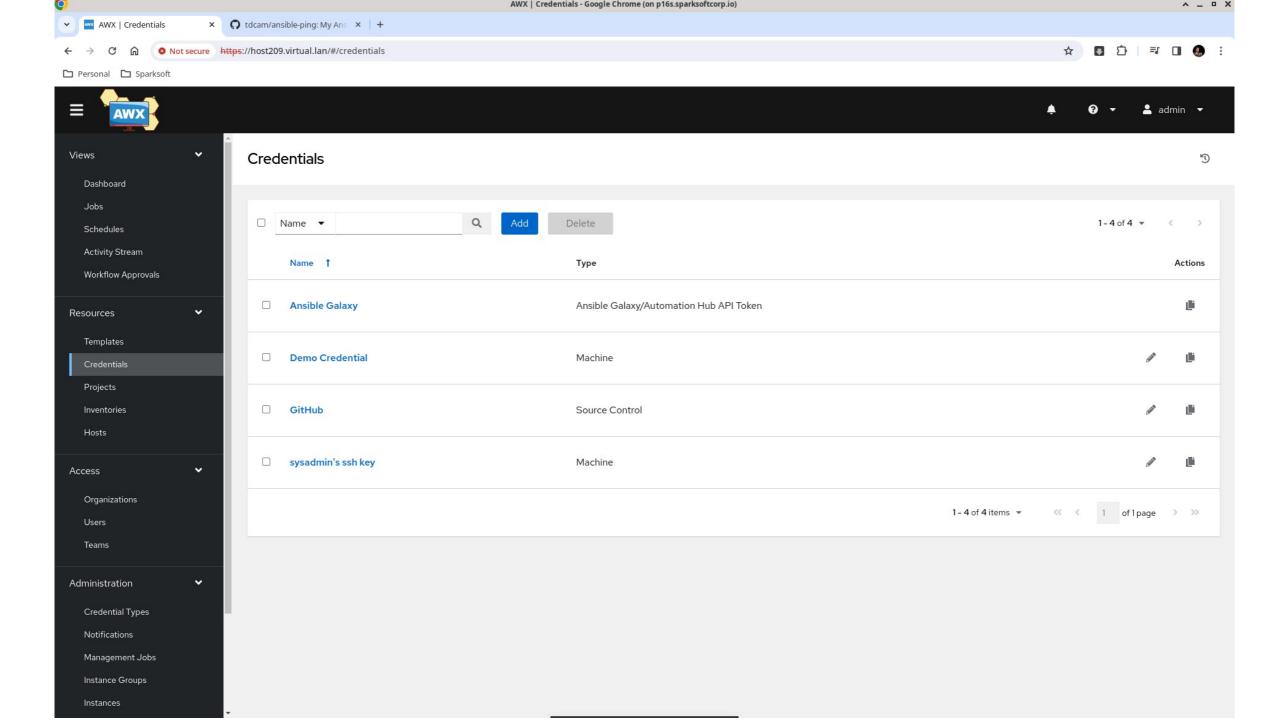
Now we tell AWX what our private key is so it can log into the managed machines







