

AVI install for subsequent WCP enablement (TKGs)

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Order of install

- Versions
- Network / DNS
- Check on tagged storage
- AVI setup
- WCP setup
- Create vCenter namespace
- Login API endpoint
- Extra: AVI DNS setup

Versions

- vCenter 8.0.3b (3 ESXi hosts 8.0.3b)
- AVI controller 30.2.2.-9018

The screenshot shows the vSphere Client interface. The left sidebar displays a tree view of the vCenter hierarchy, including Datacenters, Clusters, Hosts, and the selected vCenter node 'vcenteravi.lab.local'. The main pane shows the 'vcenteravi.lab.local' summary screen. At the top, there are tabs for Summary, Monitor, Configure, Permissions, Datacenters, and Hosts & C. Below the tabs, the 'Issues and Alarms' section contains a single item: 'Memory Exhaustion on vcenteravi'. The 'vCenter Details' section provides the following information:

Detail	Value
Version:	8.0.3
Updates Available	Updates Available
Build:	24022515
Last Updated:	Oct 30, 2024, 12:46 PM
Last File-Based Backup:	Not scheduled
Clusters:	1 Clusters
Hosts:	3 Hosts
Virtual Machines:	3 VMs

Network Layout / DNS

- Lab Layout (3 networks, Management /24, Workload /24, Frontend/VIP /24)
- Nested-Management-Net 192.168.1.x (.40 Avi controller) (.50 vCenter) (.51-53 ESXi) (.60-.90 Avi) (.91 Start of WCP)
- Nested-Workload-Net 192.168.2.x (192.168.2.0/24 Route to 192.168.3.1 Avi (W->F)) (.50-.100 WCP)
- Nested-Frontend-Net 192.168.3.x Avi(.60-.200)
-

Network Layout / DNS

DNS	Name	Type	Data
WIN-4B2L8H30O8S	(same as parent folder)	Start of Authority (SOA)	[6], win-4b2l8h30o8s., hos...
Forward Lookup Zones	(same as parent folder)	Name Server (NS)	win-4b2l8h30o8s.
Reverse Lookup Zones	avi	Host (A)	192.168.1.40
	avi-esxi-1	Host (A)	192.168.1.51
	avi-esxi-2	Host (A)	192.168.1.52
	avi-esxi-3	Host (A)	192.168.1.53
Trust Points	vcenteravi	Host (A)	192.168.1.50
Conditional Forwarders			

DNS	Name	Type	Data
WIN-4B2L8H30O8S	(same as parent folder)	Start of Authority (SOA)	[10], win-4b2l8h30o8s., ho...
Forward Lookup Zones	(same as parent folder)	Name Server (NS)	win-4b2l8h30o8s.
Reverse Lookup Zones	192.168.1.40	Pointer (PTR)	avi.lab.local.
	192.168.1.50	Pointer (PTR)	vcenteravi.lab.local.
	192.168.1.51	Pointer (PTR)	avi-esxi-1.lab.local.
	192.168.1.52	Pointer (PTR)	avi-esxi-2.lab.local.
	192.168.1.53	Pointer (PTR)	avi-esxi-3.lab.local.
Trust Points			
Conditional Forwarders			

Tagged storage

- Outcome (Tag on storage)

The screenshot shows the vSphere Client interface. The left sidebar displays a tree view of the vCenter environment, including a Datacenter named 'avi-Datacenter' which contains three ESXi hosts ('avi-esxi-1-esx-install-datastore', 'avi-esxi-2-esx-install-datastore', 'avi-esxi-3-esx-install-datastore') and a 'vsanDatastore'. The 'vsanDatastore' is currently selected, highlighted with a dark background. The main pane shows the 'vsanDatastore' details. At the top, there are tabs for 'Summary' (which is selected), 'Monitor', 'Configure', and 'Perf'. Below the tabs is a 'VIEW STATS' button and a 'REFRESH' button. A 'Tags' section contains two blue rounded rectangular tags: 'pacific-demo-storage' and 'pacific-demo-tag-category'. The 'Actions' menu is visible at the top right of the main pane.

Tagged storage

- Tag

The screenshot shows the vSphere Client interface. At the top, there's a navigation bar with a menu icon, the text "vSphere Client", and a search bar labeled "Search in all environments". Below the navigation bar, the main content area has a title "pacific-demo-storage" with a back arrow and a "pacific-demo-storage" breadcrumb. A sidebar on the left shows a single object named "Objects 1". The main pane displays the "Objects" tab for the storage object. It includes a "Permissions" tab, a "Quick Filter" input field, and a table with two rows. The first row has columns for Name and VC, with values "vsanDatastore" and "vcenteravi.lab.local" respectively. The second row has a checkbox and a three-dot ellipsis icon.

	Name	VC
<input type="checkbox"/>	vsanDatastore	vcenteravi.lab.local

Tagged storage

- Policy

Edit VM Storage Policy

1 Name and description

2 Policy structure

3 Tag based placement

4 Storage compatibility

5 Review and finish

Name and description

Name:

pacific-gold-storage-policy

Description:

Tagged storage

- Policy

Edit VM Storage Policy

1 Name and description

2 Policy structure

3 Tag based placement

4 Storage compatibility

5 Review and finish

Policy structure

X

Host based services

Create rules for data services provided by hosts. Available data services could include encryption, I/O control, caching, etc. Host based services will be applied in addition to any datastore specific rules.

Enable host based rules

Datastore specific rules

Create rules for a specific storage type to configure data services provided by the datastores. The rules will be applied when VMs are placed on the specific storage type.

Enable rules for "vSAN" storage

Enable rules for "vSANDirect" storage

Enable rules for "VMFS" storage

Enable tag based placement rules

Tanzu on vSphere Storage topology

Create a Zonal rule for storage topology that will be applied to all other datastore-specific rules in this storage policy.

Enable Zonal topology for multi-zone Supervisor

Tagged storage

- Policy

Edit VM Storage Policy

1 Name and description

2 Policy structure

3 Tag based placement

4 Storage compatibility

5 Review and finish

Tag based placement

Add tag rules to filter datastores to be used for placement of VMs.

Rule 1

Tag category

pacific-demo-tag-category

Usage option

Use storage tagged with

Tags

pacific-demo-st... X

BROWSE TAGS

ADD TAG RULE

Tagged storage

- Policy

Edit VM Storage Policy

1 Name and description

2 Policy structure

3 Tag based placement

4 Storage compatibility

5 Review and finish

Storage compatibility

COMPATIBLE

INCOMPATIBLE

Expand datastore clusters

Compatible storage 1.17 TB (9)

Quick Filter

Name	Datacenter	Type	Free Space	Capacity
vSANDatastore	avi-Datacenter	vSAN	908.09 GB	1.17 TB

AVI setup

First time setup - set password, DNS, Search Domain

VMware
Avi Load Balancer

admin

.....

.....

Email Address (Optional)

CREATE ACCOUNT

VMware Avi Load Balancer

WELCOME WELCOME ADMIN

System Settings Let's get started with some basic questions

Passphrase* ⓘ
.....

Confirm Passphrase* ⓘ
.....

