

# Lab 01 - Review the SDDC

## Introduction

VMware Cloud on AWS is an on-demand service that enables customers to run applications across vSphere-based cloud environments with access to a broad range of AWS services. Powered by VMware Cloud Foundation, this service integrates vSphere, vSAN and NSX along with VMware vCenter management, and is optimized to run on dedicated, elastic, bare-metal AWS infrastructure. ESXi hosts in VMware Cloud on AWS reside in an AWS Availability Zone(s) (AZ) and are protected by vSphere HA.

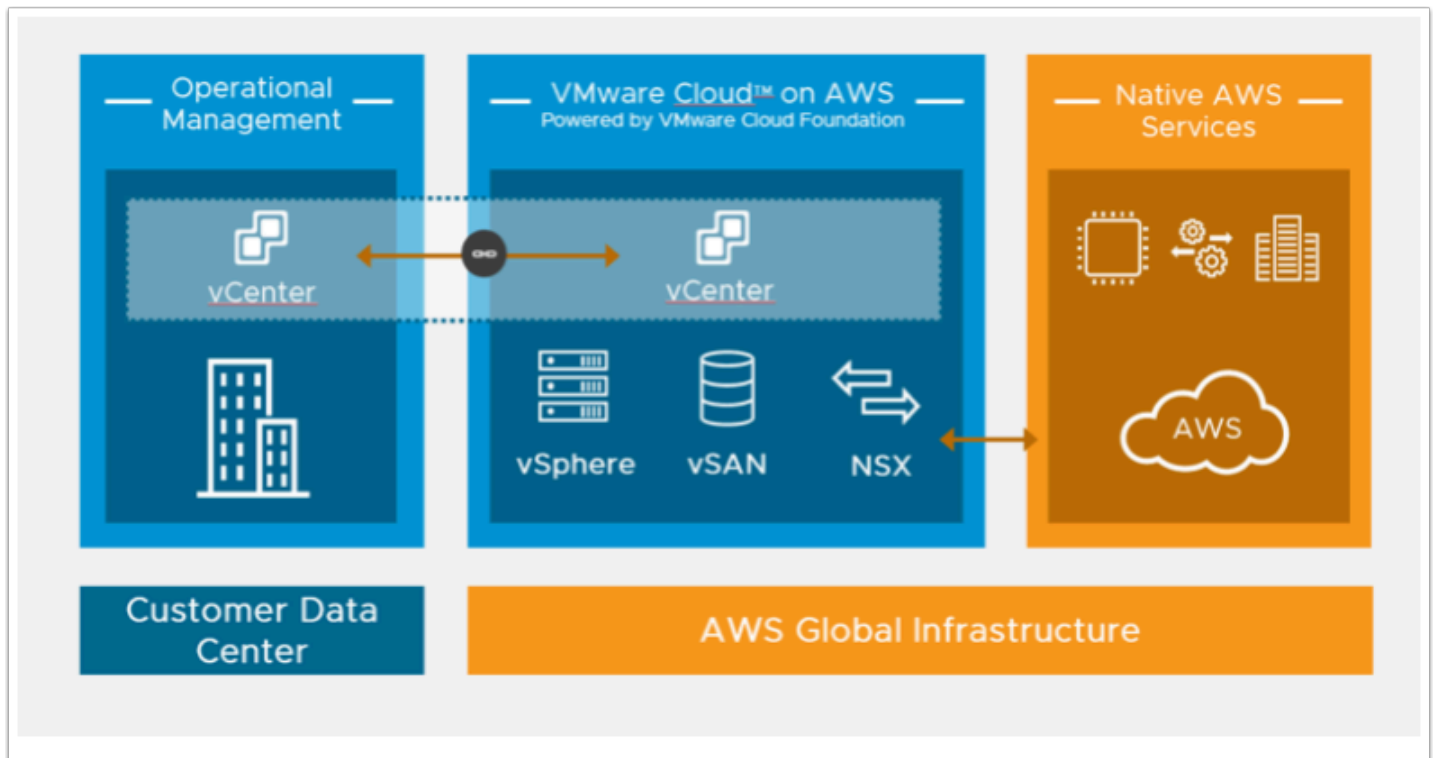
With VMware Hybrid Cloud Extension (HCX), customers can easily and rapidly perform large-scale bi-directional migrations between on-premises and VMware Cloud on AWS environments.