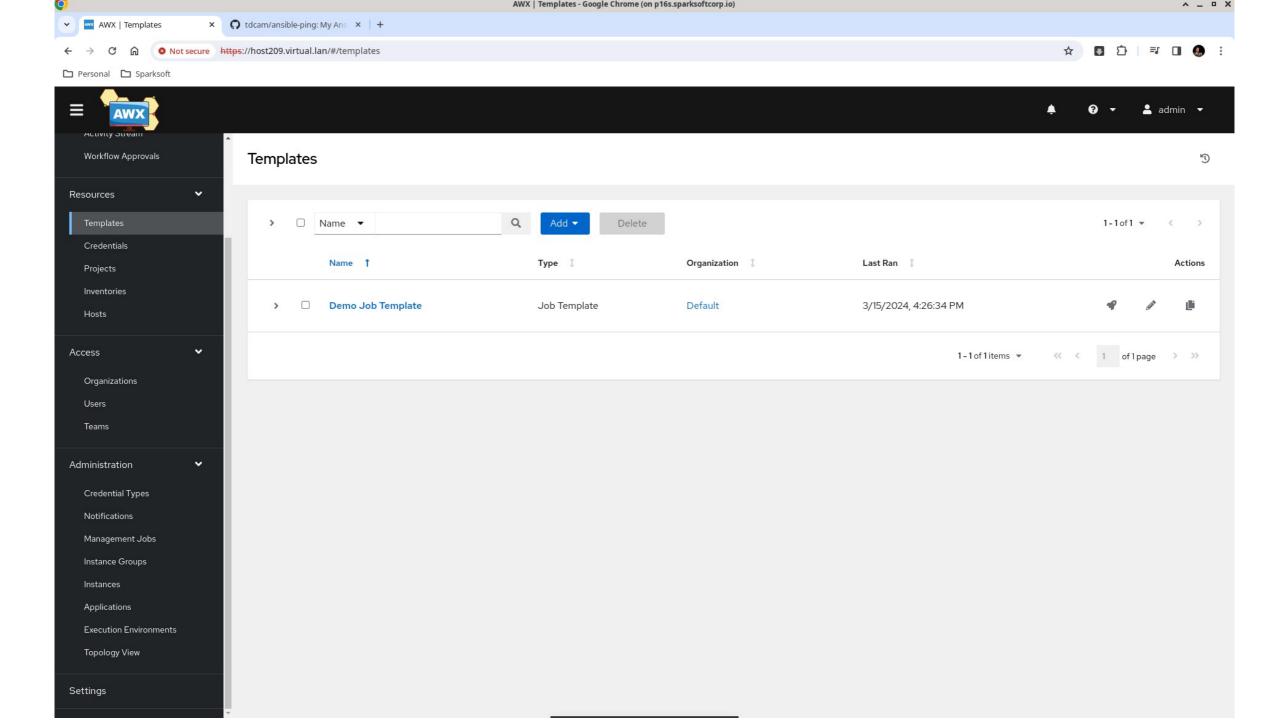


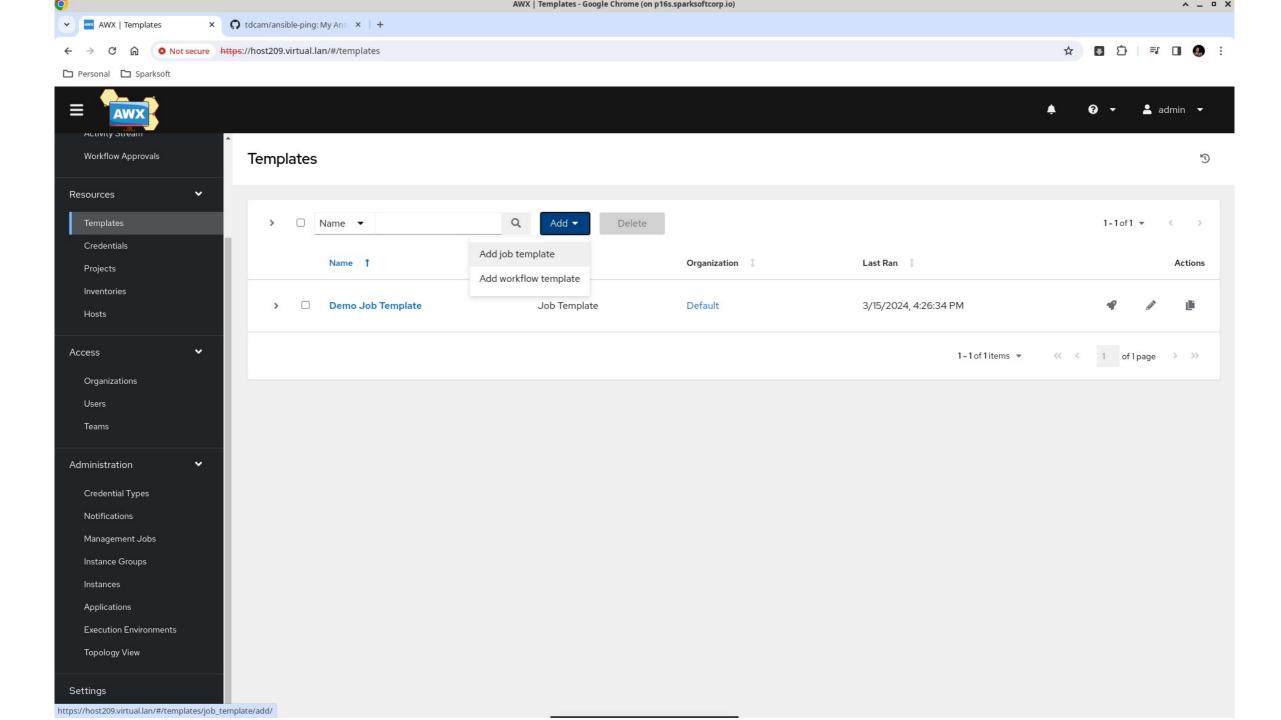


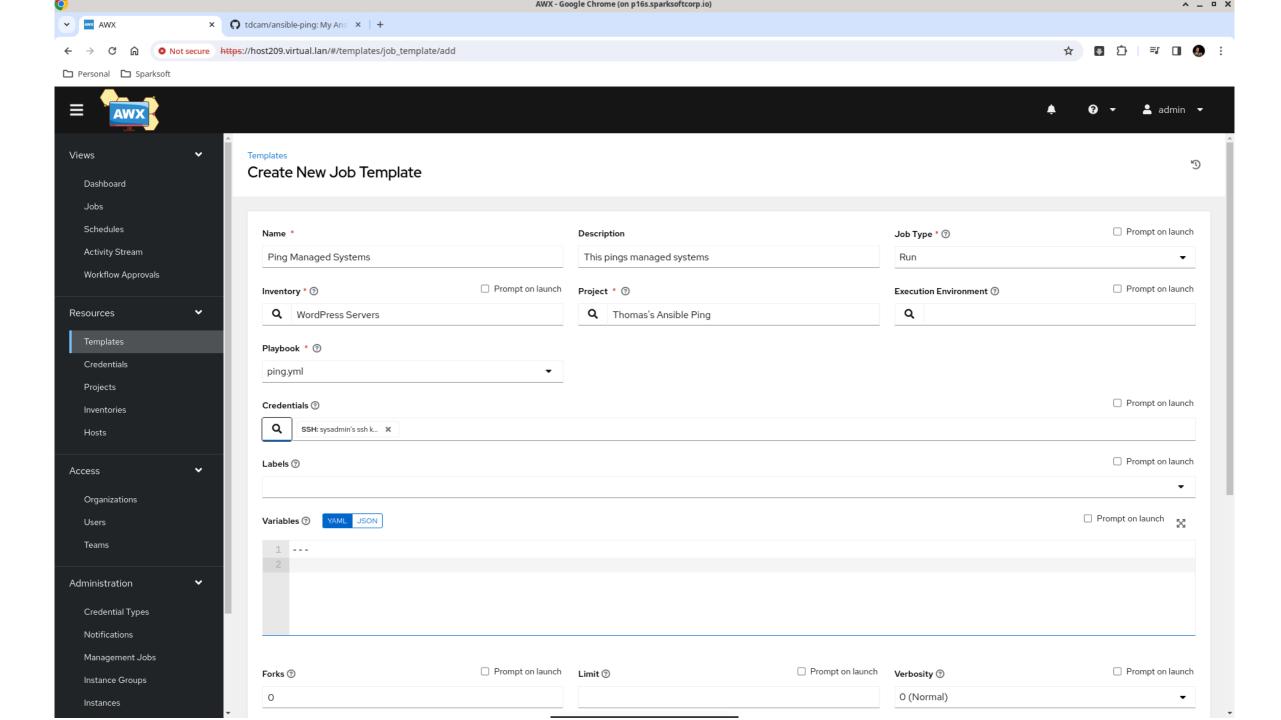
Ping template

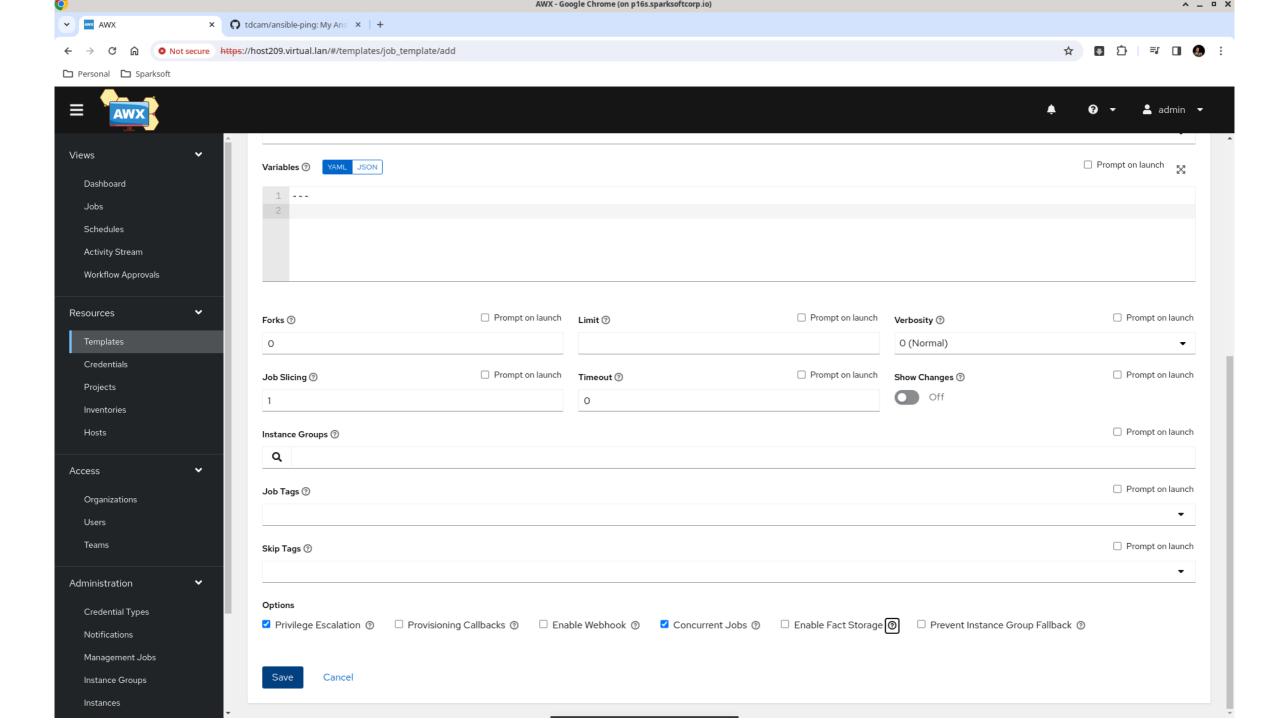
They're not playbooks

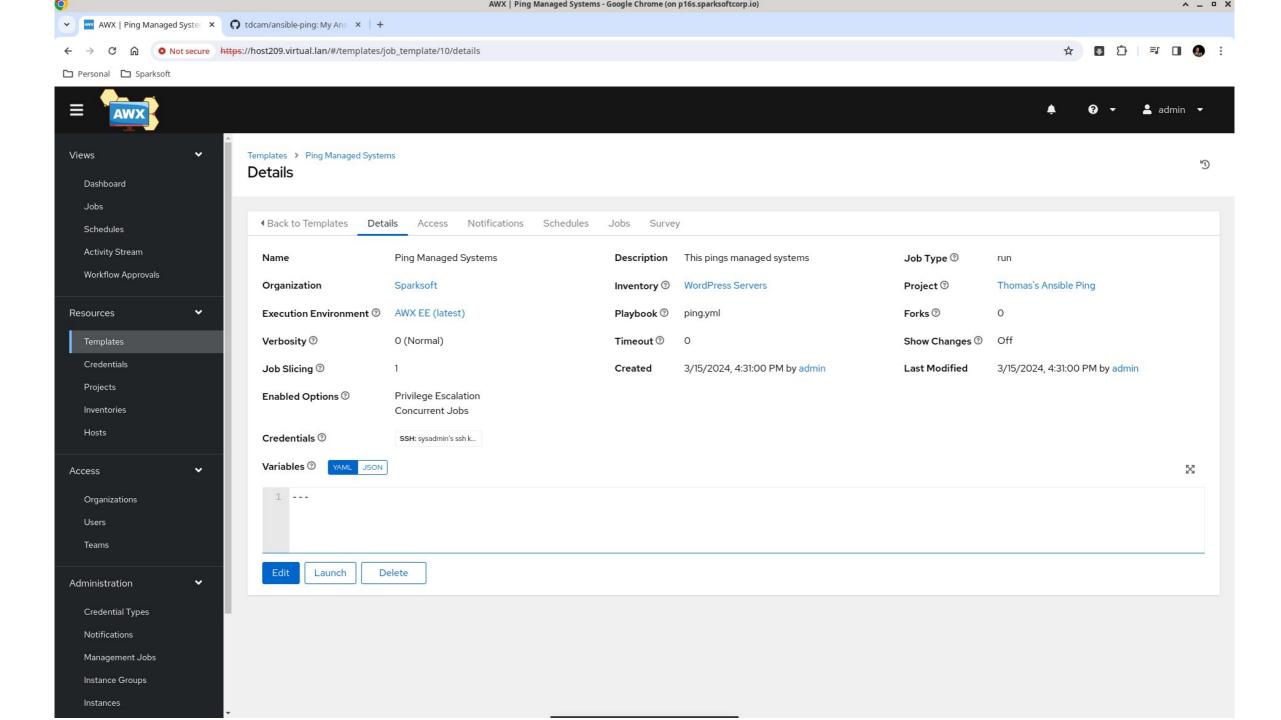