DNS Resolver(s) ⓘ
192.168.1.1

DNS Search Domain ⓘ
lab.local

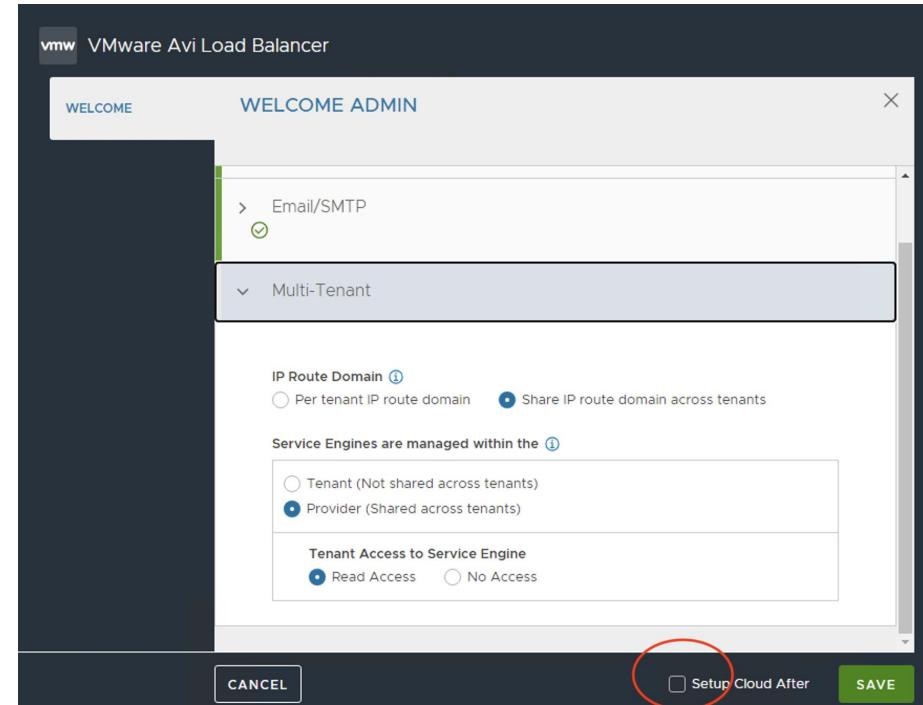
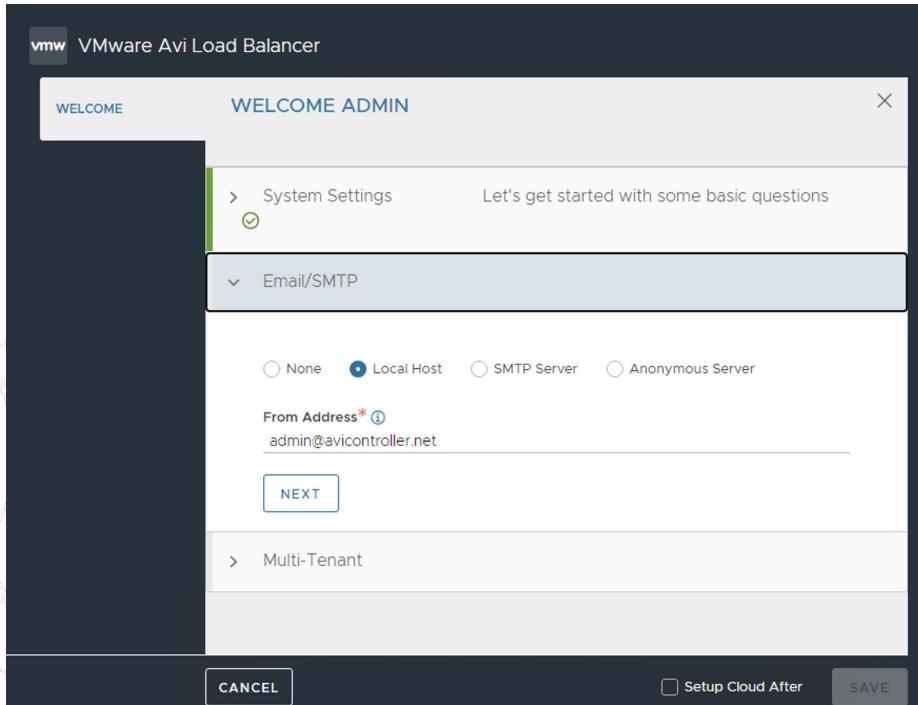
NEXT

> Email/SMTP

Setup Cloud After **SAVE**

AVI setup

No change - Next - Next (set checkbox - cloud after)



AVI setup

- POC License (select gear symbol)

vmw VMware Avi Load Balancer

Applications Operations Templates Infrastructure Administration

Licensing

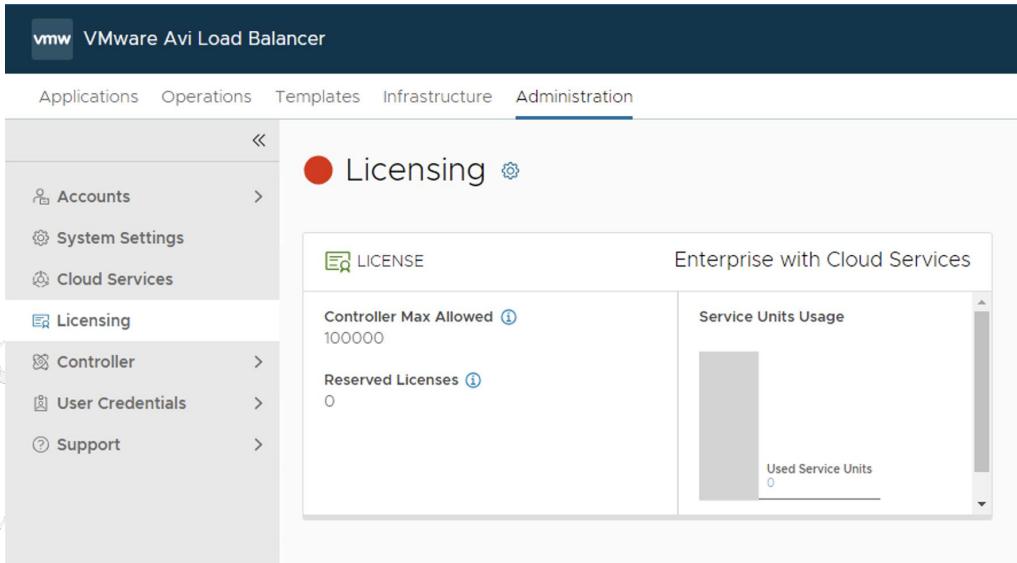
LICENSE Enterprise with Cloud Services

Controller Max Allowed 100000

Service Units Usage

Used Service Units 0

Reserved Licenses 0

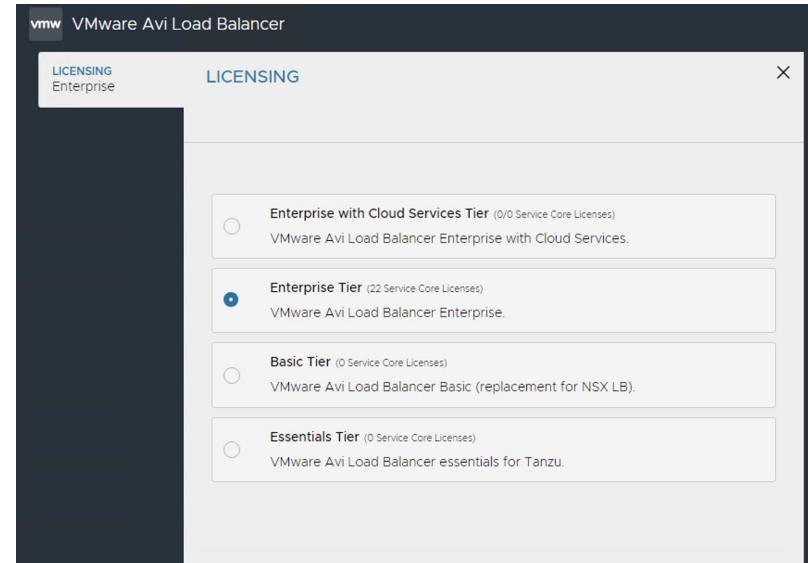


vmw VMware Avi Load Balancer

LICENSING Enterprise

LICENSING

- Enterprise with Cloud Services Tier (0/0 Service Core Licenses)
VMware Avi Load Balancer Enterprise with Cloud Services.
- Enterprise Tier (22 Service Core Licenses)
VMware Avi Load Balancer Enterprise.
- Basic Tier (0 Service Core Licenses)
VMware Avi Load Balancer Basic (replacement for NSX LB).
- Essentials Tier (0 Service Core Licenses)
VMware Avi Load Balancer essentials for Tanzu.



AVI setup

- System access (Cert) (select Edit)

The screenshot shows the VMware Avi Load Balancer Administration interface. At the top, there is a banner with a registration link: "Register your Controller with Cloud Services to complete product activation." and a "REGISTER CONTROLLER" button. Below the banner, the title "VMware Avi Load Balancer" is displayed. The navigation bar includes links for Applications, Operations, Templates, Infrastructure, and Administration, with "Administration" being the active tab.