With the same architecture and operational experience on-premises and in the cloud, IT teams can now quickly derive instant business value from the use of AWS services and VMware hybrid cloud experience. VMware Cloud on AWS is ideal for enterprise IT infrastructure and operations organizations looking to migrate their on-premises vSphere-based workloads to the public cloud, consolidate and extend their data center capacities, and optimize, simplify and modernize their disaster recovery solutions.

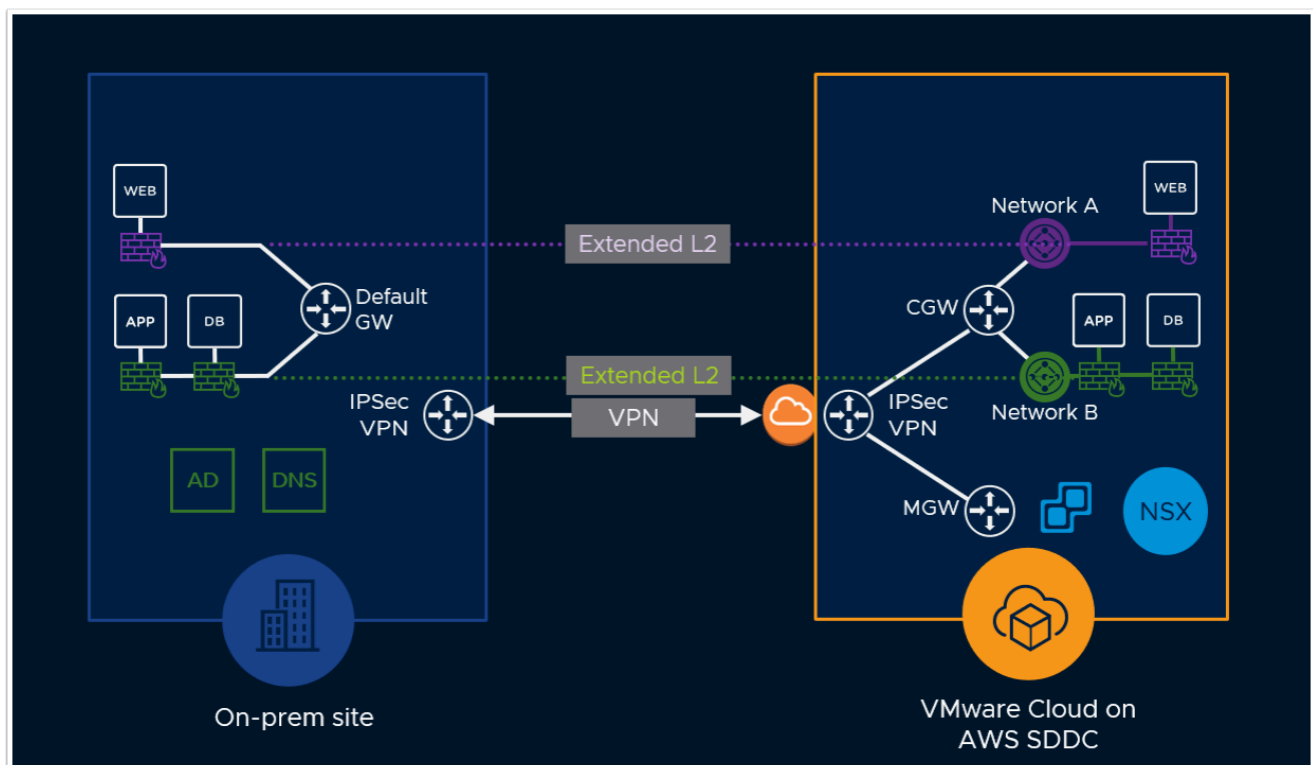
VMware Cloud on AWS is an integrated cloud offering jointly engineered by Amazon Web Services (AWS) and VMware. You can deliver a highly scalable and secure service by migrating and extending your on-premises VMware vSphere-based environments to the AWS Cloud running on Amazon Elastic Compute Cloud (Amazon EC2).