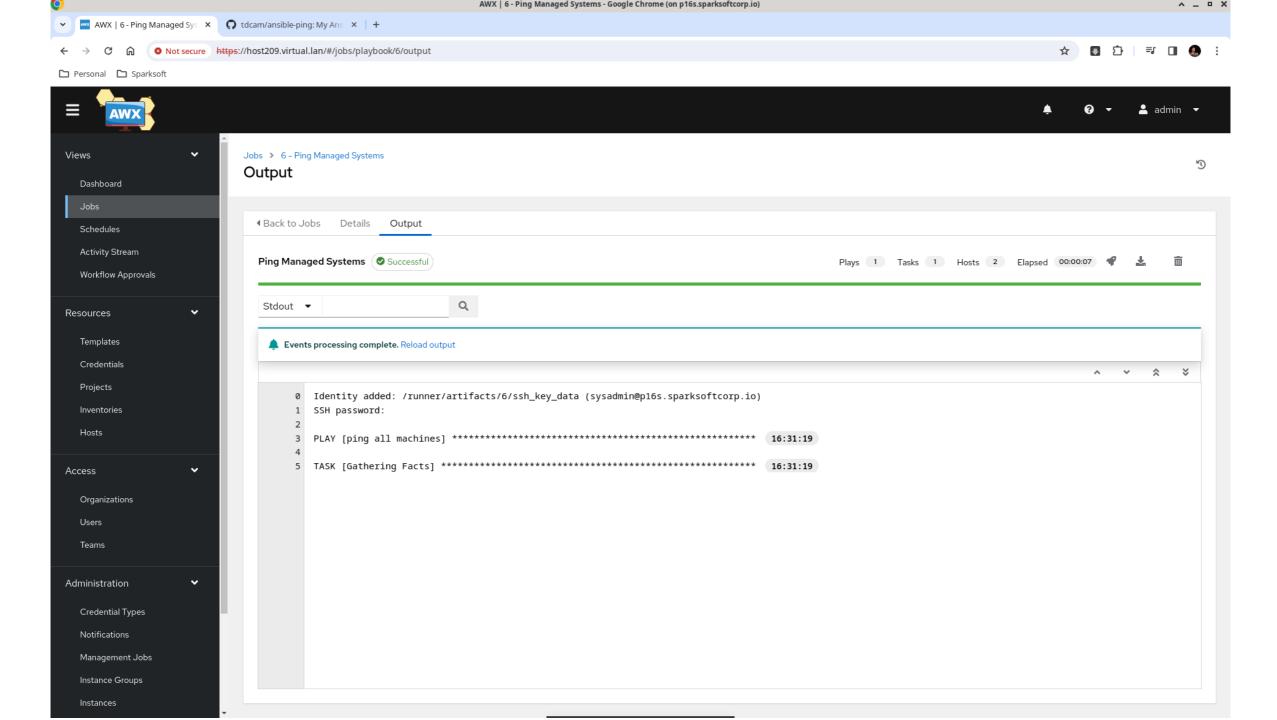


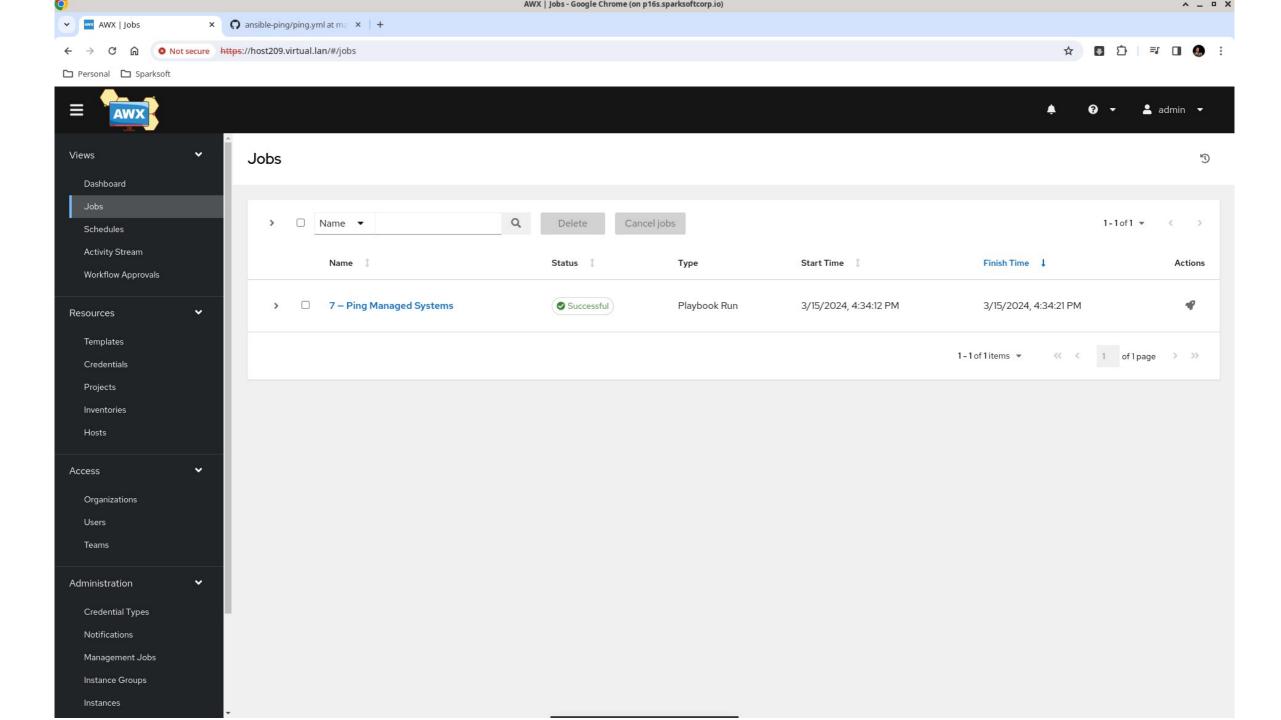




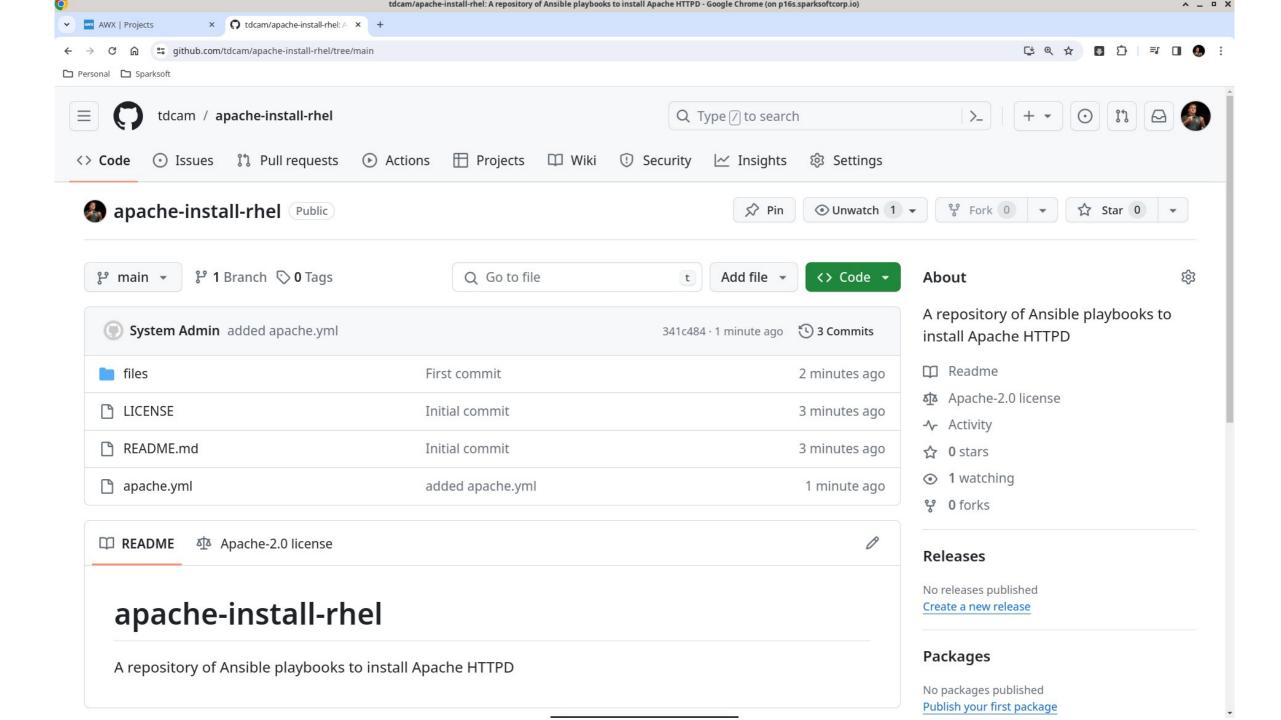


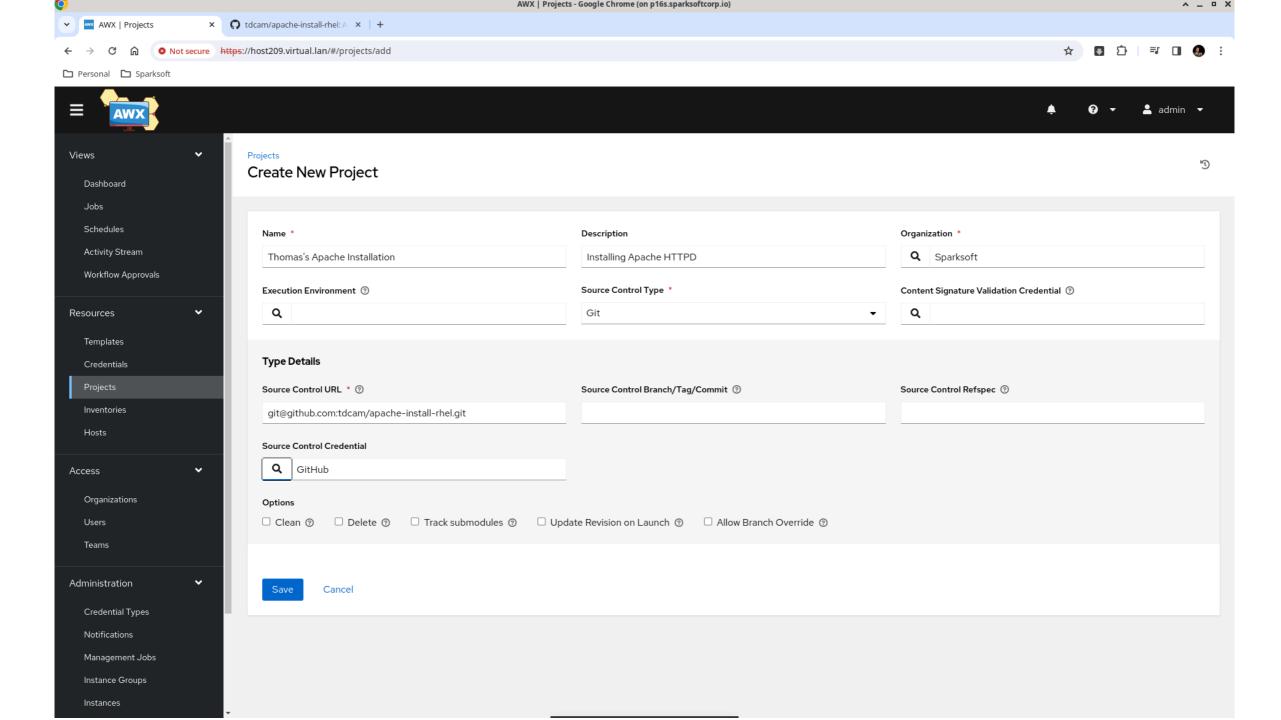


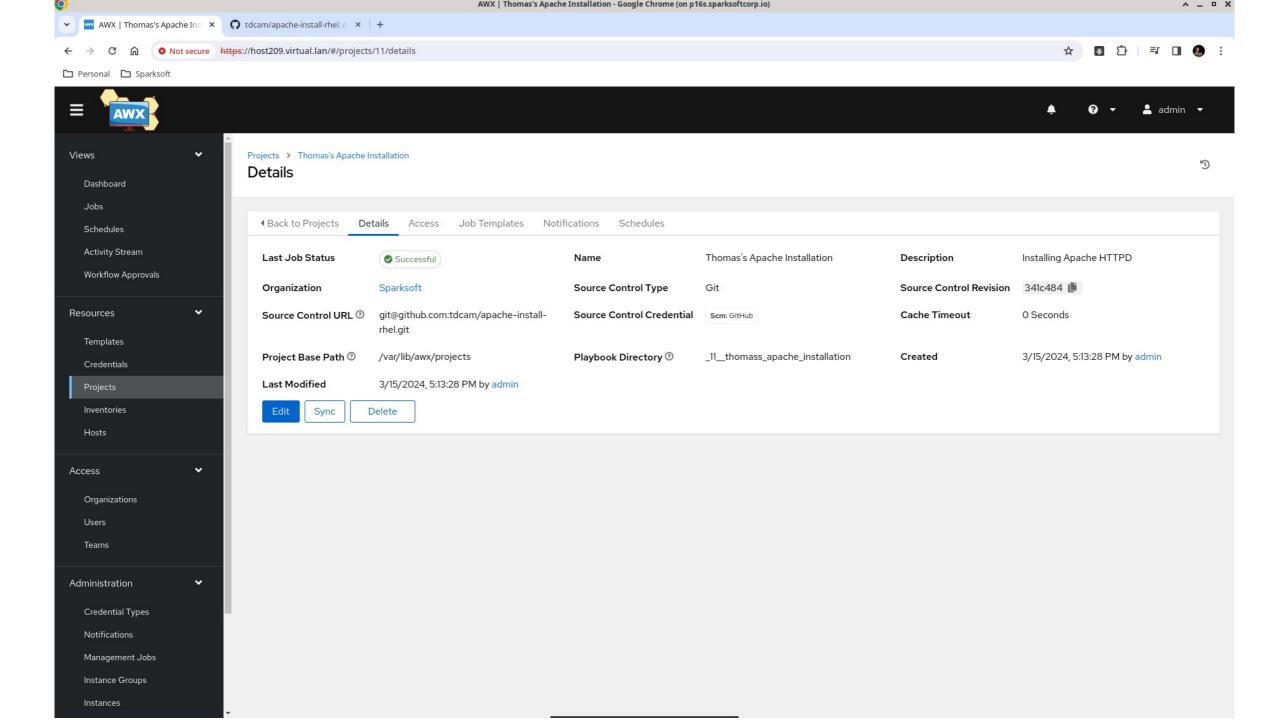




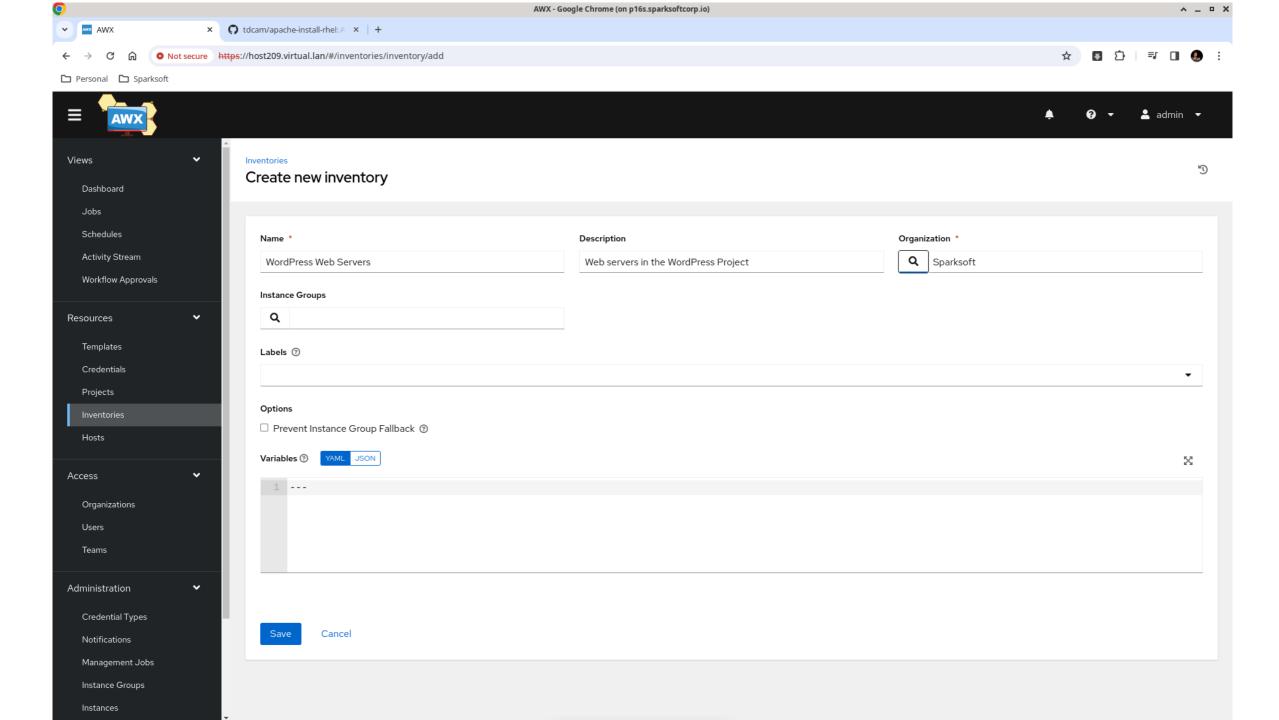
Apache httpd Project