The main content area is titled "System Settings" with an "EDIT" link. On the left, a sidebar lists several system settings categories: Accounts, System Settings (selected), Cloud Services, Licensing, Controller, User Credentials, and Support. The "System Settings" category is expanded, showing sub-options for AUTHENTICATION Local, ACCESS, DNS/NTP, and SSL.

AUTHENTICATION Local: Contains sections for Auth Profiles (disabled) and Auth Mapping Profiles (disabled).

ACCESS: Contains sections for System Access (HTTP Access: Enabled, Port 80; HTTPS Access: Enabled, Port 443), HTTP → HTTPS Redirect (Enabled), and Basic Authentication (Disabled).

DNS/NTP: Contains sections for DNS Resolver(s) (192.168.1.1) and NTP Authentication Keys (0).

SSL: Contains sections for SSL Profile (System-Standard-Portal) and SSL/TLS Certificate (disabled).

At the bottom of the page, there is a footer with the text "Copyright © 2023 Broadcom. All Rights Reserved. The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries." and the Broadcom logo.

AVI setup

- Delete 2 certs and create new one

The screenshot shows the 'Edit System Settings' page for a VMware Avi Load Balancer. The 'Access' tab is selected. On the left, under 'SSL/TLS', there is a list of certificates:

- SSL Profile*: System-Standard-Portal
- SSL/TLS Certificate ⓘ: System-Default-Portal-Cert (highlighted with a red oval)
- SSL/TLS Certificate ⓘ: System-Default-Portal-Cert-EC256 (highlighted with a red oval)
- Secure Channel SSL/TLS Certificate ⓘ: System-Default-Secure-Channel-Cert

On the right side of the page, there is a 'Create' button.

AVI setup

- Create cert with name/alt (IP)

NEW CERTIFICATE (SSL/TLS)

avi

General Certificate

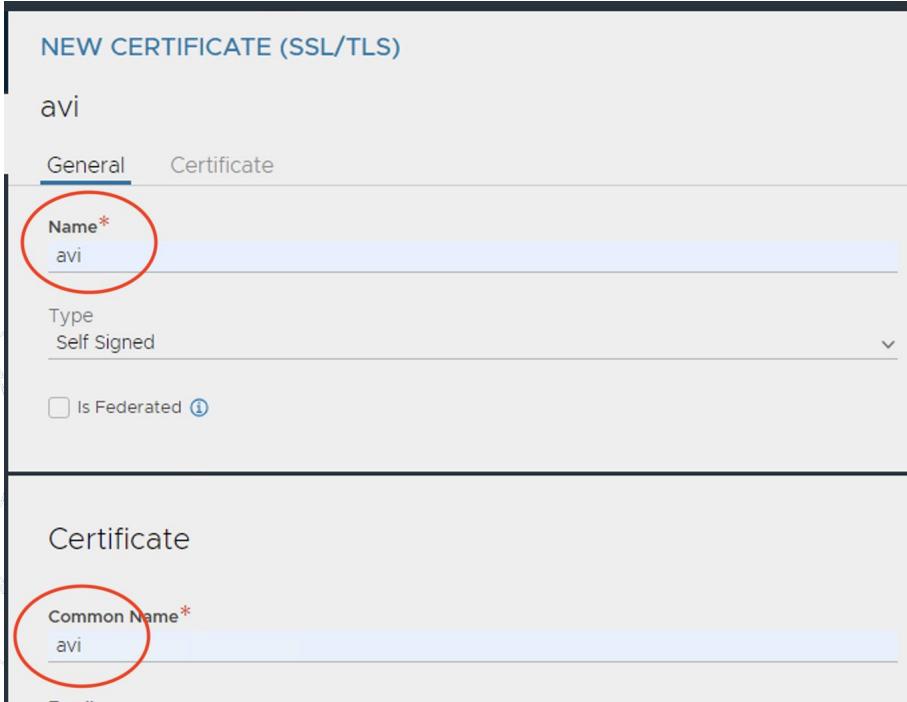
Name*
avi

Type
Self Signed

Is Federated ⓘ

Certificate

Common Name*
avi

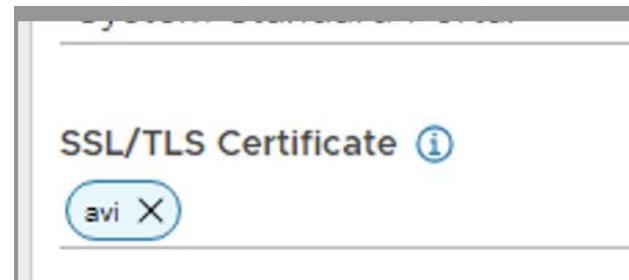
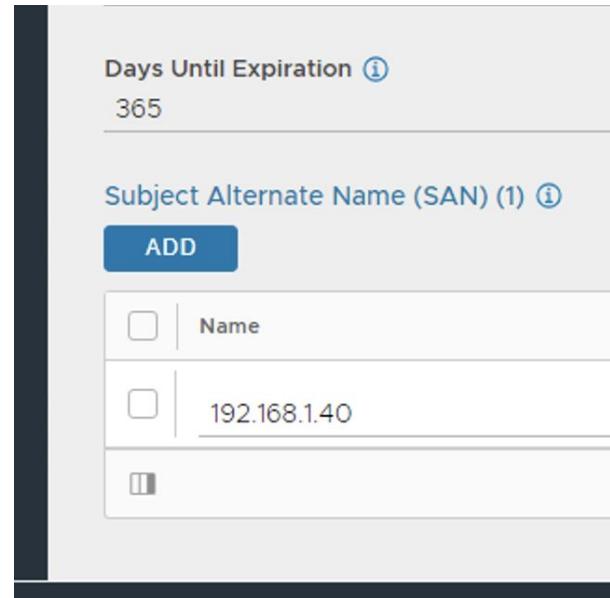


Days Until Expiration ⓘ
365

Subject Alternate Name (SAN) (1) ⓘ

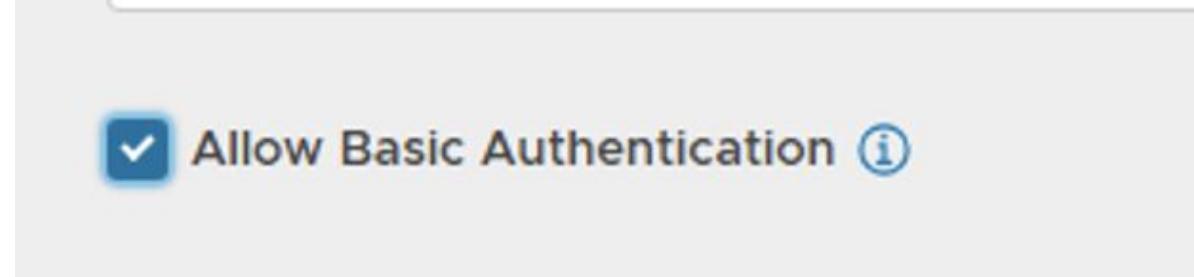
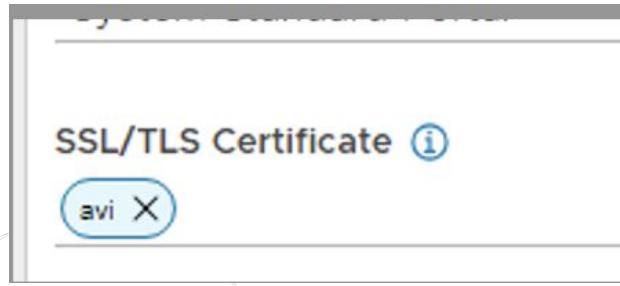
ADD

<input type="checkbox"/>	Name
<input type="checkbox"/>	192.168.1.40



AVI setup

- Cert shows the new avi cert and select basic Auth (new login required!!!)



AVI setup

- Create avi-cloud

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes a logo, the title "VMware Avi Load Balancer", a user account dropdown, and a "CREATE" button. The main menu has tabs for Applications, Operations, Templates, Infrastructure (which is selected), and Administration. On the left, a sidebar lists Clouds, Cloud Resources, and GSLB. The main content area displays a table for "Clouds" with columns for Name, Type, and Status. A single row is shown: "Default-Cloud" (Type: No Orchestrator, Status: Green). A "CREATE" button is located at the bottom right of the table area. A modal window is open, showing a list of orchestrators: NSX Cloud (selected), VMware vCenter/vSphere ESX, OpenStack, and Amazon Web Services.