## What is An Software Defined Data Center (SDDC)

The mobile cloud era is changing line-of-business (LOB) expectations of IT. For IT organizations to securely deliver the anticipated improvements in service quality and speed, a Software-Defined Data Center (SDDC) approach is required. The VMware approach to the SDDC delivers a unified platform that supports any application and provides flexible control. The VMware architecture for the SDDC empowers companies to run hybrid clouds and to leverage unique capabilities to deliver key outcomes that enable efficiency, agility, and security.



## The Lab Environment



**i** For the entirety of this workshop, you will have access to a live, dedicated VMware Cloud on AWS SDDC instance, along with a live vSphere 7.0 Update 2 On-Premises deployment. The VMware Cloud on AWS SDDC instance provided to you is a single-host SDDC. Single-host SDDC are designed for the following purposes:

- Training/Learning
- Proof of Concept
- Limited Development

The single-host SDDC supports all VMC on AWS use-cases, however, it should not be used for production workloads, as the availability and resiliency of this SDDC is far lower than a 2 or more host SDDC.

The single-host SDDC starter configuration allows you to kickstart your VMware Cloud on AWS hybrid cloud experience with a 30-day time-bound single host configuration. Beyond this class, you can purchase this configuration on an hourly on-demand basis using a credit card or VMware credit funds.

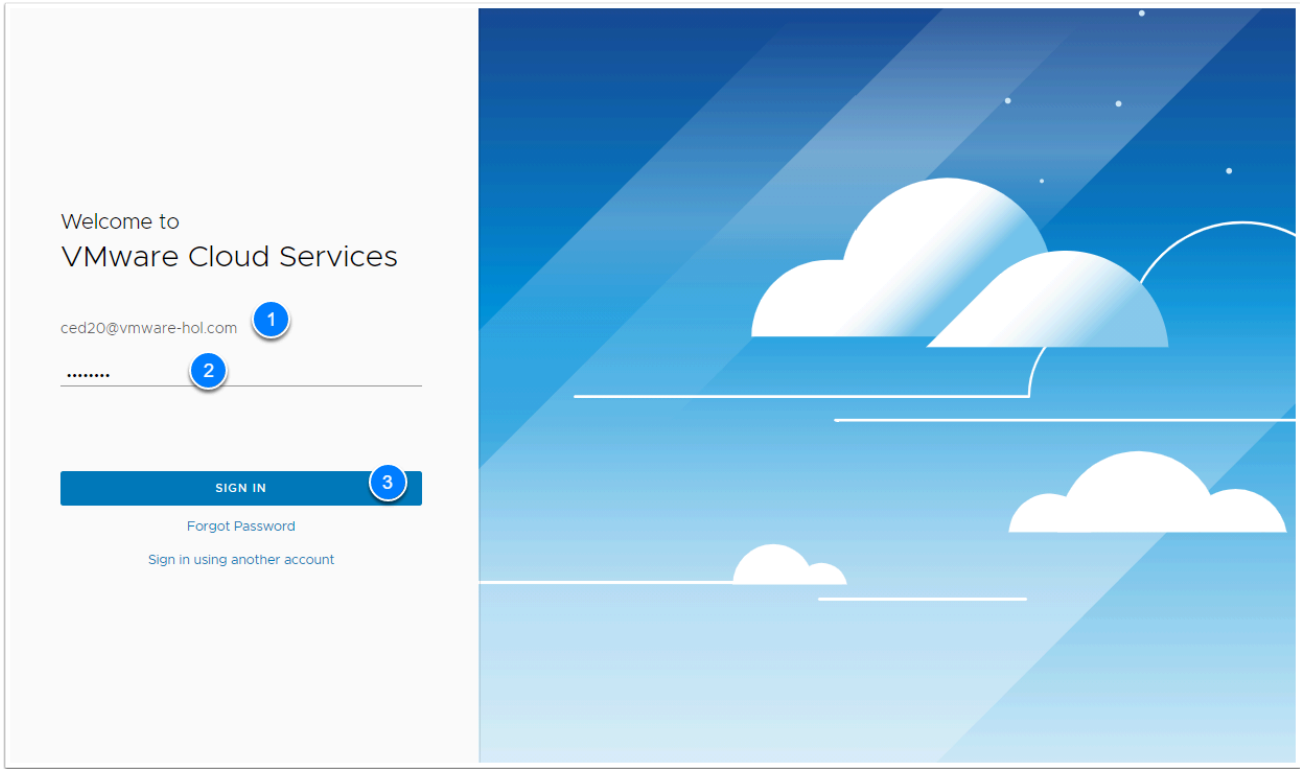
## TASKS

### Task 1 - Viewing and Exploring your SDDC


In this lab we are going to start with looking at the basic tasks you can perform in the VMware Cloud on AWS user interface when you are administering the platform. We'll take a close look and discover, through a very intuitive interface, where you perform specific administrative tasks.