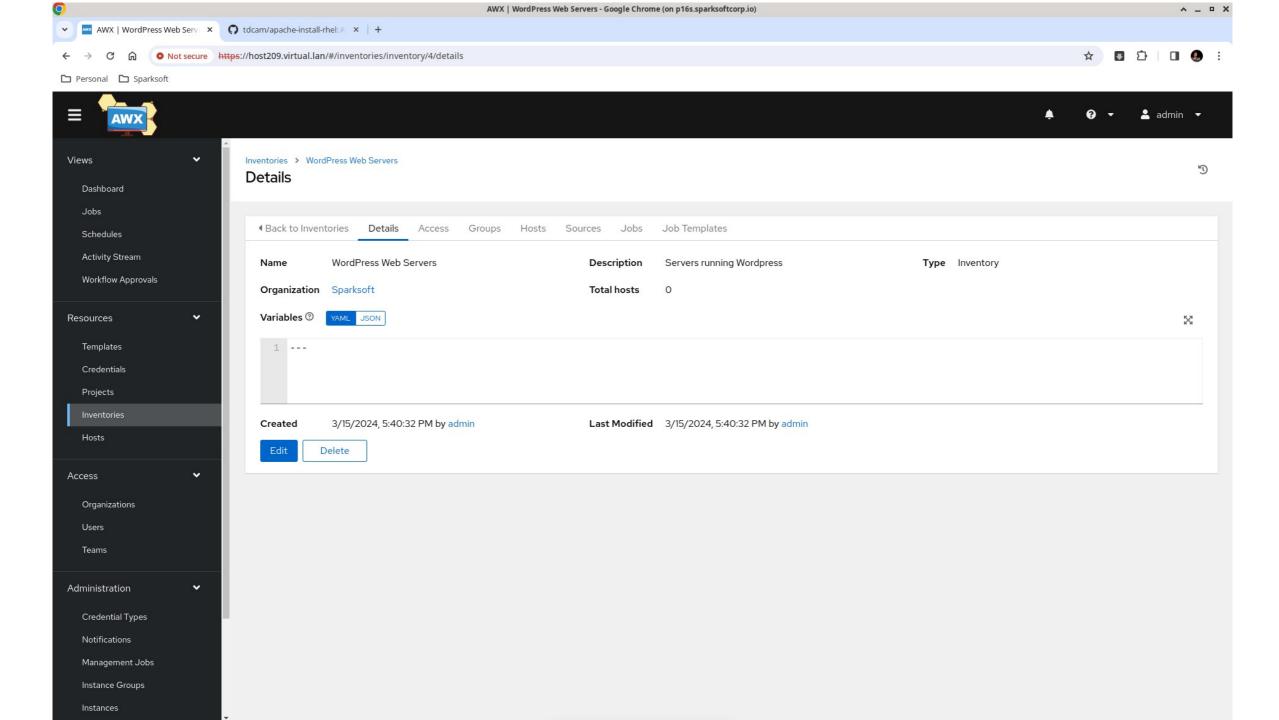


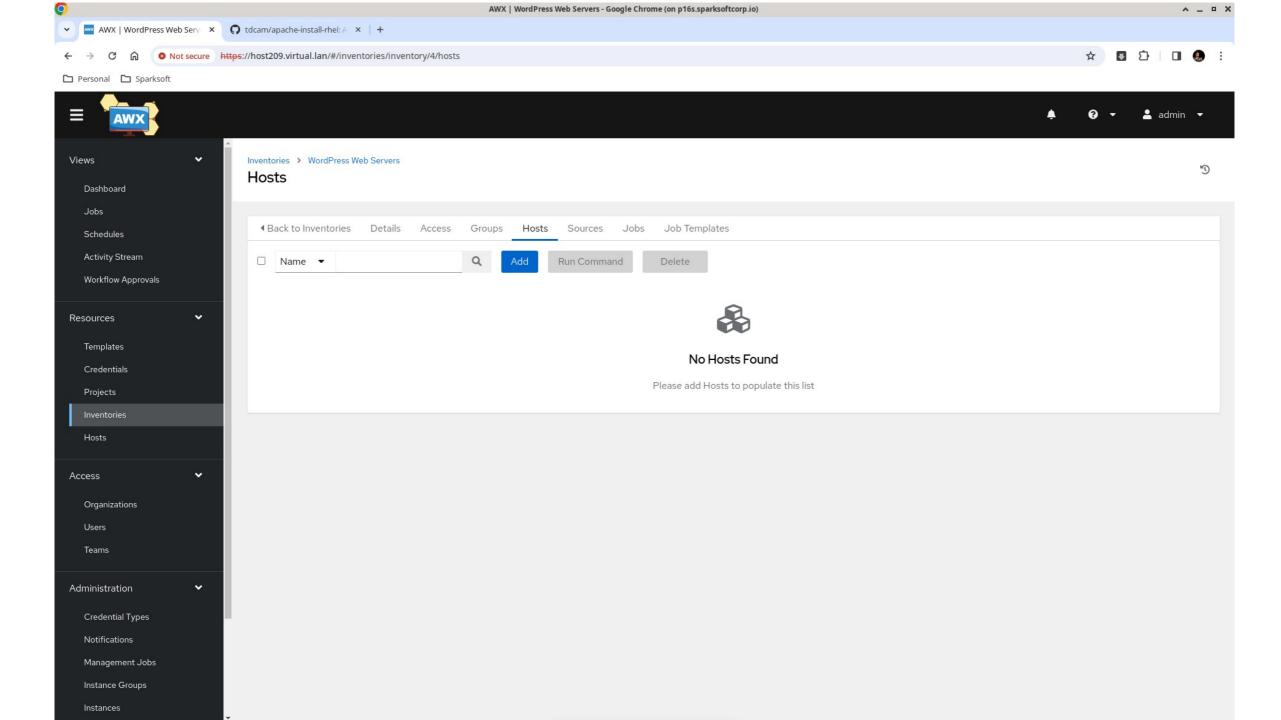


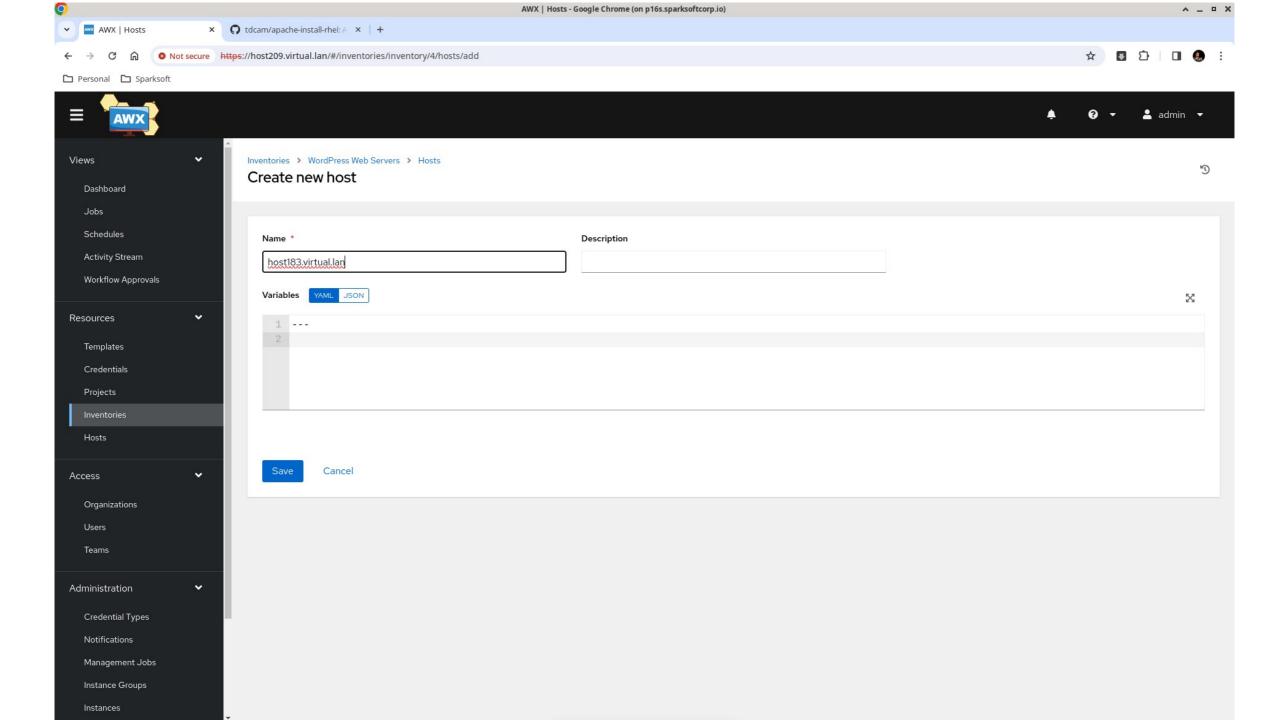


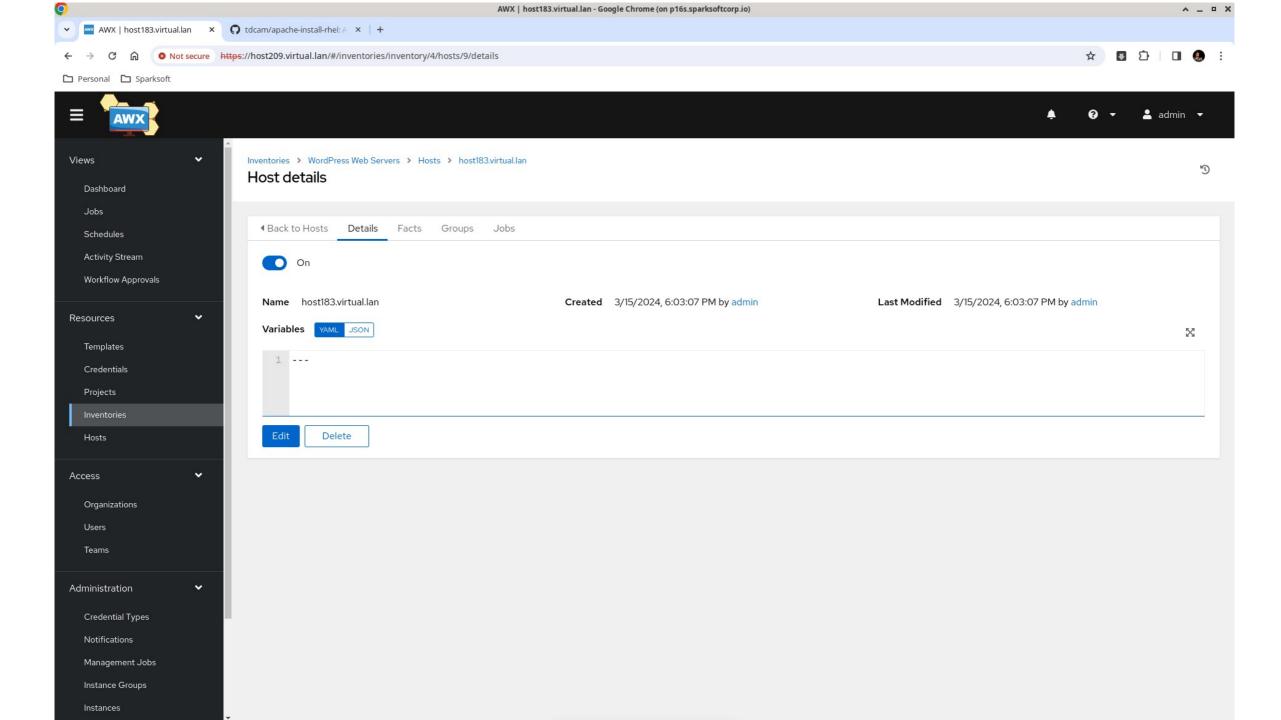
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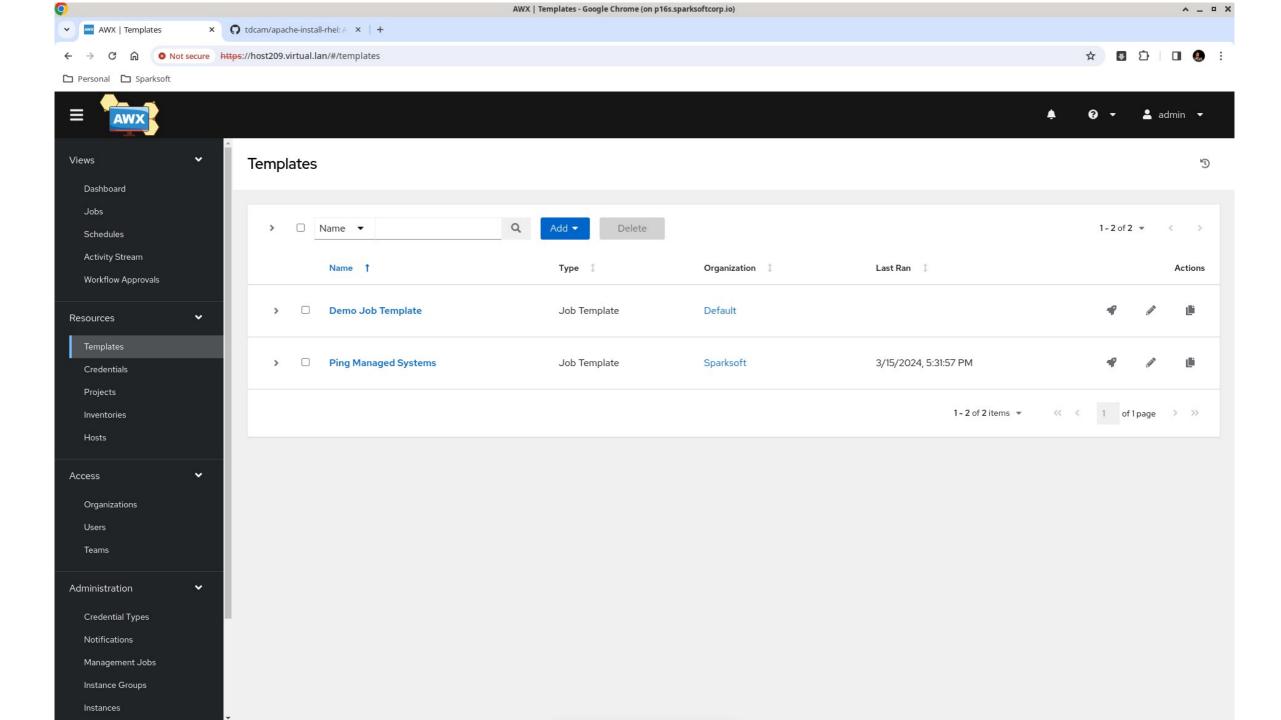