Name	Type	Status
Default-Cloud	No Orchestrator	Green

NSX Cloud
VMware vCenter/vSphere ESX
OpenStack
Amazon Web Services

AVI setup

- Create avi-cloud

The screenshot shows two side-by-side windows of the VMware Avi Load Balancer interface.

Left Window (New Cloud Configuration):

- Name:** avi-cloud (highlighted with a red circle)
- Type:** VMware vCenter/vSphere ESX (highlighted with a red circle)
- Object Name Prefix:** Enter Object Name Prefix
- Template Service Engine Group:** Select Template Service Engine Group
- Default Network IP Address Management:**
 - Enable DHCP
 - Enable IPv6 Auto Configuration

Right Window (Cloud Configuration Summary):

- CLOUD:** avi-cloud
- General:** vCenter/vSphere
- Default Network IP Address Management:**
 - Enable IPv4
 - Enable IPv6
- Management Network:**
 - Enable IPv4
 - Enable IPv6
- Virtual Service Placement:**
 - Use Static Routes for Network Resolution of VIP
 - Prefer Static Routes vs Directly Connected Network

AVI setup

- Create avi-cloud (set credentials)

vCenter/vSphere

Credentials

vCenter Address ⓘ

Not Set

Username ⓘ

Not Set

Password ⓘ

Not Set

Access Permission ⓘ

Write

SET CREDENTIALS

vCenter/vSphere Credentials

vCenter Address* ⓘ

192.168.1.50

Username* ⓘ

administrator@vsphere.local

Password* ⓘ

.....

CANCEL

CONNECT

AVI setup

- Create avi-cloud

Data Center* ⓘ
avi-Datacenter

Use Content Library ⓘ

SAVE & RELAUNCH

AVI setup

- Create avi-cloud (ipam profile)

The screenshot shows the VMware Avi Load Balancer interface. At the top, there's a navigation bar with 'vmw' and 'VMware Avi Load Balancer'. Below it, a sidebar has 'CLOUD' selected and 'avi-cloud' as the current profile. Under 'IPAM/DNS PROFILE', 'Frontendpool' is listed. A main panel titled 'IPAM Profile ⓘ' shows a 'Select IPAM Profile' dropdown with 'Frontendpool' selected. To the right, a large 'Create' button is visible, along with a dropdown menu icon and a three-dot menu icon.

This is a detailed view of the 'NEW IPAM/DNS PROFILE' configuration for 'Frontendpool'. It includes tabs for 'General' and 'Avi Vantage'. Under 'General', the 'Name*' field is set to 'Frontendpool' and the 'Type*' field is set to 'Avi Vantage IPAM'. There are also sections for 'Network' and 'Nested Frontend Network' which are currently empty.

A central panel displays the text 'Cloud ⓘ' above 'avi-cloud'. This represents the newly created IPAM profile.

A panel titled 'Usable Networks (1)' lists two entries: 'Network' and 'Nested-Frontend-Net'. Each entry has an 'ADD' button and a delete icon.

AVI setup

- Create avi-cloud (management net)

Management Network* ⓘ

Nested-Management-Net

Enable DHCP ⓘ

IPv4 Default Gateway

192.168.1.1

AVI setup

- SE group for avi-cloud

The screenshot shows the AVI UI interface. The top navigation bar includes links for Applications, Operations, Templates, Infrastructure (which is selected), and Administration. On the left, a sidebar lists Clouds, Cloud Resources (with Service Engine and Service Engine Group options), Networks, VRF Context, and GSLB. The main content area has a title "Select Cloud:" with a dropdown menu showing "avi-cloud" (which is circled in red). Below this is a section titled "Service Engine Group" with a "CREATE" button (also circled in red). A table lists existing Service Engine Groups, including "Default-Gro..." which has a version of 30.2.2-9108, 0 service engines, a maximum of 10, 0 virtual services, and 10 mapped services.

Name	Version	# Service Engines	Maximum Number of Service Engines	# Virtual Services	Map. Vir. Ser
Default-Gro...	30.2.2-9108	0	10	0	10

AVI setup

- SE group for avi-cloud

vmw VMware Avi Load Balancer

SERVICE ENGINE GR...
avi-cloud-se-group

NEW SERVICE ENGINE GROUP

avi-cloud-se-group

General Placement Resources

General

Name*

Cloud
avi-cloud

vmw VMware Avi Load Balancer

SERVICE ENGINE GR...
avi-cloud-se-group

NEW SERVICE ENGINE GROUP

avi-cloud-se-group

General Placement Resources Scope Security Logs Tags

Scope

Host/Cluster Scope Service Engine Within
 Any Host/Cluster

Cluster
 Include Exclude
avi-Cluster X (x) v

Host
 Include Exclude
avi-esxi-1.lab.local X avi-esxi-2.lab.local X avi-esxi-3.lab.local X (x) v

Data Store Scope for Service Engine Virtual Machine
 Any Local Shared

Data Store
 Include Exclude
vsanDatastore X (x) v

AVI setup

- Add SE group to avi-cloud (edit)

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMW logo, the title "VMware Avi Load Balancer", a user dropdown set to "admin", and a settings icon. Below the title, there are tabs for Applications, Operations, Templates, Infrastructure (which is selected), and Administration. On the left, a sidebar lists Dashboard, Clouds, and Cloud Resources, with Cloud Resources currently selected. The main content area displays a table of clouds. A modal window titled "Template Service Engine Group" is open, showing a single entry: "avi-cloud-se-group".

Name	Type	Status	Action
avi-cloud	VMware vCenter/vSphere ESX	Green (healthy)	Edit Delete Copy +

Template Service Engine Group ⓘ
avi-cloud-se-group ✖️ ▼

AVI setup

- Frontend (VIP) network IP ranges

vmw VMware Avi Load Balancer

Applications Operations Templates Infrastructure Administration

Select Cloud: avi-cloud

Networks

Name	Discovered Subnets	Configured Subnets	Static IP Pools	VRF Context	Switch Name
Nested-Frontend-Net	None	None	0	global	Pacific-V
Nested-Management-Net	192.168.1.0/24	None	0	global	Pacific-V
Nested-Workload-Net	None	None	0	global	Pacific-V
Pacific-VDS-DVUplinks-...	None	None	0	global	Pacific-V
VM Network	None	None	0	global	-

vmw VMware Avi Load Balancer

NETWORK Nested-Fronten...

ADD SUBNET

SUBNET

General

General

Subnet Prefix*
192.168.3.0/24

Use Static IP Address for VIPs and SE

Static IP Ranges (1)

ADD

IP Address Range	Use For
192.168.3.60-192.168.3.200	STATIC_IPS_FOR_VIP...

Items per page: 10 Total: 1

AVI setup

- Management network IP ranges

The image shows two screenshots of the VMware Avi Load Balancer interface. The left screenshot displays the 'EDIT NETWORK SETTINGS' page for the 'Nested-Management-Net'. It includes sections for General, IP Address Management (with options for DHCP, IPv6 Auto Configuration, and Exclude Discovered Subnets), and Subnets (listing one discovered subnet: 192.168.1.0/24). The right screenshot shows the 'ADD SUBNET' page, which includes fields for Subnet Prefix (192.168.1.0/24) and a checkbox for 'Use Static IP Address for VIPs and SE'. Below this is a 'Static IP Ranges' section containing a table with one entry: '192.168.1.60-192.168.1.90' assigned to 'STATIC_IPS_FOR_VIP...'.

vmw VMware Avi Load Balancer

EDIT NETWORK SETTINGS

Nested-Management-Net

General

Name*
Nested-Management-Net

IP Address Management

Enable DHCP ⓘ

Enable IPv6 Auto Configuration ⓘ

Exclude Discovered Subnets for Virtual Service Placement ⓘ

Subnets (0 Configured, 1 Discovered)

ADD

Subnet Prefix	Type	IP Address Pool
192.168.1.0/24	Discovered	Edit Delete

Items per page: 10 Total: 1

vmw VMware Avi Load Balancer

NETWORK Nested-Manageme... !