From your laptop/desktop access the VMware Cloud on AWS Console

1. Using your preferred browser go to <https://vmc.vmware.com>
2. In tests Google Chrome in Incognito mode works best
3. Click SIGN IN
4. Login with your VMC on AWS console credentials provided by your instructor.  
Type <**Your Assigned login Credentials**> in the email address field i.e. **vmcexpert#-XX@vmware-hol.com** (where **#** is your Environment ID, and **XX** is your assigned student number)
5. Click **NEXT**
6. Type **VMware1!** in the Password field
7. Click SIGN IN



Upon signing in you'll notice there are two or more SDDCs named VMCExpert#-XX (Where XX indicates your student number).

 **NOTE:** Unless instructed to, only use the SDDC that matches your assigned Student number

 **VMCEXP3-01**

Ready

Expires in 15 days

Region	EU (Frankfurt)	Clusters	1
Type	VMC on AWS	Hosts	1
Availability Zones	eu-central-1b	Cores	36

CPU

82.8 GHz

Memory

512 GiB


Storage

10.37 TiB

VIEW DETAILS

OPEN VCENTER

ACTIONS

 **VMCEXP3-02**

Ready

Expires in 15 days

Region	EU (Frankfurt)	Clusters	1
Type	VMC on AWS	Hosts	1
Availability Zones	eu-central-1b	Cores	36

CPU

82.8 GHz

Memory

512 GiB

Storage

10.37 TiB

VIEW DETAILS

OPEN VCENTER

ACTIONS

## Task 1.1 - Access and Exploring your SDDC

An SDDC is a fully deployed environment including vSphere, NSX, vSAN, HCX, and vCenter Server. Deployment of an SDDC takes about 90 minutes so for the purposes of this lab, we have already deployed it for you.

This SDDC is in the same state it would be if you would have deployed it.

💡 Identify your SDDC, (VMCexpert#-XX, where XX is your Student Number). At the top left of the SDDC tile (i.e. **VMCExpert3-02**).

### 1. Click **VIEW DETAILS**

In this task we will review the options under each of the SDDC Tabs (Summary, Networking and Security, Add-Ons, Maintenance...)

The screenshot displays the VMware Cloud Foundation SDDC console. At the top, there are tabs for 'SDDCs' and 'SDDC Groups'. Below this, two SDDC tiles are shown side-by-side: 'VMCEXP3-01' and 'VMCEXP3-02'. Each tile has a 'Ready' status indicator and a 'Expires in 15 days' warning. The tiles list the following details:

Region	EU (Frankfurt)	Clusters	1
Type	VMC on AWS	Hosts	1
Availability Zones	eu-central-1b	Cores	36

Below the table, the resource allocation is summarized:

CPU	Memory	Storage
82.8 GHz	512 GiB	10.37 TiB

At the bottom of each tile, there are three buttons: 'VIEW DETAILS' (circled in red), 'OPEN VCENTER', and 'ACTIONS'. At the very bottom of the console, there are links for 'BACK TO TOP' and 'GO TO GRID VIEW'.

### SUMMARY TAB

This tab displays the resource allocation of your VMware on AWS SDDC. It shows how many hosts (ESXi hypervisors) are in the SDDC along with the CPU, RAM, and Storage capacity of the SDDC.

From here, you can expand your SDDC by adding Hosts and/or Clusters to it. If allowed, you can also shrink the SDDC by removing one or more hosts. You can also enable and configure elastic

DRS as well as enable the purchase of Microsoft Licenses for Microsoft OSes and Applications you intend to deploy in the SDDC.

2. Click the **Networking & Security** Tab

### NETWORKING AND SECURITY

From here you can view and change networking for your SDDC.