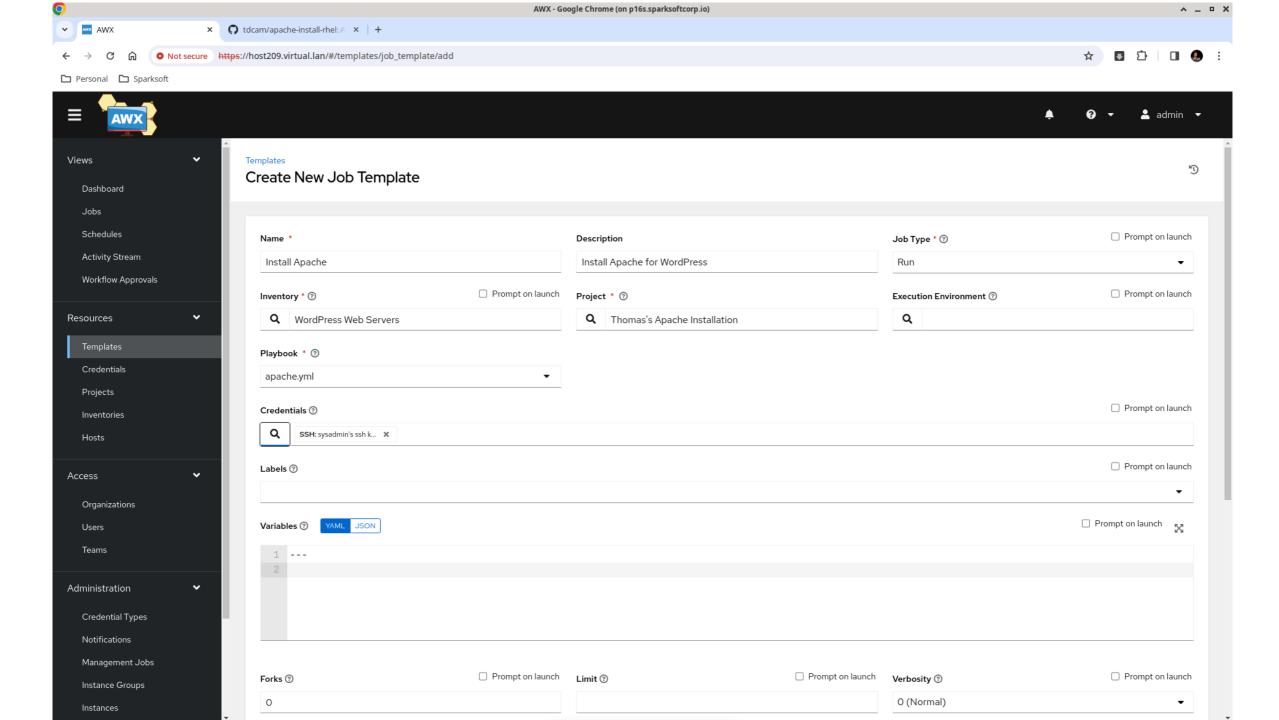


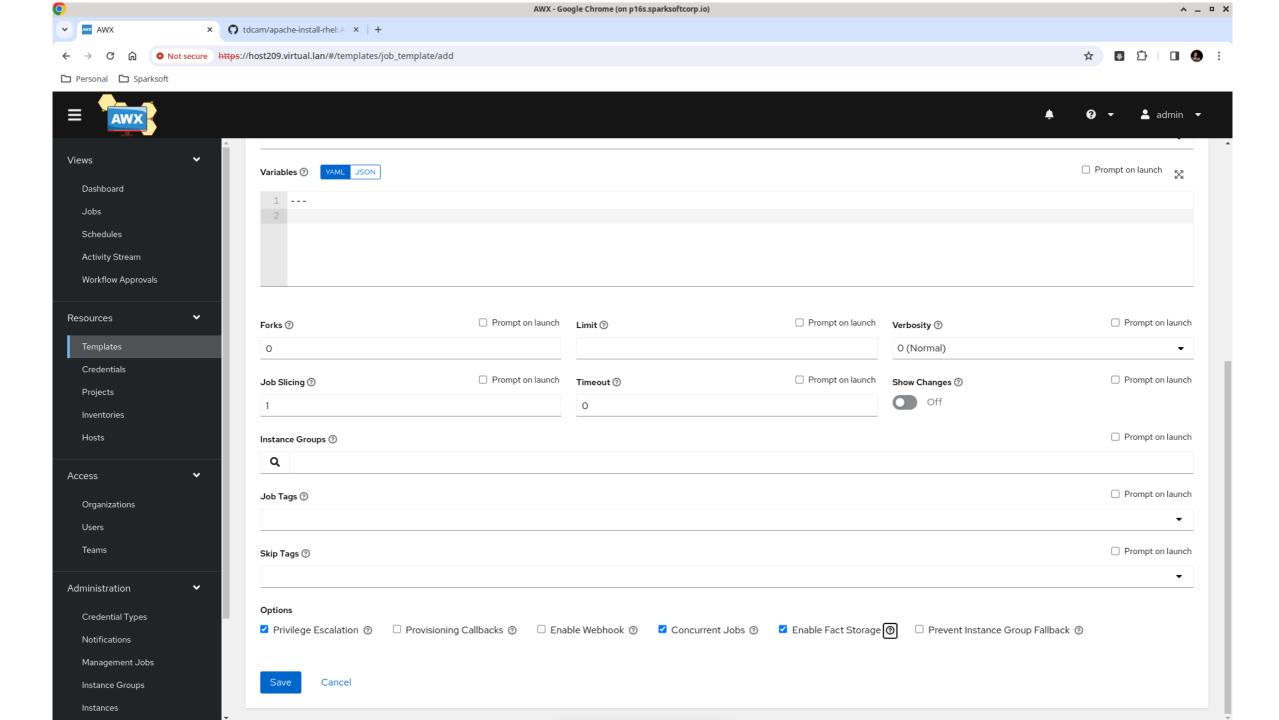


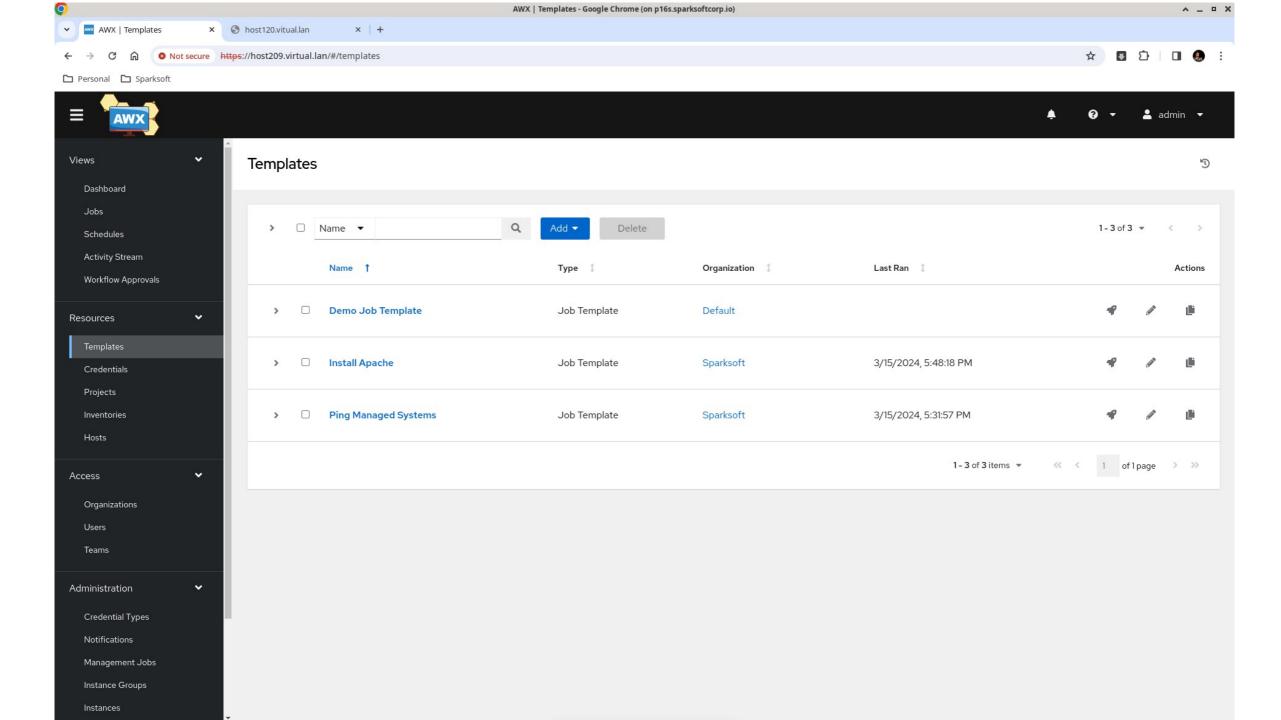


Apache create template

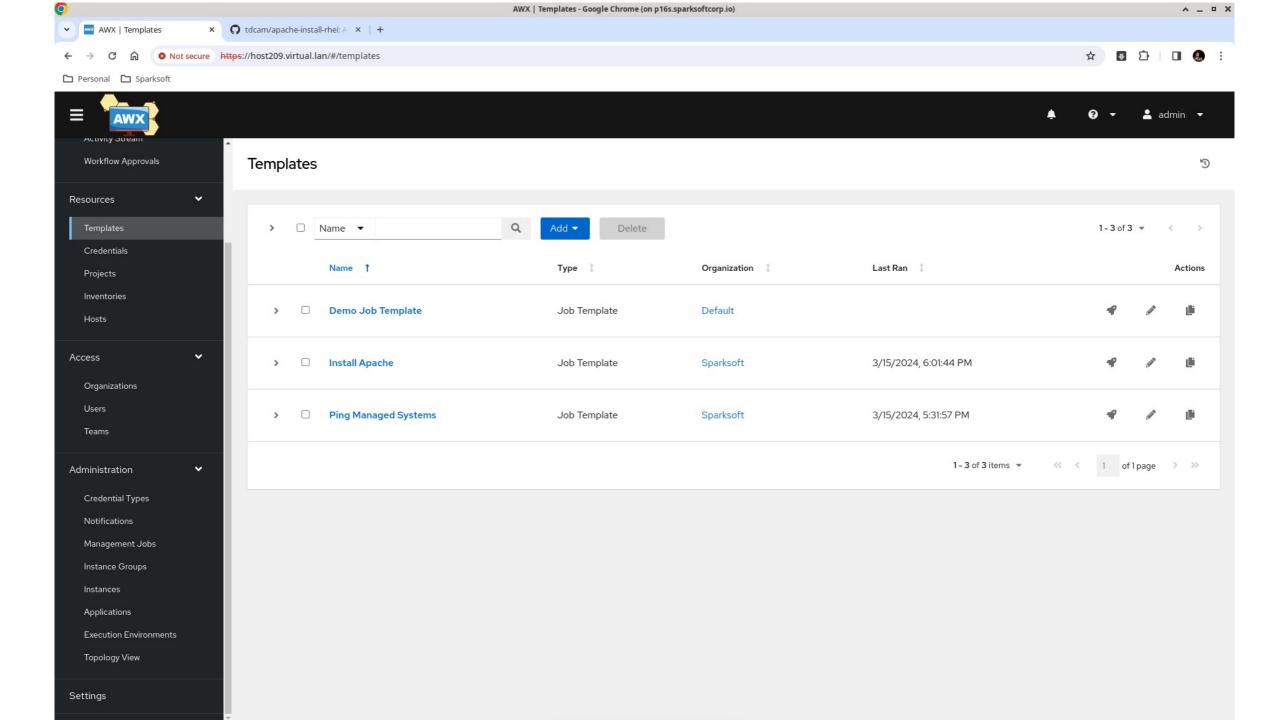


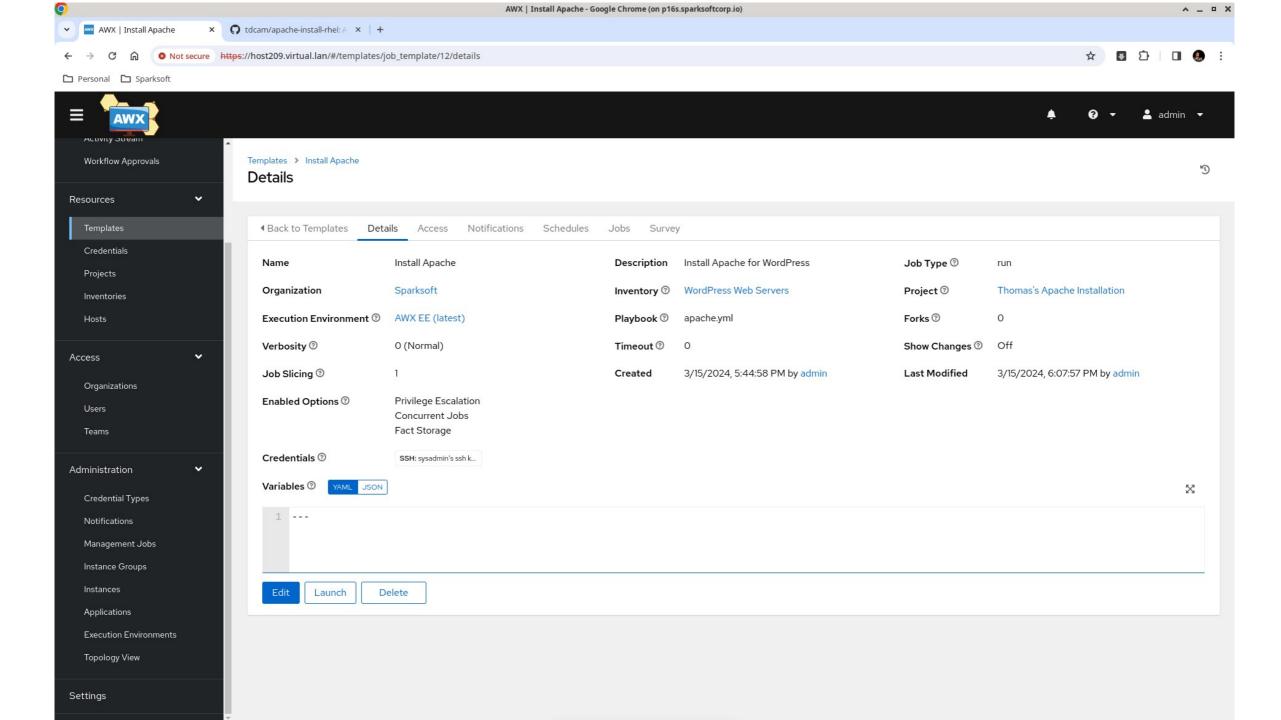


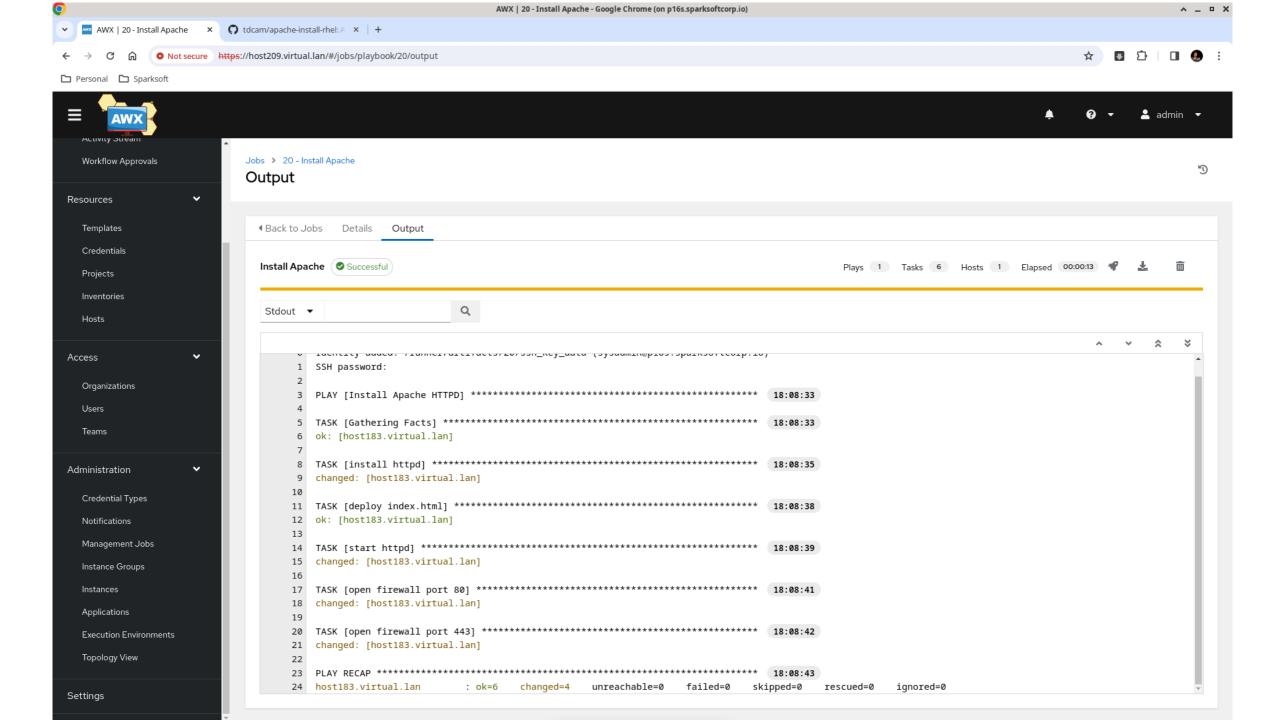




Apache installation



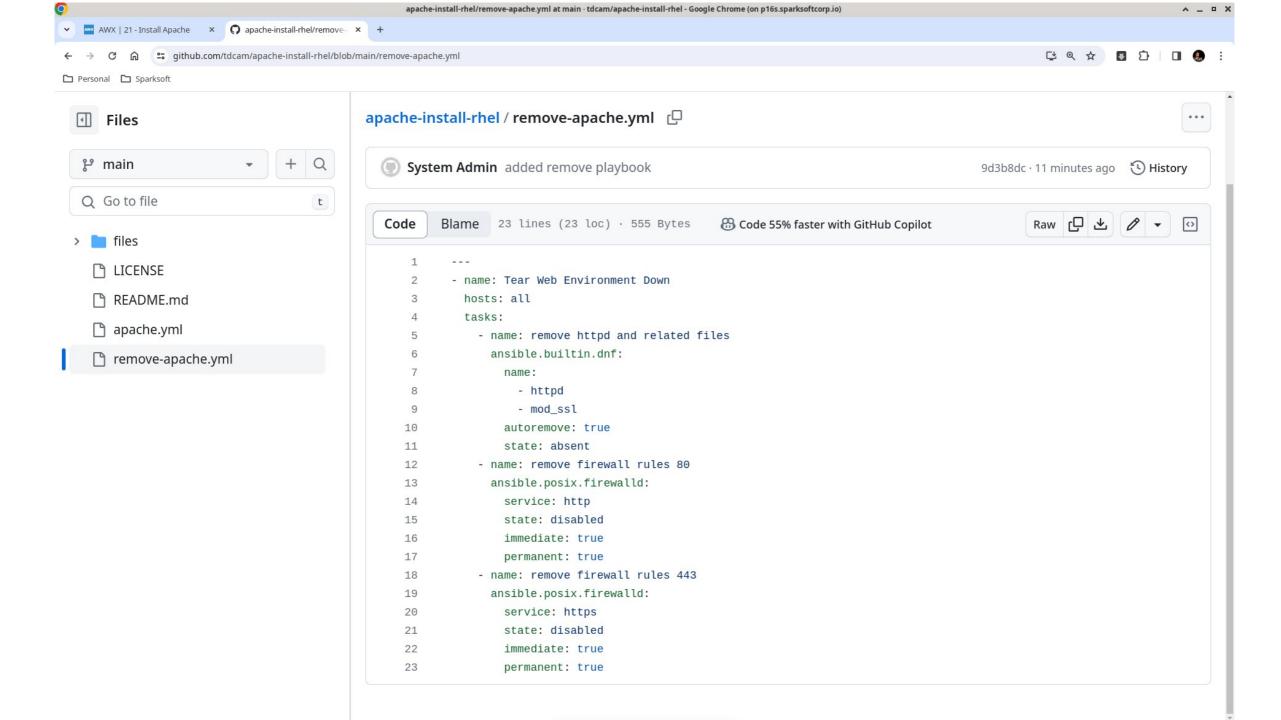


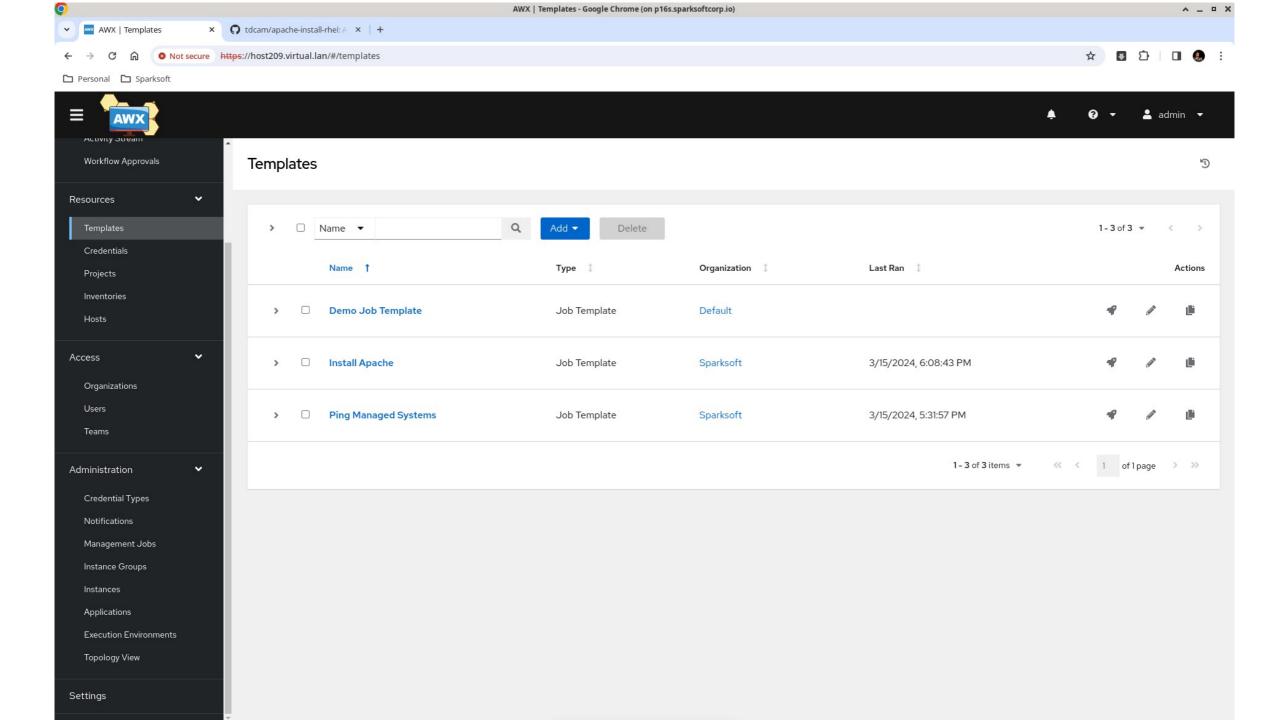