ADD SUBNET

SUBNET

General

Subnet Prefix*
192.168.1.0/24

Use Static IP Address for VIPs and SE

Static IP Ranges (1)

ADD

IP Address Range	Use For
192.168.1.60-192.168.1.90	STATIC_IPS_FOR_VIP...

Items per page: 10 Total: 1

AVI setup

- Network outcome

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes a logo for 'vmw' and the text 'VMware Avi Load Balancer'. Below the logo are tabs for Applications, Operations, Templates, Infrastructure (which is underlined in red), and Administration. On the left side, there's a sidebar with icons for Dashboard, Clouds, Cloud Resources (with Service Engine and Service Engine Group listed), Networks (which is selected and highlighted in grey), VRF Context, and GSLB. The main content area has a header 'Select Cloud:' with a dropdown menu showing 'avi-cloud'. Below this is a section titled 'Networks' containing a table of subnets. The table has columns for Name, Discovered Subnets, Configured Subnets, and Static IP P. Three rows are listed: 'Nested-Frontend-Net' with 'None' in Discovered and '192.168.3.0/24 [141/141]' in Configured; 'Nested-Management-Net' with '192.168.1.0/24' in Discovered and '192.168.1.0/24 [31/31]' in Configured; and 'Nested-Workload-Net' with 'None' in both Discovered and Configured. The last two rows are circled in red.

	Name	Discovered Subnets	Configured Subnets	Static IP P
<input type="checkbox"/>	Nested-Frontend-Net	None	192.168.3.0/24 [141/141]	1
<input type="checkbox"/>	Nested-Management-Net	192.168.1.0/24	192.168.1.0/24 [31/31]	1
<input type="checkbox"/>	Nested-Workload-Net	None	None	0

AVI setup

- Route (workload to frontend)

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMW logo, 'VMware Avi Load Balancer', a user dropdown ('admin'), and a settings icon. The main menu has tabs for Applications, Operations, Templates, Infrastructure (which is selected), and Administration.

The left sidebar contains links for Dashboard, clouds, Cloud Resources (with Service Engine and Service Engine Group), Networks, VRF Context (which is selected and highlighted in yellow), and GSLB.

The main content area is titled 'Virtual Routing & Forwarding (VRF) Context'. It shows a 'Select Cloud:' dropdown set to 'avi-cloud' (circled in red). Below it is a 'CREATE' button (circled in red) and a table with columns for 'Name' (checkbox) and 'BGP Peering' (checkbox). One row is listed: 'global'.

A modal window titled 'Static Route' is open. It has a section for 'Subnets (0)' with an 'ADD' button (circled in red). Below it are fields for 'Gateway Subnet' (checkbox) and 'Next Hop' (dropdown). A message at the bottom says 'We couldn't find any objects!'. The bottom right of the modal shows 'Items per page' (10) and 'Total' (0).

AVI setup

- Route (workload to frontend)

VMware Avi Load Balancer

VRF CONTEXT
global

EDIT VRF CONTEXT

global

General Static Route BGP Peering Gateway Monitor

Static Route

Subnets (1)

ADD

Gateway Subnet	Next Hop
192.168.2.0/24	192.168.3.1

Items per page: 10 Total: 1

BGP Peering

Enable BGP Peering ⓘ

AVI setup

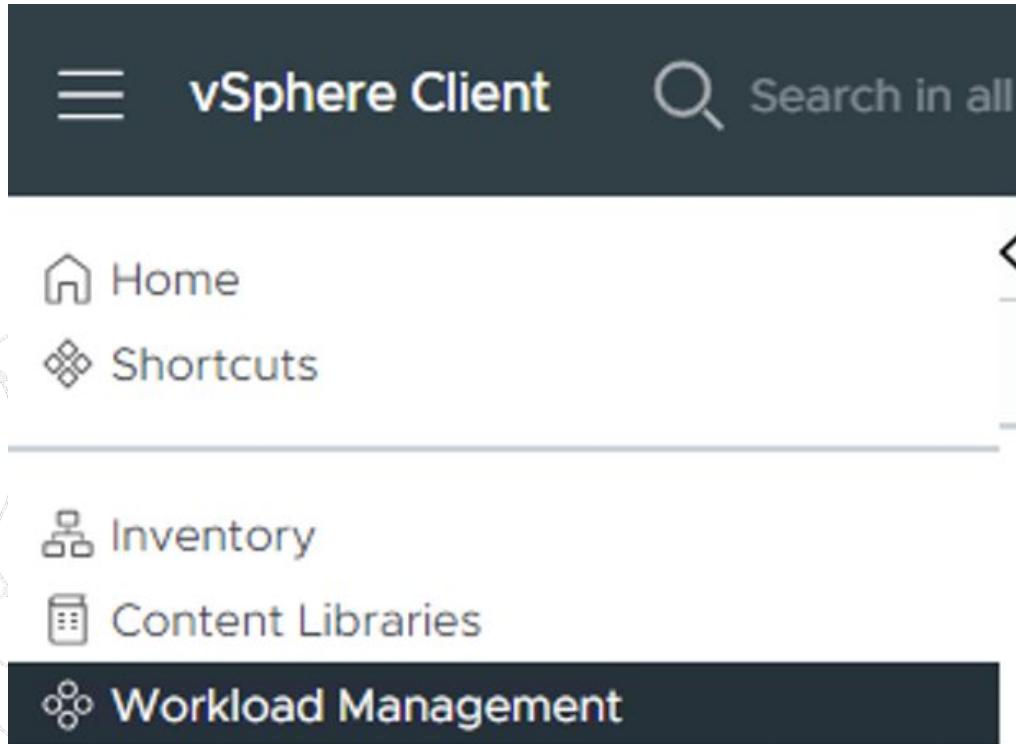
- Avi-cloud is green

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMW logo, 'VMware Avi Load Balancer', a user dropdown set to 'admin', and a settings icon. Below the navigation is a secondary navigation bar with tabs: Applications, Operations, Templates, Infrastructure (which is selected and highlighted in blue), and Administration. On the left, a sidebar menu lists Dashboard, Clouds, Cloud Resources (with a right-pointing arrow), and GSLB (with a right-pointing arrow). The main content area has a header with a search bar ('Displaying Past 6 Hours') and a 'CREATE' button. A table lists two entries:

<input type="checkbox"/>	Name	Type	Status	Actions
<input type="checkbox"/>	avi-cloud	VMware vCenter/vSphere ESX	●	✎ ∅ ⟳ +
<input type="checkbox"/>	Default-Cloud	No Orchestrator	●	✎ ⌚ ✖ +

WCP Input

- Burger menu -> workload management



WCP Input

- Temp licenses enablement

vSphere Client Search in all environments

Namespaces Workload Management

No items found

Basic Information

First Name	orf
Last Name	gelbrich
Work Email	orf.gelbrich@broadcom.com
Company	Broadcom
Country	United States
State	Texas
Zip Code	76048
Phone Number	+1-214-418-1170

> Help us learn more about your experience with Kubernetes (optional)

Yes, I would like to receive communication from VMware and/or from its affiliates regarding product and services, newsletters, invitation-only events (optional)

I have read and accept the [VMware End User License Agreement](#).

0 items

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BROADCOM

WCP Input

- VDS option

vSphere Client Search in all environments Administrator@VSPHERE.LOCAL

Workload Management

(e) Namespaces BACK IMPORT CONFIG VIEW PREREQUISITES

No items found

Supervisor name Sup1

Cluster selection

This vSphere cluster will be set up as a Supervisor. Select a vSphere cluster with enough space to support your Kubernetes workloads.

vcenteravi.lab.local Cluster Details vcenteravi.lab.local COMPATIBLE INCOMPATIBLE

Cluster Name	vSphere Zone	Number of Hosts	Available CPU	Available Memory
avi-Cluster	--	3	68.86 GHz	177.45 GB

Manage Columns 1 item

vSphere Zone name zone1 Optional

0 items

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WCP Input

- Storage policy (tagged)

3. Storage

Select the storage policy for the co

Select a storage policy to be used for datastore placement of Supervisor control plane VMs. [1](#) on the vSphere environment.