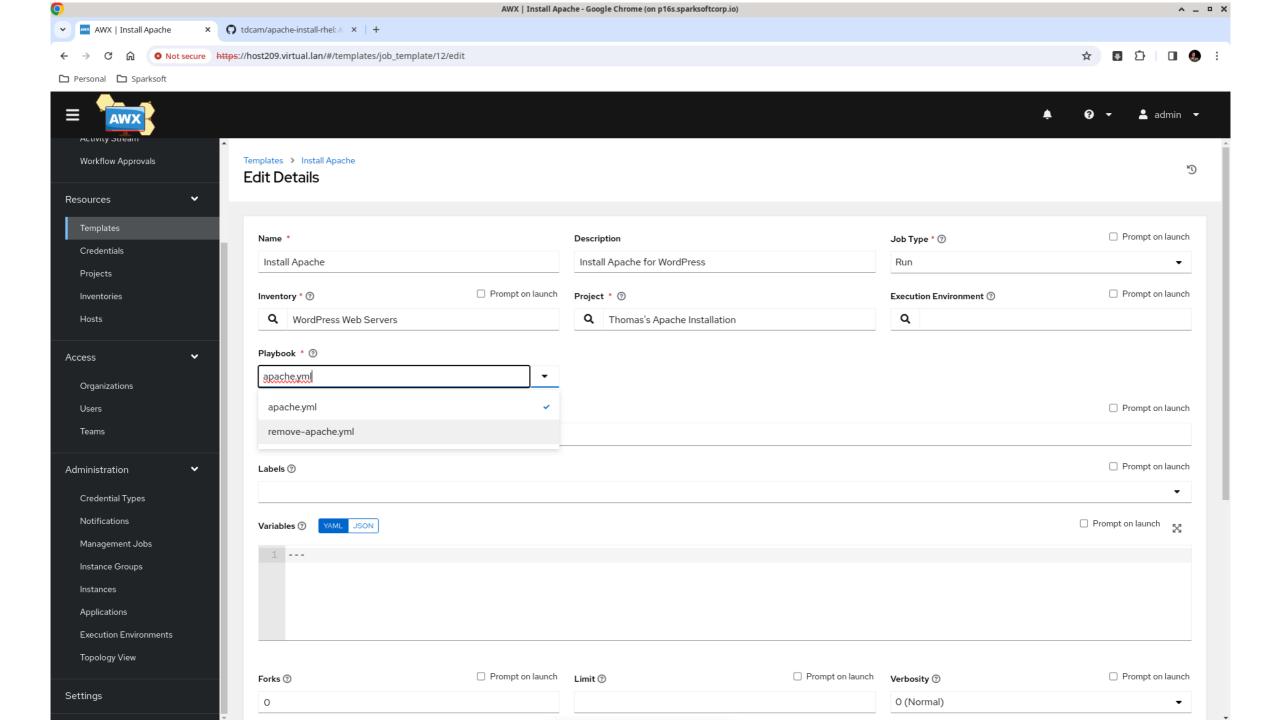


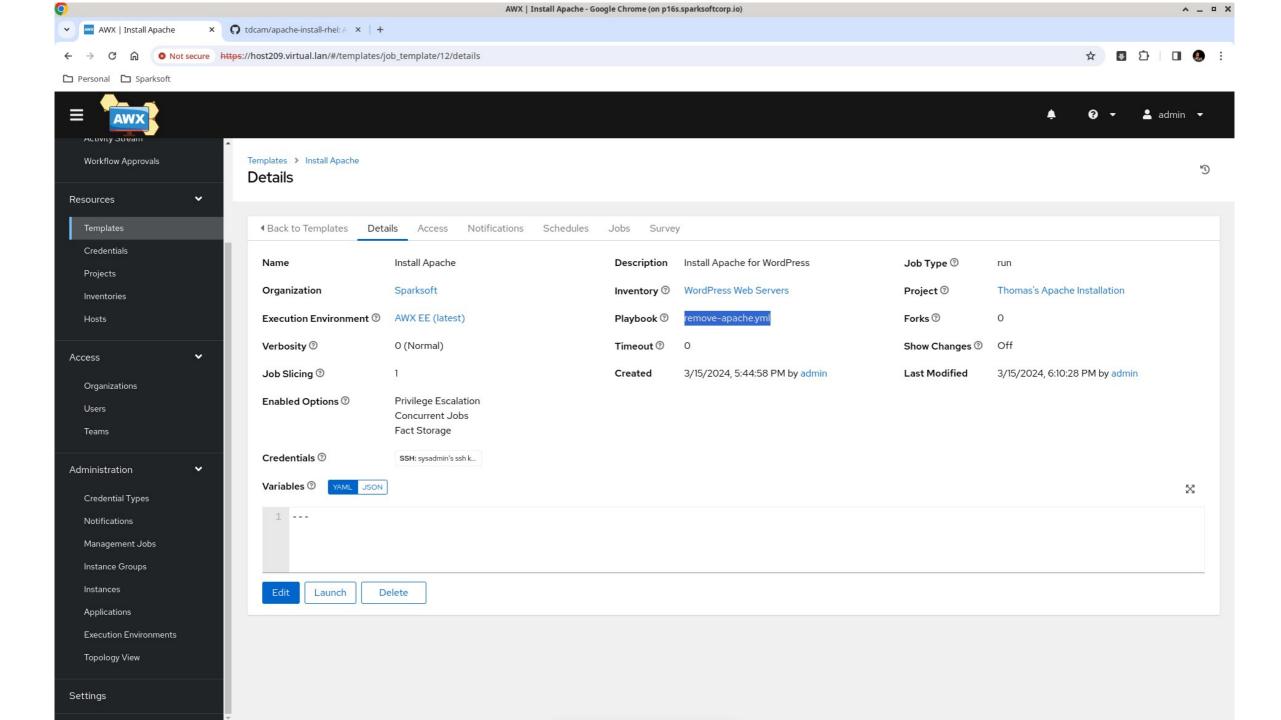
Apache removal

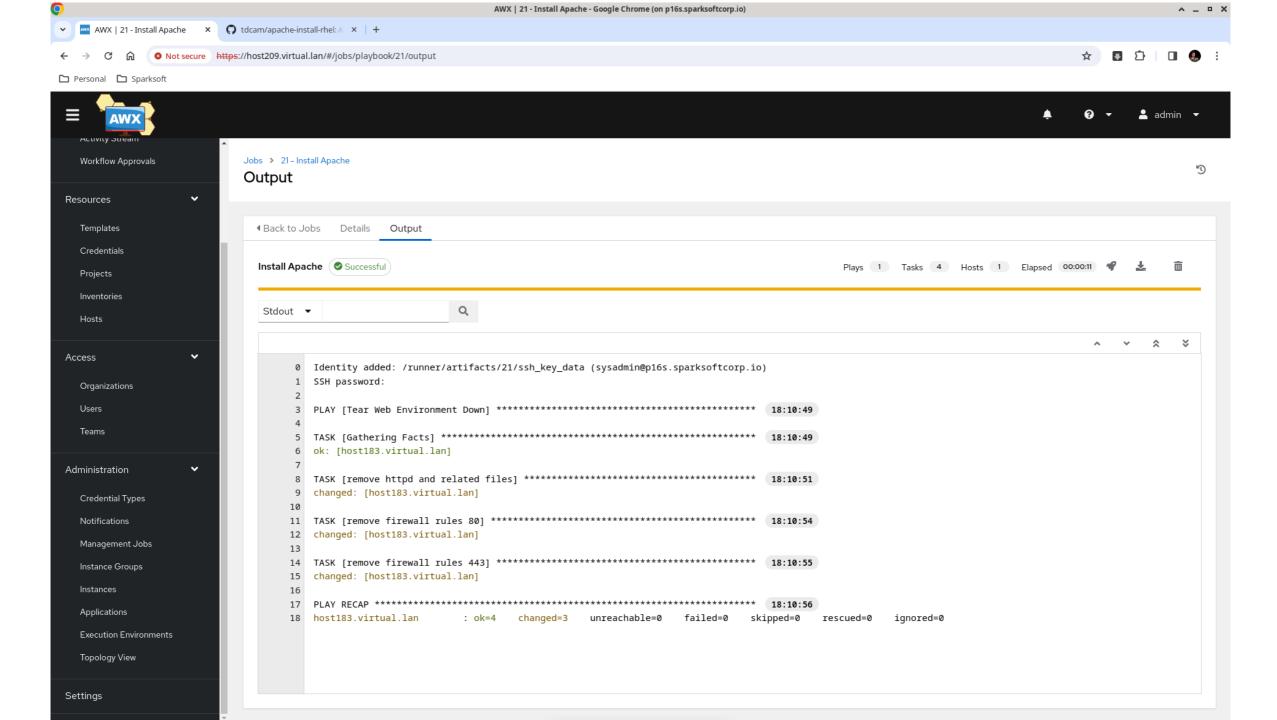
Doesn't hurt to reverse the process















This site can't be reached

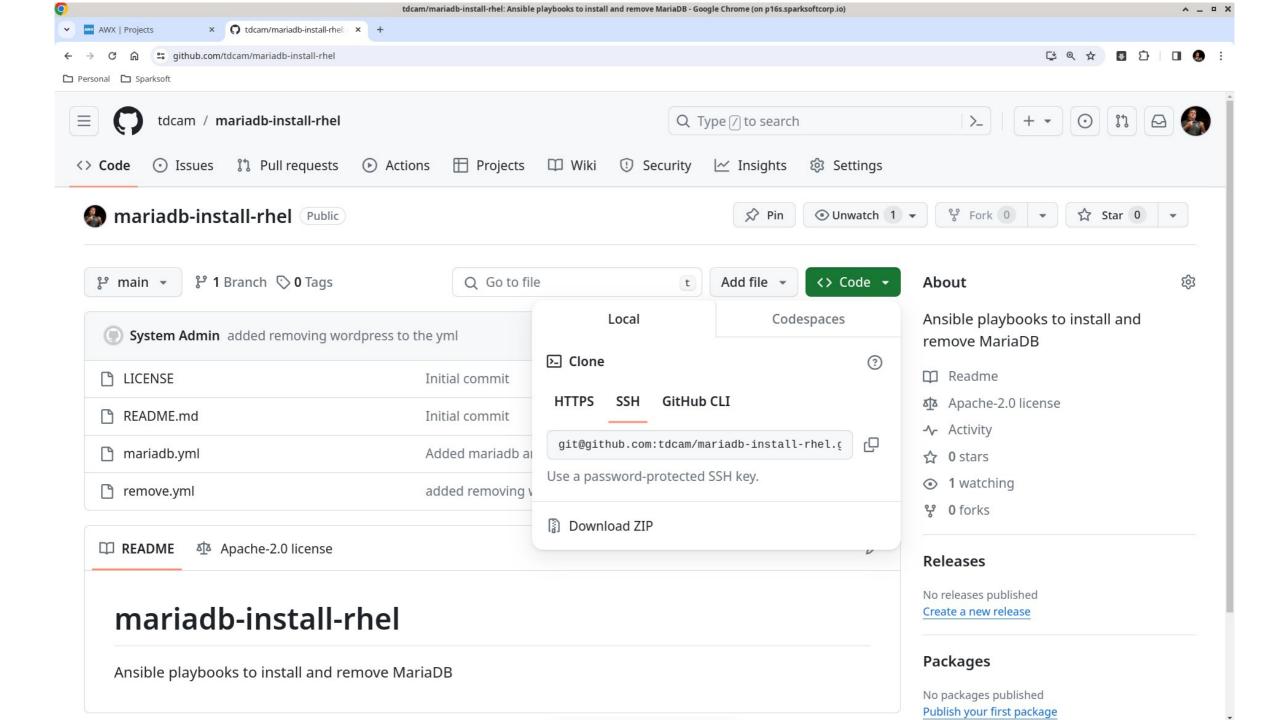
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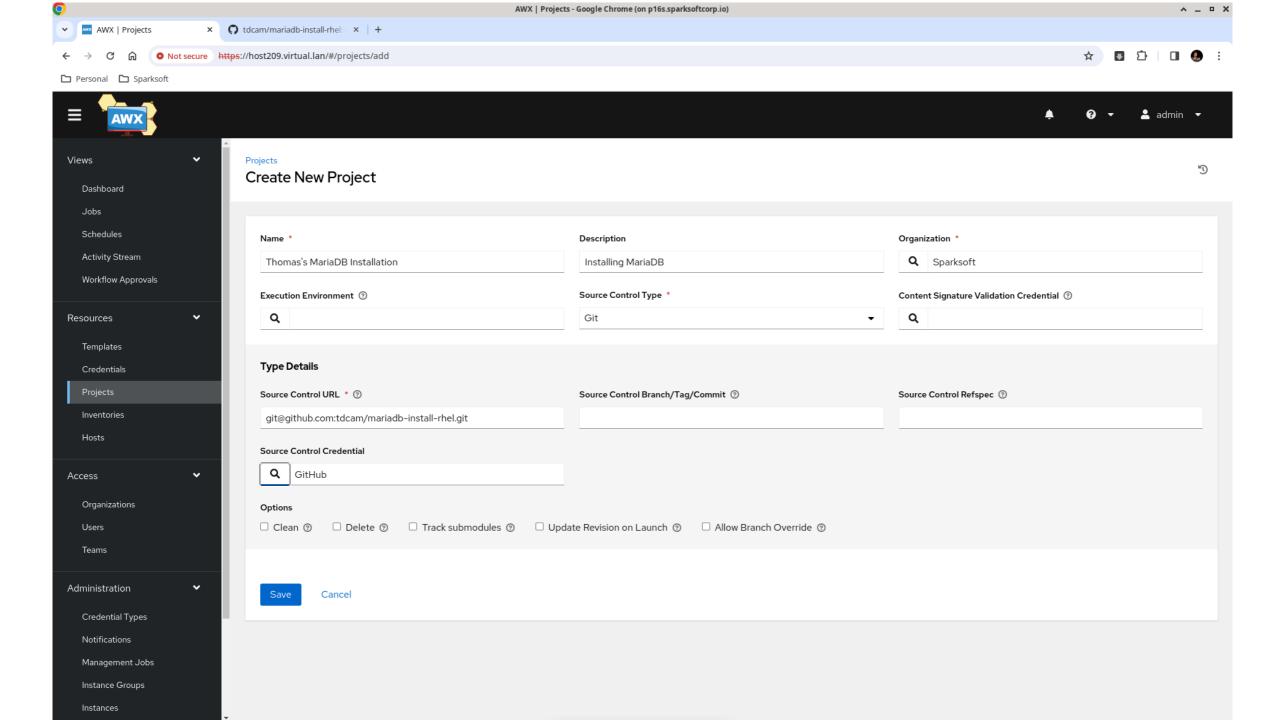
ERR_ADDRESS_UNREACHABLE

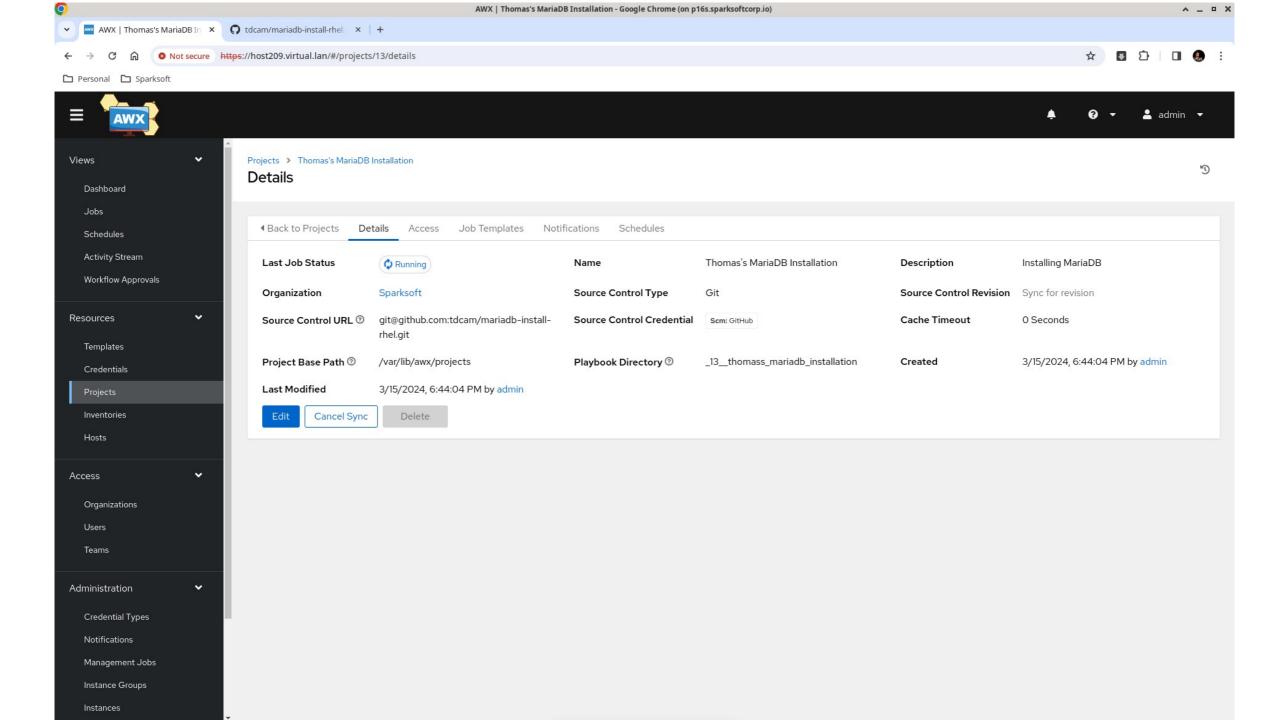
Reload

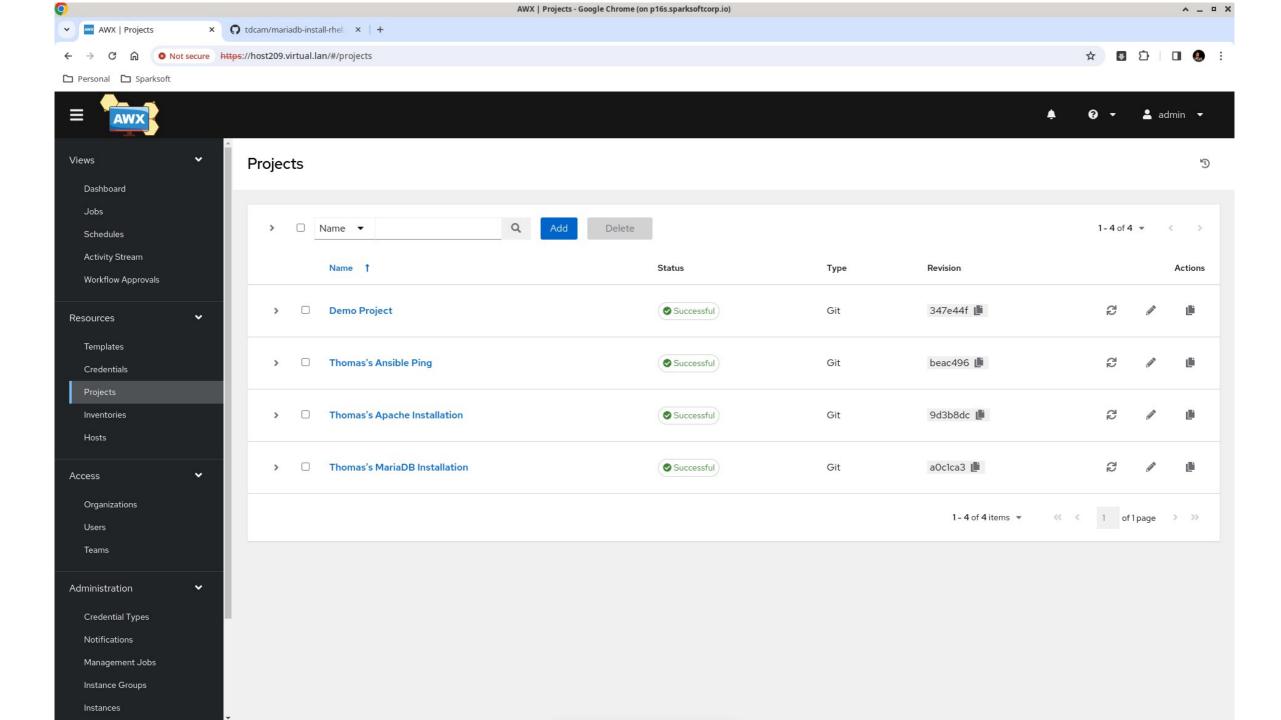
MariaDB Project

For the database tier



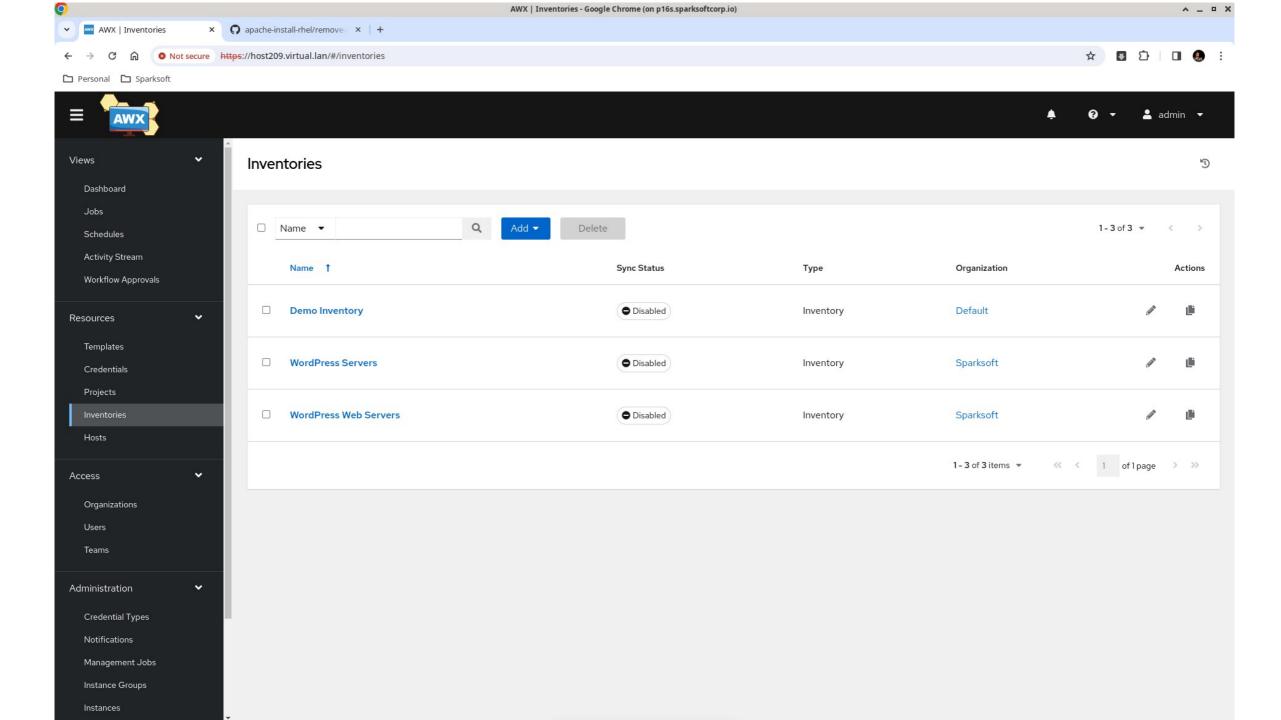


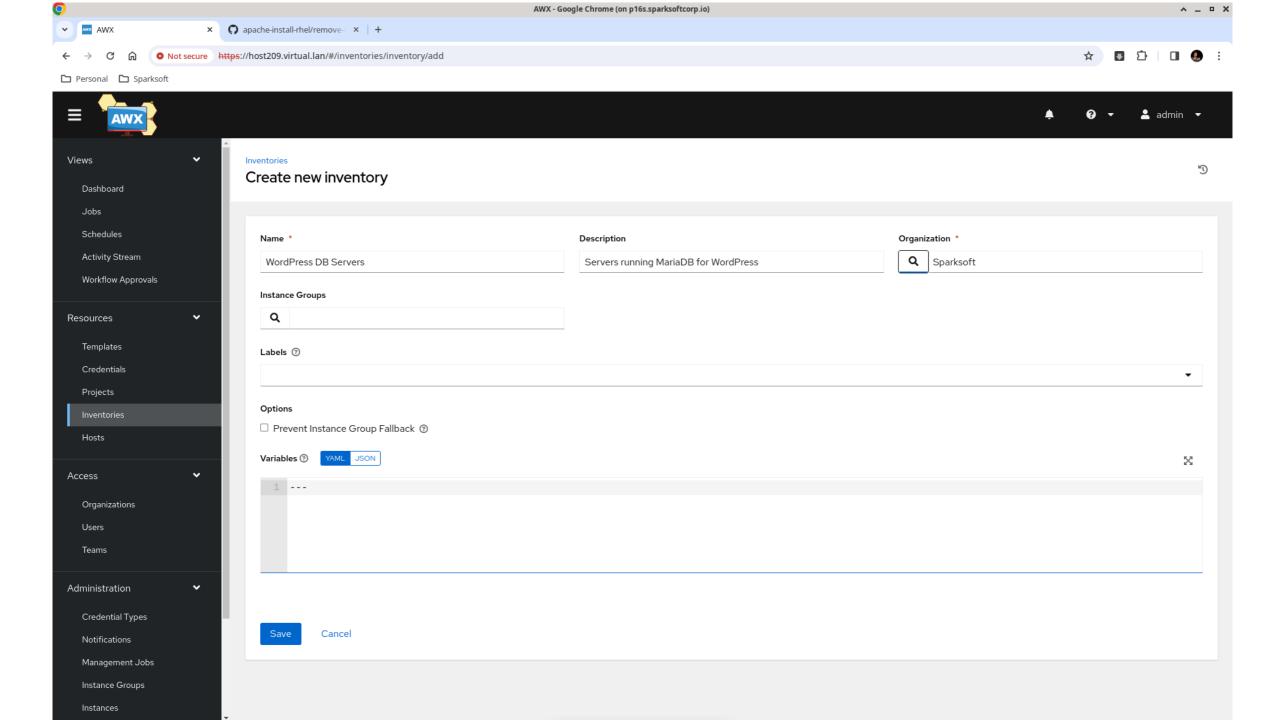


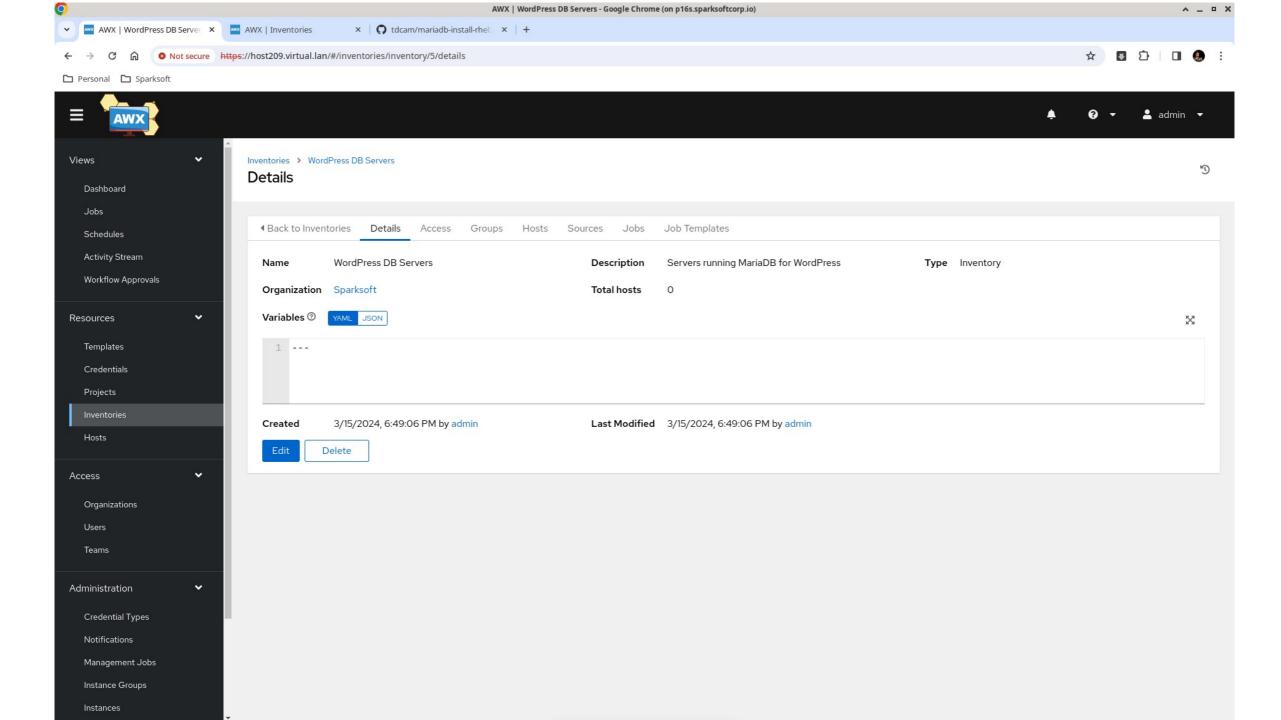


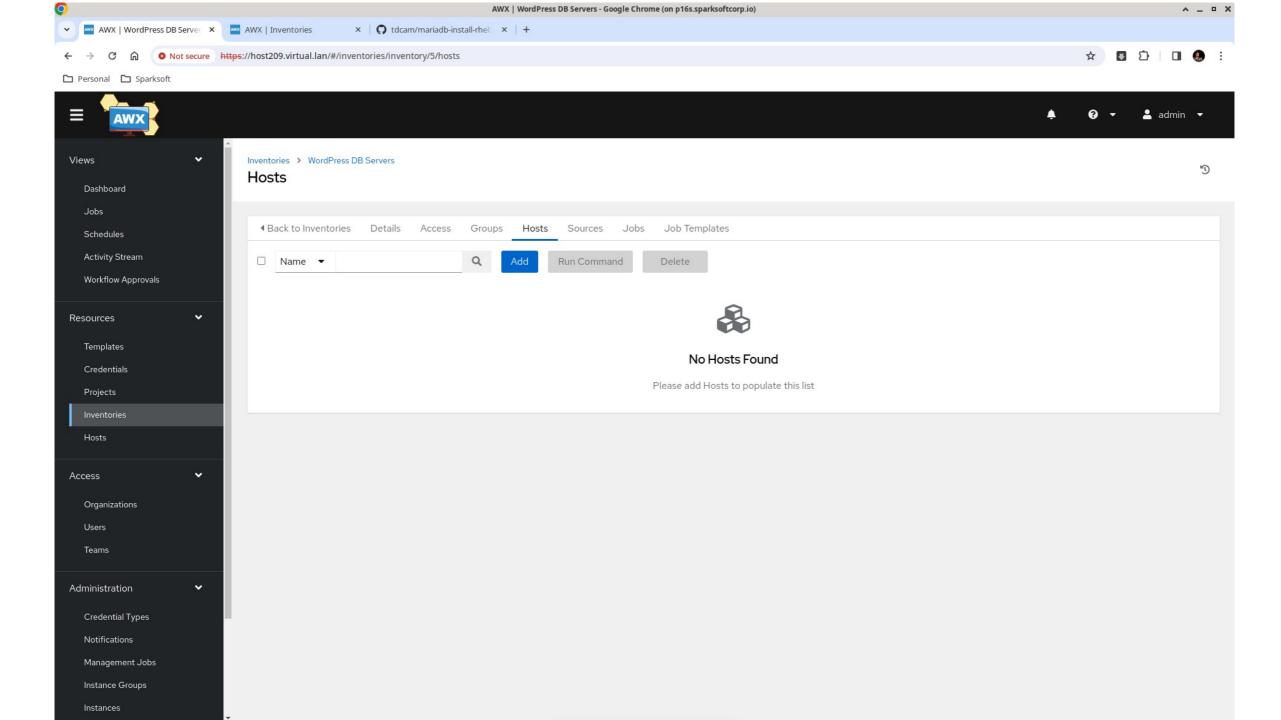
MariaDB Project

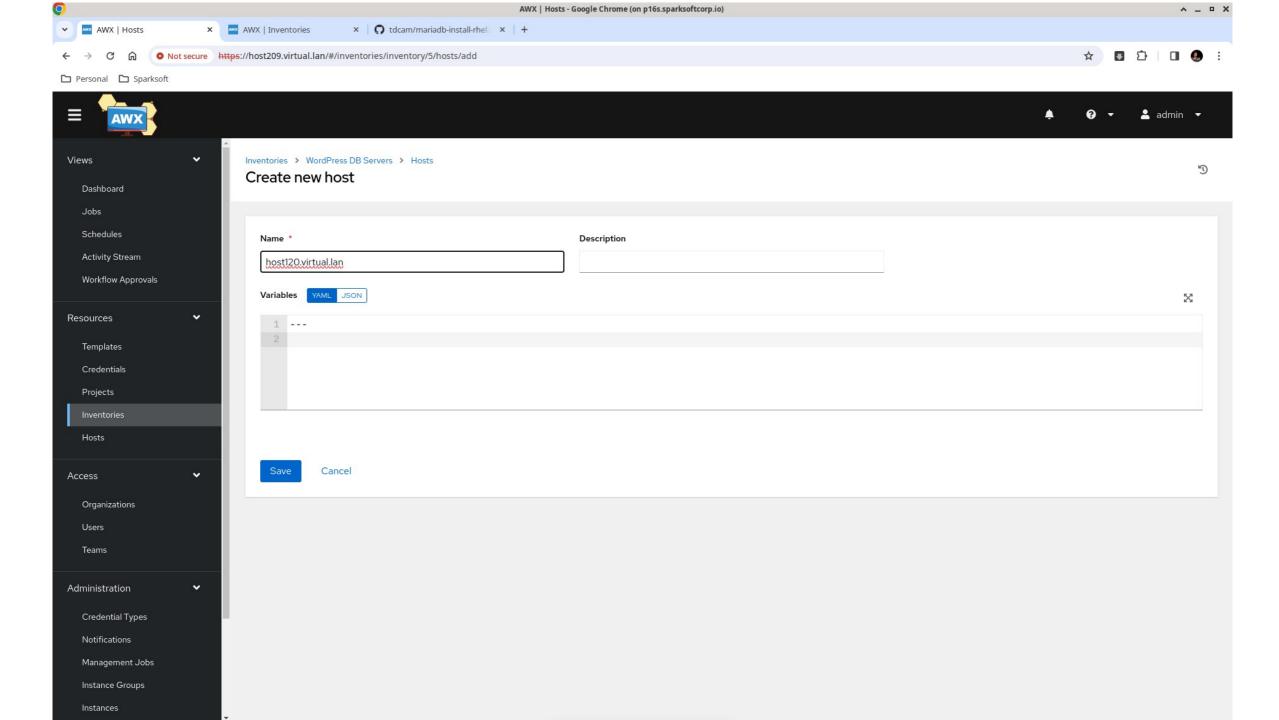
For the database tier

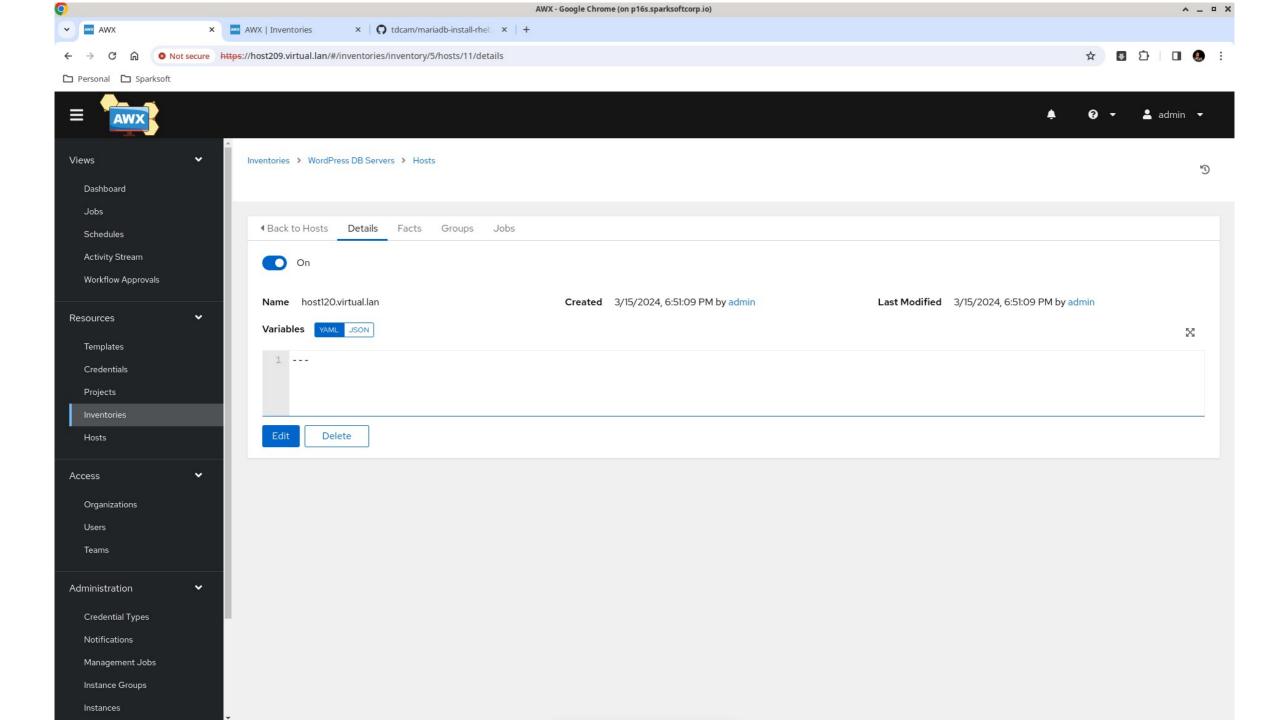


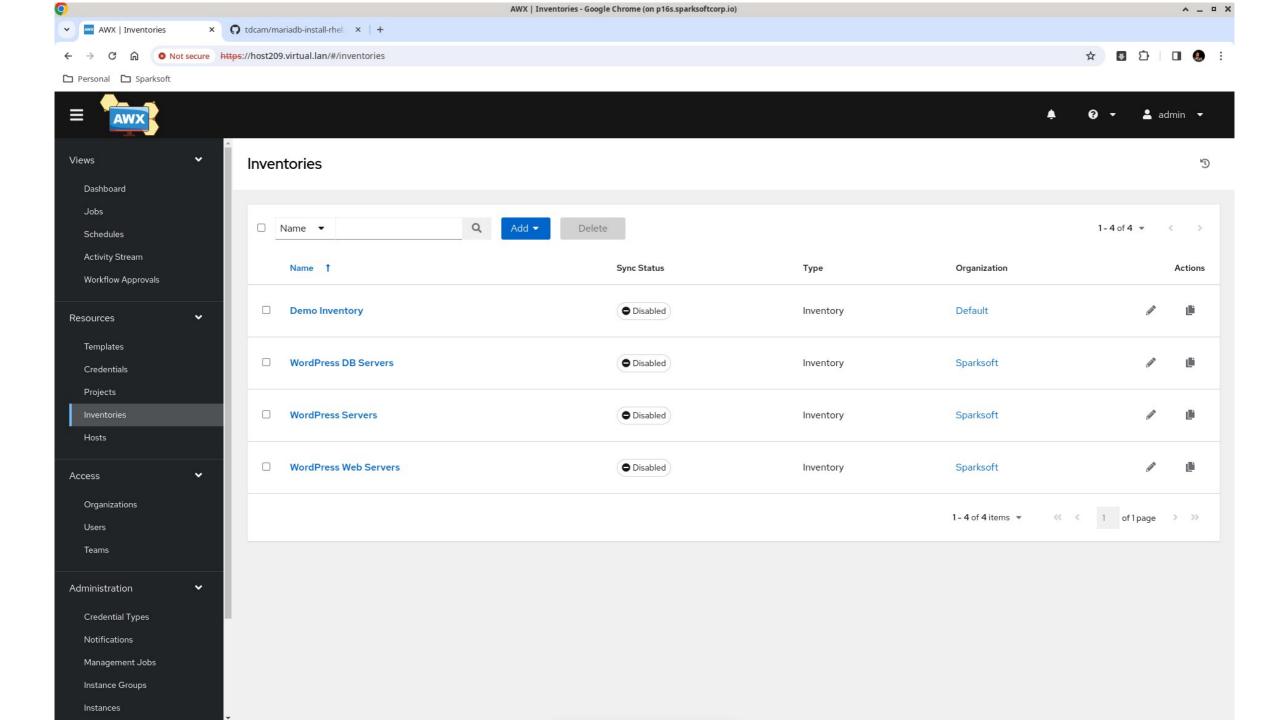






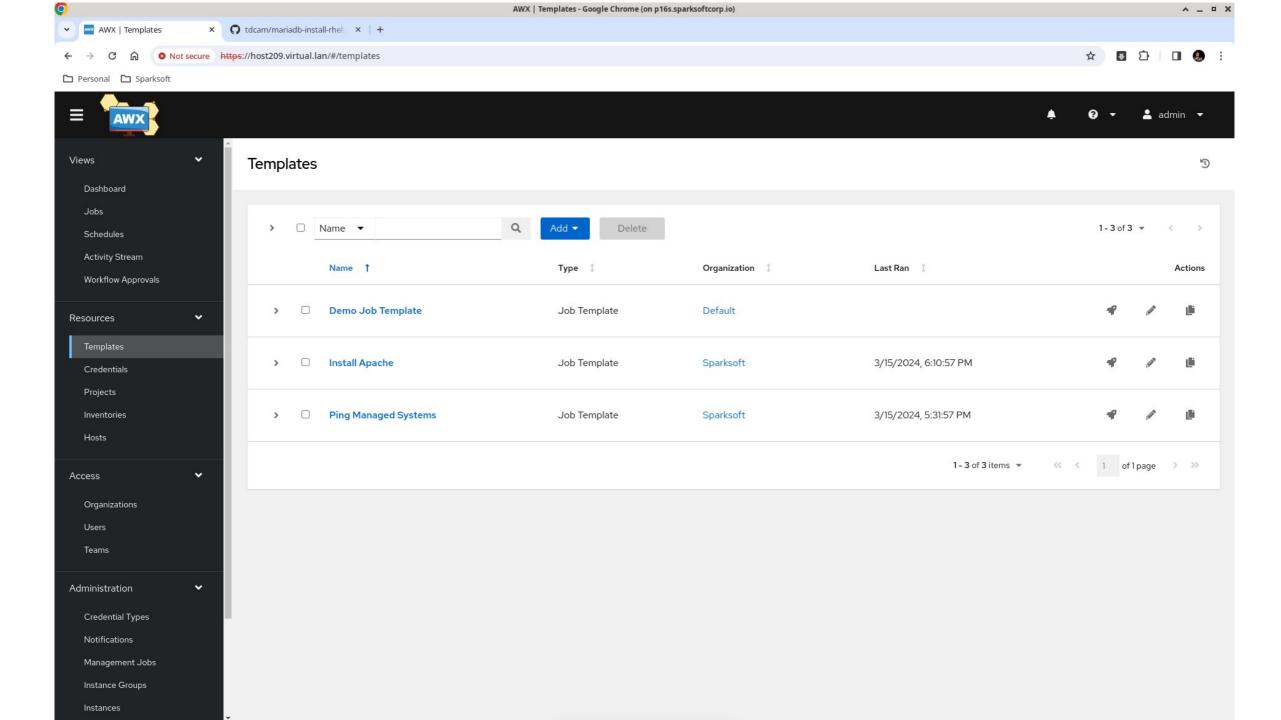