Control Plane Storage Policy

pacific-gold-storage-policy



[VIEW DETAILS](#)

[NEXT](#)

WCP Input

- Need AVI cert

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMware logo, 'VMware Avi Load Balancer', a user dropdown set to 'admin', and a settings icon. Below the navigation is a secondary menu with links: Applications, Operations, Templates (which is selected), Infrastructure, and Administration.

The main content area is titled 'SSL/TLS Certificates'. On the left, a sidebar lists several categories: Profiles, Policies, Groups, Security (with 'SSL/TLS Certificates' highlighted), SSL/TLS Profile, PKI Profile, Auth Profile, Auth Mapping Profile, JWT Server Profile, Certificate Management, and IP Reputation. A 'CREATE' button is located at the top of the certificate list table.

The central part of the screen displays a table of SSL/TLS certificates. The columns are: Name, Status, Common Name, Issuer Name, Algorithm, Self Signed, and Valid Until. The table contains the following data:

Name	Status	Common Name	Issuer Name	Algorithm	Self Signed	Valid Until
System-Default-Cert	●	System Default Cert	System Default Cert	RSA(2048 Bit...)	Yes	2034-10-28 18:03:00
System-Default-Cert-EC	●	System Default EC C...	System Default EC C...	EC(SECP256...)	Yes	2034-10-28 18:03:00
System-Default-Portal-Cert	●	Default Portal Cert	Default Portal Cert	RSA(2048 Bit...)	Yes	2034-10-28 18:03:00
System-Default-Portal-Cert-EC256	●	Default Portal EC Cert	Default Portal EC Cert	EC(SECP256...)	Yes	2034-10-28 18:03:00
System-Default-Secure-Channel-Cert	●	node.controller.local	ca.local	RSA(4096 Bit...)	No	2034-10-28 18:02:00
avi	●	avi	avi	RSA(2048 Bit...)	Yes	2025-10-30 19:41:08

At the bottom right, there are buttons for 'Items per page' (set to 10) and 'Total' (set to 6). The bottom footer contains the copyright notice 'Copyright © 2023 Broadcom. All Rights Reserved. The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries.'

WCP Input

- AVI cert (copy to clip board)

The screenshot shows the WCP (Web Configuration Platform) interface. On the left, there's a sidebar with navigation links: 'Export' (circled in red), 'Renew', and 'Delete'. Below the sidebar, the time '41:08' and a progress bar showing '10' and '6 Total' are visible. On the right, a large window displays a certificate content area. The title 'Certificate' is at the top, followed by a red circle around the word 'Certificate'. Below it is the certificate text:
-----BEGIN CERTIFICATE-----
MIICvTCCAAwWgAwIBAgIJUJr1a6SQQk8YfvLIXZJKdjDv2p8owDQYJKoZIhvcNAQEL
BQAwDjEMMAoGA1UEAwwDYXZpMB4XDToMTAzMDE5NDEwOFOxDTI1MTAzMDE5NDEw
OFowDjEMMAoGA1UEAwwDYXZpMII BjANBgkqhkiG9w0BAQEFAAOCAQ8AMII BCgKC
AQEAoK/L5Po7el/mphDpe0NT7UYPbxMascfNY4UGP2HYDnVusKDfcmqFTjMwzoC8
M0tFZLmjLT45f8kbqtWXVPAMoaMcOsNNB6BvzbpigtCzOb0eUWloI VEFBANGi2J
VKulcGiIMFSF7kVvpm6TuJetwekz+3fT02QGkTiVKcCjeB1M3MQ1dO9lOqEntt96
-----END CERTIFICATE-----
A 'COPY TO CLIPBOARD' button is located at the bottom right of the certificate content area.

WCP Input

- Avi / 192.168.1.40:443 / admin / {password} / Attention trailing CR in paste!!

This field is required

This field is required

Cloud Name 

avi-cloud

Enter the cloud name exactly as in NSX Advanced Load Balancer. Please note that the field is case-sensitive. If you leave it empty, the default cloud with name 'Default-Cloud' will be used.

NEXT

WCP Input

- Management network

Workload Management

BACK

Network Mode i	Static
Network i	Nested-Management-Net
Starting IP Address i	192.168.1.91
Subnet Mask i	255.255.255.0
Gateway i	192.168.1.1
DNS Server(s) i	192.168.1.1 Reset to default settings
DNS Search Domain(s) i	lab.local Optional
NTP Server(s) i	ntp.broadcom.net Reset to default settings

NEXT

WCP Input

- Workload network

6. Workload Network

Configure networking to support traffic to the Kubernetes services.

Workload Networks provide connectivity to the resources deployed into vSphere namespaces. The Supervisor connects to these workload networks. You can assign additional networks to your namespaces on this Supervisor after you have assigned a port group to the workload network.

[VIEW NETWORK TOPOLOGY](#)

Network Mode (i)

Internal Network for Kubernetes Services (i)
You can edit this default setting

Port Group (i)
Quick Filter

	Port Group	Distributed Switch	VLAN ID
<input type="radio"/>	Nested-Management-Net	Pacific-VDS	VLAN address: 0
<input type="radio"/>	Nested-Front end-Net	Pacific-VDS	VLAN address: 0
<input checked="" type="radio"/>	Nested-Workload-Net	Pacific-VDS	VLAN address: 0

 3 items

BACK

Nested-Front end-Net Pacific-VDS VLAN address: 0
 Nested-Workload-Net Pacific-VDS VLAN address: 0
3 items

Network Name (i)
You can edit this default setting

Layer 3 Routing Configuration

IP Address Range(s) (i)

Subnet Mask (i)

Gateway (i)

DNS Server(s) (i)

NTP Server(s) (i)

[NEXT](#)

WCP Input

- Supervisor cluster size and select save config!

7. Review and Confirm

Review and confirm all details and default settings.

Advanced Settings

Supervisor Control Plane Size [\(i\)](#) Small (CPUs: 4, Memory: 16 GB, Storage: 32 GB) [\(v\)](#)
You can edit this default setting

API Server DNS Name(s) [\(i\)](#) E.g. server.yourdomainname.com
Optional

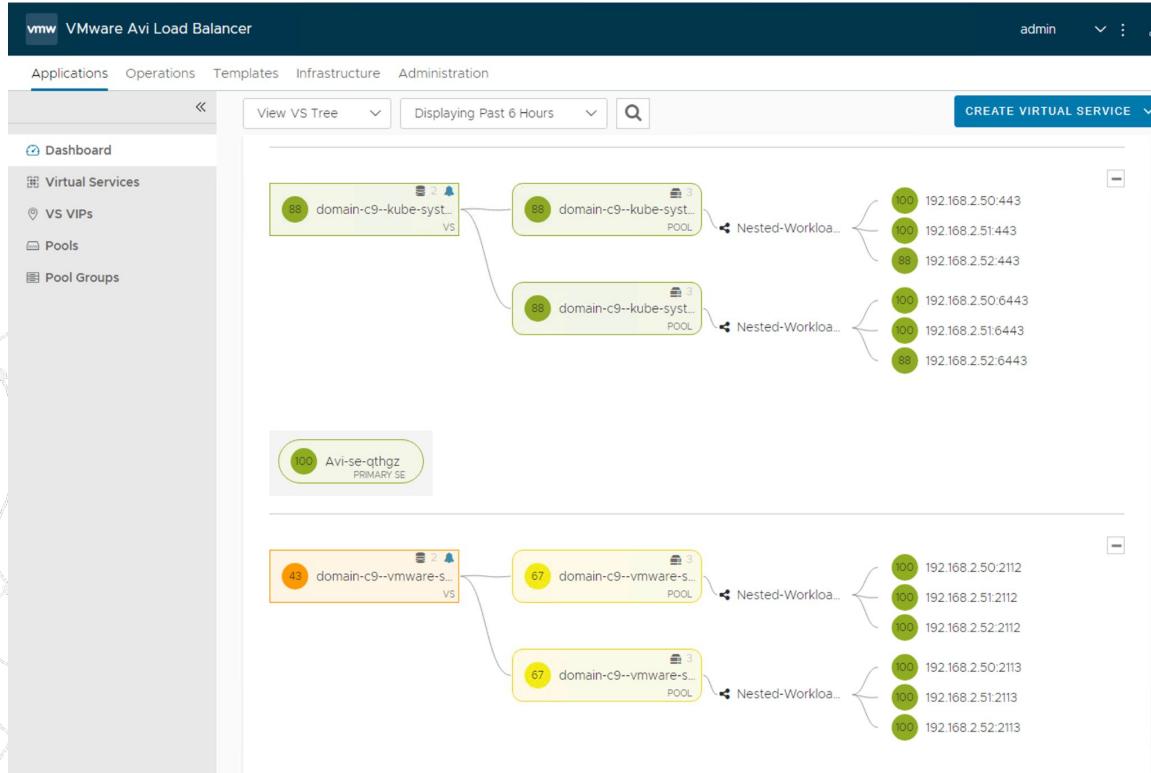
Review and confirm the steps above. Click Finish to start setting up avi-Cluster as a Supervisor.
You can view these configuration details in the Supervisor view under the Configure tab.