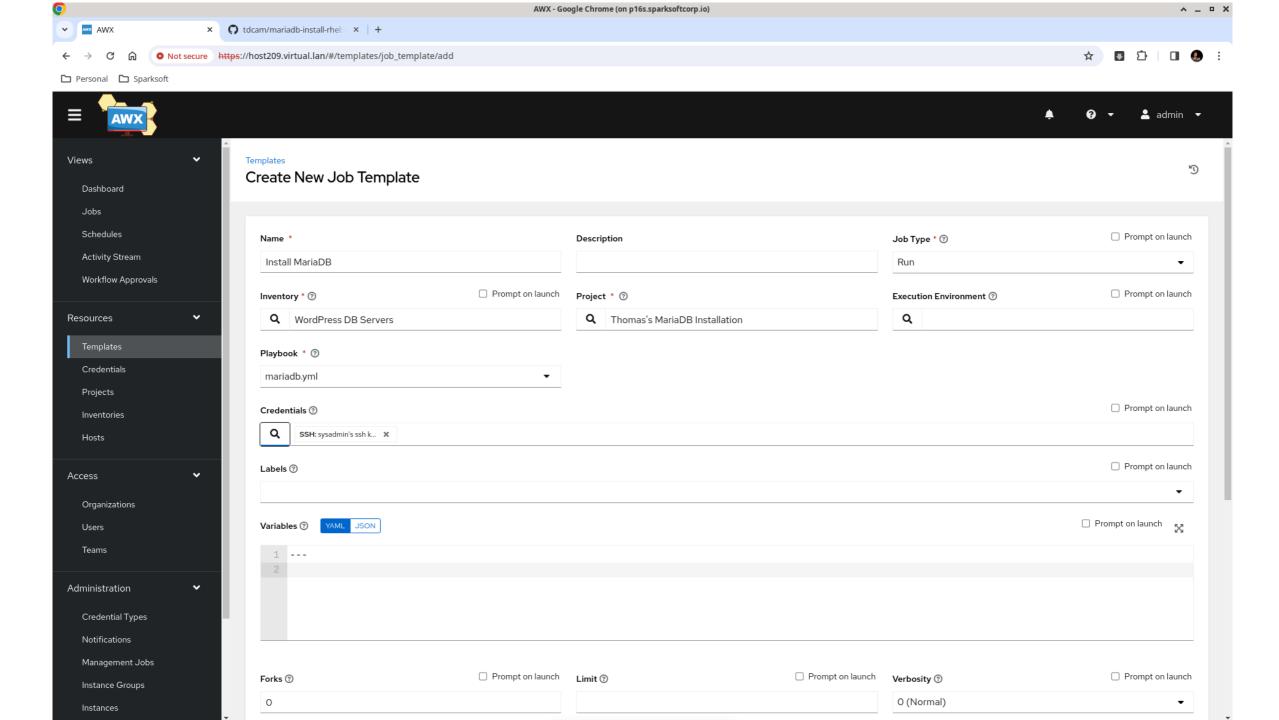


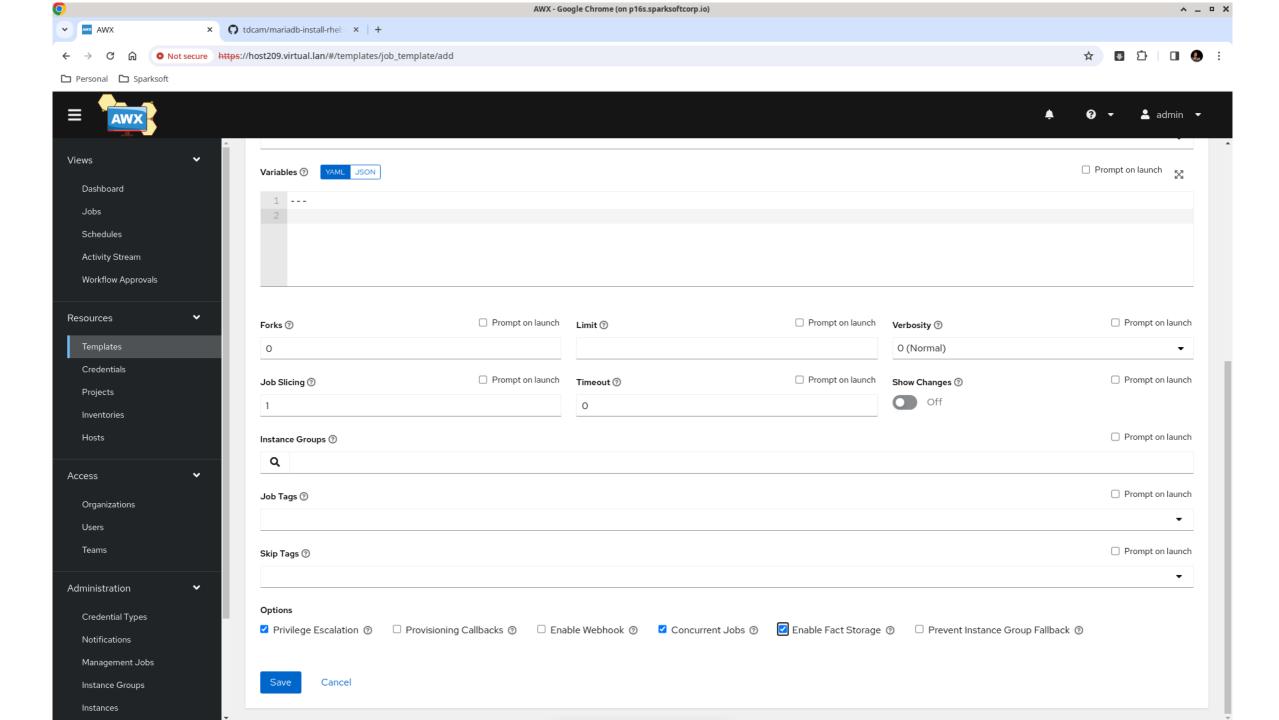


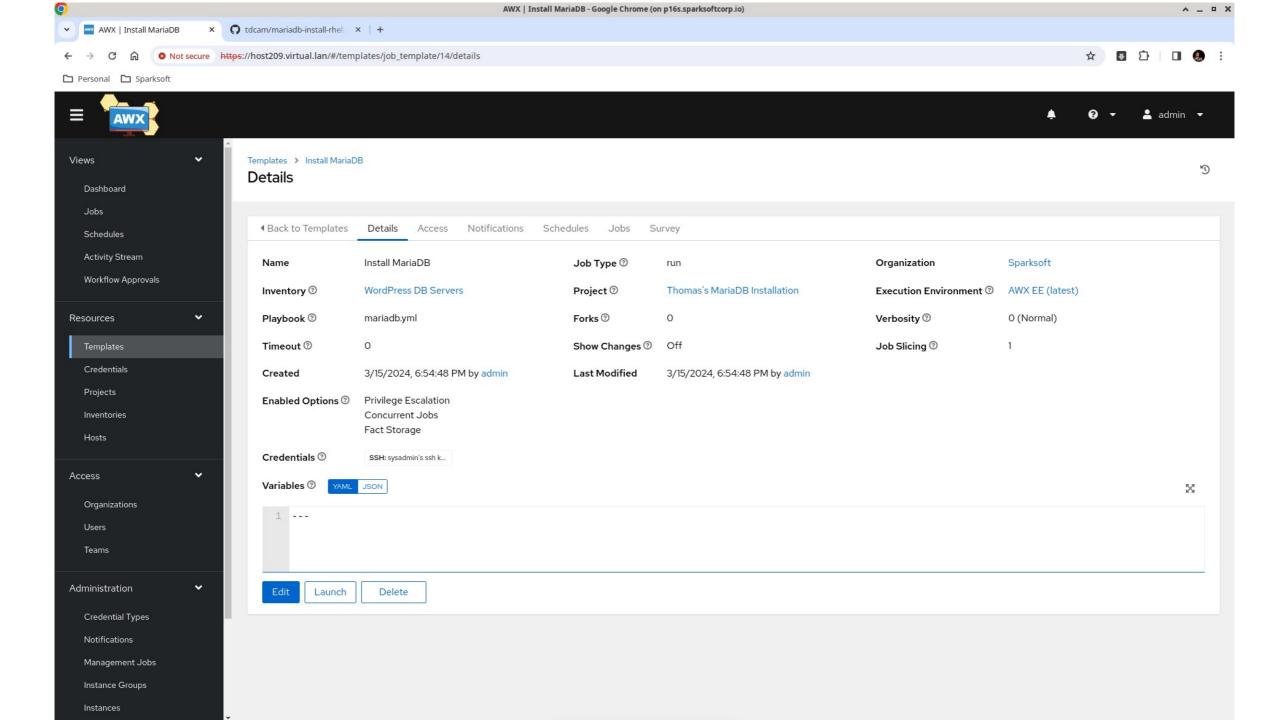
MariaDB template

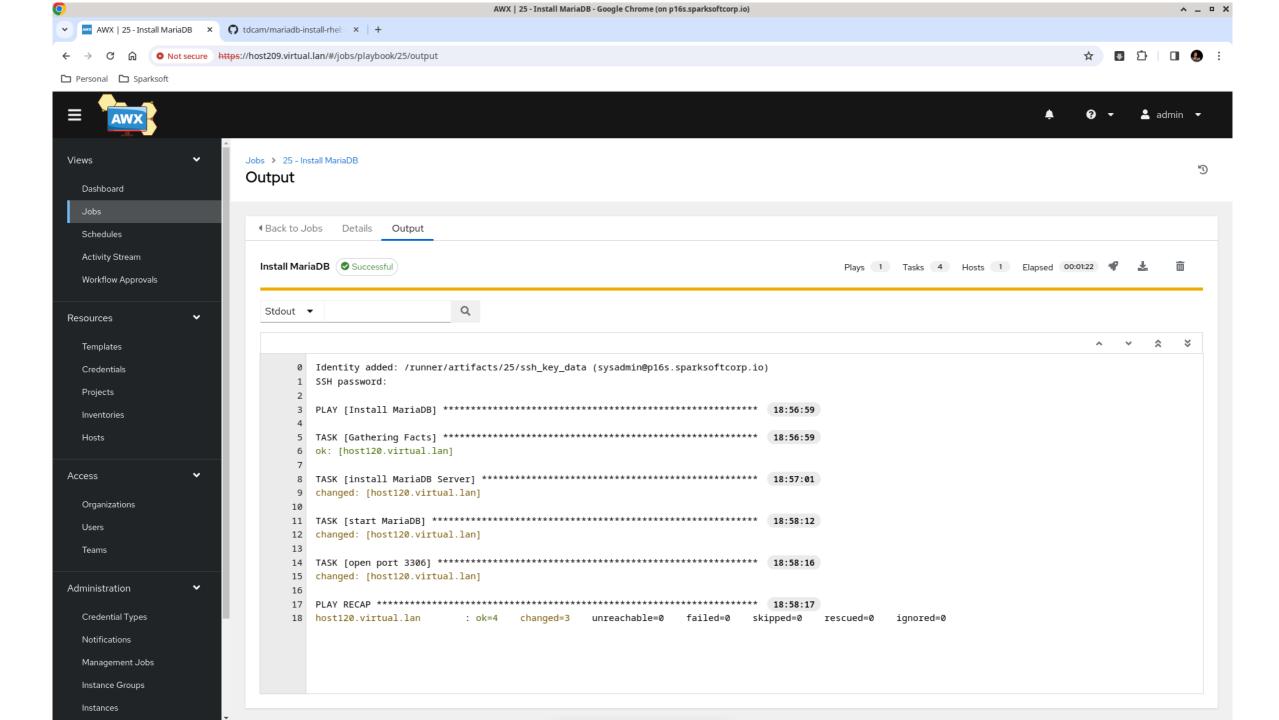
As we discussed before











Live demo

What does this look like in real life?



Questions?

• The floor is open!

Thank you very much!

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 - https://camerontech.com (the slides will be posted there later today)
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