Export configuration [\(i\)](#)

FINISH

AVI Outcome

- API endpoint and Storage endpoint



AVI Outcome

- After a while orange turns to green

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMW logo, the title "VMware Avi Load Balancer", a user dropdown set to "admin", and a settings icon. Below the header, a secondary navigation bar offers links to "Applications", "Operations", "Templates", "Infrastructure", and "Administration". The main content area is titled "Virtual Services" and displays two rows of service entries. Each entry includes a checkbox, a name starting with "doma...", a health status indicator (green for the first row, orange for the second), an IP address (192.168.3.62 or 192.168.3.60), and various performance metrics like RPS, CPS, and throughput. A "CREATE VIRTUAL SERVICE" button is located in the top right of the main grid area. On the left side, a sidebar lists "Dashboard", "Virtual Services" (which is selected and highlighted in a box), "VS VIPs", "Pools", and "Pool Groups".

	Nam...	Health	Address	App ...	Servi...	Pools	Total...	RPS	CPS	Ope...	Thro...	⋮
<input type="checkbox"/>	doma...	88	192.168.3.62	N/A	443, ...	doma...	1	—	0.0 /sec	0	0.0 bps	✎
<input type="checkbox"/>	doma...	43	192.168.3.60	N/A	2112, ...	doma...	1	—	0.0 /sec	0	0.0 bps	✎

AVI Outcome

- API end point is at 192.168.3.63 for kubectl

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMW logo, the title "VMware Avi Load Balancer", a user dropdown set to "admin", and a settings icon. Below the header, a secondary navigation bar has tabs for "Applications", "Operations", "Templates", "Infrastructure", and "Administration", with "Applications" being the active tab. On the left, a sidebar lists "Dashboard", "Virtual Services", "VS VIPs" (which is selected and highlighted in blue), "Pools", and "Pool Groups". The main content area is titled "VS VIPs" and displays a table of virtual IP addresses. The table has columns for "Name", "Address", and "# Virtual Services". Two entries are listed:

Name	Address	# Virtual Services
domain-c9--kube-system-kube-apiserver-lb-svc	192.168.3.62	1
domain-c9--vmware-system-csi-vsphere-csi-controller	192.168.3.60	1

At the bottom right of the table, there are buttons for "Items per page" (set to 10), "Total" (2), and icons for edit, delete, and dropdown.

Create vCenter namespace

Create first vCenter namespace

The screenshot shows the vSphere Client interface with the title "Workload Management". On the left, there's a sidebar with a "Namespaces" section containing two items: "(#) svc-tkg-domain-c9" and "(#) svc-velero-domain-c9". The main area has tabs for "Namespaces", "Supervisors", "Services", and "Updates", with "Namespaces" selected. A red circle highlights the "NEW NAMESPACE" button. Below it is a "Quick Filter" input field with "Enter value". A table lists existing namespaces:

	Namespaces	Supervisor	Config Status	CPU (Used Limit)	Memory (Used Limit)	Storage (Used Limit)
○	(#) svc-tkg-domain-c9	Sup1	✓ Running	0 No Limit	0 No Limit	0 No Limit
○	(#) svc-velero-domain-c9	Sup1	✓ Running	0 No Limit	0 No Limit	0 No Limit

At the bottom, there are buttons for "Manage Columns", "Items per page" (set to 25), and a "2 items" link. The footer includes the text "Copyright © 2023 Broadcom. All Rights Reserved. The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries." and the number 47.

Create vCenter namespace

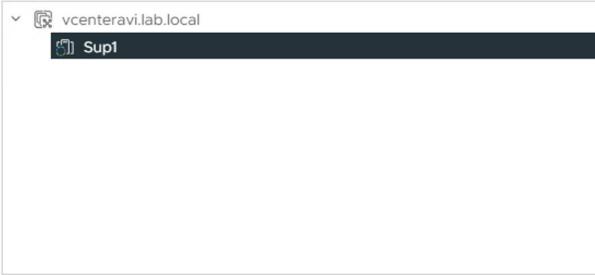
Create first vCenter namespace

Create Namespace

X

Select a Supervisor where you would like to create this namespace.

Supervisor i



Name i

namespace1000

Network i

nestedworkloadnet

Description

Add description for the namespace here (limit 180 characters)

CANCEL

CREATE

Create vCenter namespace outcome

The screenshot shows the vSphere Client interface. The left sidebar lists namespaces: 'Namespaces' (underlined), 'namespace1000' (selected and highlighted in dark blue), 'svc-tkg-domain-c9', and 'svc-velero-domain-c9'. The main content area displays the details for 'namespace1000'. The title bar says '(n) namespace1000' and has an 'ACT' button. Below the title are three tabs: 'Summary' (selected), 'Monitor', and 'Configure'. The 'Summary' tab contains the following information:

- Status**: Created 10/30/24
- Config Status**: **Running**
- Kubernetes Status**: **Active**
- Location**:
 - Sup1**
 - [vcenteravi.lab.local](#)
- Link to CLI Tools**

Namespace permissions

Permissions



You haven't given any devops access to this namespace. Add some permissions to let your devops team directly manage this namespace.

ADD PERMISSIONS

Add Permissions

Add a user or a group to give access to this namespace

Identity source

vsphere.local

User/Group Search

Administrator

Role

Owner

CANCEL

OK

Namespace permissions

Add Permissions

X

Add a user or a group to give access to this namespace

Identity source

vsphere.local

User/Group Search

devops

Role

Can edit

CANCEL

OK

Permissions

Can view 0

No users have permission to only view namespaces.

Can edit 1

devops

Owner 1

Administrator

MANAGE PERMISSIONS

Storage for namespace

Storage



You haven't added any storage policies for this namespace. Add some policies to let your devops team access persistent storage.

ADD STORAGE

Select Storage Policies

<input type="checkbox"/>	Storage Policy	Total Capacity	Available Capacity
<input type="checkbox"/>	» Management Storage Policy - Regular	1.17 TB	919.53 GB
<input type="checkbox"/>	» VM Encryption Policy	1.20 TB	944.55 GB
<input type="checkbox"/>	» Management Storage policy - Encryption	1.17 TB	919.53 GB
<input type="checkbox"/>	» vSAN Default Storage Policy	1.17 TB	919.53 GB
<input type="checkbox"/>	» Management Storage Policy - Stretched Lite	1.17 TB	919.53 GB
<input type="checkbox"/>	» Management Storage Policy - Single Node	1.17 TB	919.53 GB
<input type="checkbox"/>	» Management Storage policy - Thin	1.17 TB	919.53 GB
<input checked="" type="checkbox"/>	» pacific-gold-storage-policy	1.17 TB	919.53 GB

✓ 1

Deselect All

8 items

CANCEL

OK

Storage for namespace

Storage

0 Persistent Volume Claims

Storage Policies 1
pacific-gold-storage-p... | No limit

EDIT STORAGE

Adjust namespace limits

Capacity and Usage

CPU	No limit
 0 MHz used	
Memory	No limit
 0 MB used	
Storage	No limit
 0 MB used	

EDIT LIMITS

Resource Limits

X

Below are various resources that are available to the namespace. You can choose to limit consumption of any or all of these. This is an optional step.

CPU	No limit	MHz	▼
Memory	No limit	MB	▼
▼ Storage	No limit	MB	▼
pacific-gold-storage-policy	No limit	MB	▼

CANCEL

OK

VM Classes

VM Service [\(i\)](#)

0
Associated VM Classes

[ADD VM CLASS](#)

0
Associated Content Libraries

[ADD CONTENT LIBRARY](#)

[GO TO VM SERVICE](#)

VM Classes

Add VM Class | namespace1000

X

Add a VM Class for your developers to self-service VMs on this Namespace. VM Classes shown here were created using VM Service.

⚠ This namespace does not support Instance Storage. VM Classes with Instance Storage can not be associated to it.

MANAGE VM CLASSES

<input checked="" type="checkbox"/>	VM Class Name	↑ ↴	CPU	CPU Reservation	Memory	Memory Reservation	PCI Devices	Namespaces	VMs
<input checked="" type="checkbox"/>	best-effort-2xlarge	8 vCPUs	--	64 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-4xlarge	16 vCPUs	--	128 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-8xlarge	32 vCPUs	--	128 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-large	4 vCPUs	--	16 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-medium	2 vCPUs	--	8 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-small	2 vCPUs	--	4 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-xlarge	4 vCPUs	--	32 GB	--	No			
<input checked="" type="checkbox"/>	best-effort-xsmall	2 vCPUs	--	2 GB	--	No			
<input checked="" type="checkbox"/>	guaranteed-2xlarge	8 vCPUs	100%	64 GB	100%	No			
<input checked="" type="checkbox"/>	guaranteed-4xlarge	16 vCPUs	100%	128 GB	100%	No			

16 Manage Columns Deselect All

Items per page 10 ▾

Add VM Class | namespace1000

X

Add a VM Class for your developers to self-service VMs on this Namespace. VM Classes shown here were created using VM Service.

⚠ This namespace does not support Instance Storage. VM Classes with Instance Storage can not be associated to it.

X

MANAGE VM CLASSES

<input checked="" type="checkbox"/>	VM Class Name	↑ ↴	CPU	CPU Reservation	Memory	Memory Reservation	PCI Devices	Namespaces	VMs
<input checked="" type="checkbox"/>	guaranteed-8xlarge	32 vCPUs	100%	128 GB	100%	No	0	0	
<input checked="" type="checkbox"/>	guaranteed-large	4 vCPUs	100%	16 GB	100%	No	0	0	
<input checked="" type="checkbox"/>	guaranteed-medium	2 vCPUs	100%	8 GB	100%	No	0	0	
<input checked="" type="checkbox"/>	guaranteed-small	2 vCPUs	100%	4 GB	100%	No	0	0	
<input checked="" type="checkbox"/>	guaranteed-xlarge	4 vCPUs	100%	32 GB	100%	No	0	0	
<input checked="" type="checkbox"/>	guaranteed-xsmall	2 vCPUs	100%	2 GB	100%	No	0	0	

16 Manage Columns Deselect All

Items per page 10 ▾ 11 - 16 of 16 items ▶ 2 / 2 >|

CANCEL

OK

VM Classes

VM Service 

16

Associated VM Classes

[MANAGE VM CLASSES](#)

0

Associated Content Libraries

[ADD CONTENT LIBRARY](#)

[GO TO VM SERVICE](#)

kubectl

Status

Created 10/30/24

Config Status ⓘ

✓ Running

Kubernetes Status ⓘ

✓ Active

Location

🔗 [Sup1](#)

🔗 [vcenteravi.lab.local](#)

Link to CLI Tools

[Copy link](#) [Open](#)

Not secure https://192.168.3.62

vmware

Kubernetes CLI Tools

Kubectl + vSphere plugin

Download the CLI tools package to view and control namespaces in vSphere. [LEARN MORE](#)

SELECT OPERATING SYSTEM ▾

DOWNLOAD CLI PLUGIN WINDOWS ▾

[Checksum CLI plugin Windows](#) ▾

Kubectl and API endpoint IP location

3. Run command `kubectl vsphere login --server=<IP or master hostname>` to log in to server
4. Run command `kubectl config get-contexts` to view a list of your Namespaces
5. Run command `kubectl config use-context <context>` to choose your default context

The screenshot shows the vSphere Client interface with the title bar "vSphere Client". The main area is titled "Workload Management" and displays a "Supervisors" tab. Below the tabs are several buttons: ADD SUPERVISOR, DEACTIVATE, CLONE CONFIG, EXPORT CONFIG, EXPORT LOGS, and RESTORE. A "Quick Filter" dropdown and an "Enter value" input field are present. The supervisor list table has columns: Supervisor, Namespaces, Hosts, Services, Config Status, Host Config Status, and Control Plane Node Address. One row is highlighted for "Sup1", which has 3 namespaces, 3 hosts, and status information: View, Running, Running, and 192.168.3.62. The "Control Plane Node Address" column for Sup1 is circled in red.

Supervisor	Namespaces	Hosts	Services	Config Status	Host Config Status	Control Plane Node Address
Sup1	3	3	View	Running	Running	192.168.3.62

Kubectl and API endpoint IP location

```
root@linuxjum:/home/orf# kubectl vsphere login --server=192.168.3.62 --insecure-skip-tls-verify

Username: administrator@vsphere.local
Password:
Logged in successfully.

You have access to the following contexts:
  192.168.3.62
  namespace1000
  svc-tkg-domain-c9
  svc-velero-domain-c9

If the context you wish to use is not in this list, you may need to try
logging in again later, or contact your cluster administrator.

To change context, use `kubectl config use-context <workload name>`
root@linuxjum:/home/orf# kubectl config use-context namespace1000
Switched to context "namespace1000".
root@linuxjum:/home/orf# kubectl get nodes
NAME                  STATUS   ROLES      AGE     VERSION
423c5e07c453ebdd2aa4727c34d59a16  Ready    control-plane,master  3h4m    v1.28.3+vmware.wcp.1
423c687ec0576fe32ca8da899ccce168  Ready    control-plane,master  174m    v1.28.3+vmware.wcp.1
423cbd1e49213fc6479e13d53c217025  Ready    control-plane,master  174m    v1.28.3+vmware.wcp.1
avi-esxi-1.lab.local          Ready    agent      171m    v1.28.2-sph-5111a65
avi-esxi-2.lab.local          Ready    agent      171m    v1.28.2-sph-5111a65
avi-esxi-3.lab.local          Ready    agent      171m    v1.28.2-sph-5111a65
root@linuxjum:/home/orf#
```

Kubectl and API endpoint test

```
kubectl vsphere login --server=192.168.3.61 --insecure-skip-tls-verify
```

```
kubectl config use-context namespace1000
```

```
kubectl get pods -A
```

```
kubectl get pods -A | grep -v Running
```

```
kubectl get pods -A | grep Running | wc -l
```

```
kubectl get nodes
```

AVI additional set up for DNS subdomain

Edit avi-cloud

The screenshot shows the VMware Avi Load Balancer web interface. The top navigation bar includes the VMW logo, the text "VMware Avi Load Balancer", and user authentication information ("admin"). Below the header, the main menu has tabs for Applications, Operations, Templates, Infrastructure (which is currently selected), and Administration. On the left side, there's a sidebar with links for Dashboard, Clouds, and Cloud Resources (with a dropdown arrow). The main content area displays a table titled "Clouds" under the Infrastructure tab. The table has columns for Name, Type, and Status. One entry is visible: "avi-cloud" (Type: VMware vCenter/vSphere ESX, Status: green). A "CREATE" button is located in the top right corner of the table area. The background features a faint watermark of a network mesh.

Name	Type	Status
avi-cloud	VMware vCenter/vSphere ESX	Green (healthy)

AVI additional set up for DNS subdomain

Create DNS profile

The screenshot shows the VMware Avi Load Balancer interface with the following details:

- Header:** VMware Avi Load Balancer
- Cloud Selection:** CLOUD avi-cloud
- Edit Cloud Name:** EDIT CLOUD avi-cloud
- Tab Selection:** IPAM/DNS (highlighted)
- IPAM/DNS Section:**
 - IPAM Profile:** Frontendpool
 - DNS Profile:** Select DNS Profile (circled in red)
- Enable State Based DNS Registration:** Enable State Based DNS Registration (circled in red)

AVI additional set up for DNS subdomain

Select DNS subdomain

DNS Service Domains (0)

ADD

<input type="checkbox"/>	Domain Name	Override Record TTL	
We couldn't find any objects!			

Items per page: 10 | Total: 0