You can see a full diagram of the Management and Compute Gateways. From this tab you can also perform the following:

- CRUD operations on Networks **Segments** for Applications running in your SDDC
  - Configure **VPN** from your SDDC to another endpoint such as your On-Premises environment or another SDDC
  - Configure **NAT**
  - Edit DHCP service on the **Tier-1** Compute Gateway
  - Define N/S Firewall policies on the **Gateway Firewalls** for Compute and Management workloads, as well as E/W Firewall using the **Distributed Firewall**
  - Review **Virtual Machines** in your SDDC Inventory and Create or Edit custom User-defined **Groups** and **Services**
  - Configure NSX Advanced Security, such as, **Distributed IDS/IPS**, **Layer-7 Firewall** and **User Identity Firewall rules**
  - Configure Network troubleshooting tools (**IPFIX** and **Port Mirroring**)
3. Click the **Add Ons** tab to review the additional services that can be added to your VMC on AWS SDDC

### ADD ONS

These add on services are used to extend the capabilities of the SDDC and provide solutions for specific Use Cases. The Add on services include:

- **HCX** Allows the Migration of existing workloads to your SDDC
  - **Site Recovery** Allows the protection and recovery of Workloads into your SDDC from on-premises, SDDC to On-Premises or SDDC to SDDC
  - **vRealize Automation Cloud** Allows automated provisioning of workloads through a self-service service catalog. Also layers governance and policy management as part of the provisioning lifecycle.
  - **NSX Advanced Firewall** helps you secure your applications against a never-expanding set of threats on the internet. Specifically, it includes a robust set of networking and security capabilities that enable customers to run production applications in the cloud.
4. Click **Troubleshooting** tab to review the connectivity use case tests between On-Premises and the SDDC

### TROUBLESHOOTING

Includes tests for connectivity and other use cases.

5. Click the **Settings** Tab to review the SDDC and vCenter Information

### SETTINGS

This page displays information about SDDC settings, predefined user accounts, and SDDC access via the API and PowerCLI. These settings include:

- SDDC Management Appliance Size - Displays the size of management appliances in this SDDC. These sizes were specified when the SDDC was created.
- Default vCenter User Account - Displays the credentials for this pre-defined user. The password is generated when the SDDC is created. If you change it in vCenter, it does not get not updated on this page.
- vCenter FQDN - Shows the fully-qualified domain name and IP address of the vCenter in this SDDC
- vSphere Client - Provides the link to open the SDDC vCenter with the vSphere client
- vCenter API Explorer - Provides a link to open the API Explorer view of the SDDC and the VMC REST API
- PowerCLI Connect - The Command String can be used in PowerCLI to connect to the SDDC vCenter Server

6. Click the **Maintenance** Tab to view scheduled maintenance activities for your SDDC.

## MAINTENANCE

VMware periodically schedules software maintenance for its services, including VMware Cloud on AWS. During maintenance, your workload VMs will remain online, but you won't be able to view or modify your vCenter Server and SDDC networking.

You can view the progress of ongoing maintenance by clicking on the Maintenance Tab.

7. Click the **Support** Tab to view support information about the SDDC.

## SUPPORT

This page displays information about your SDDC. You use the information in this tab when working with VMware Technical Support. The information includes:

- Org ID
- SDDC ID
- SDDC Version
- vCenter and NSX Manager IPs

[< ALL SDDCs](#)

Student20

1

Summary

2

Networking & Security

3

Add Ons

4

Maintenance

5

Troubleshooting

6

Settings

7

Support

VMware Cloud on AWS

US West (Oregon)

OPEN VCENTER

ACTIONS

Capacity and Usage

<div>Hosts</div> <div>1</div> <div> <div>8</div> <div>Elastic DRS</div> <div>Default Storage Scale-out</div> </div>	<div>CPU</div> <div>82.8 GHz</div> <div> <div>Microsoft Server Licenses</div> <div>None Purchased from VMware</div> </div>	<div>Memory</div> <div>512 GiB</div>	<div>Storage</div> <div>10.37 TiB</div>
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[ADD HOST](#)
[REMOVE HOST](#)
[ADD CLUSTER](#)
[EDIT EDRS SETTINGS](#)
[EDIT MICROSOFT SERVER LICENSES](#)

SUPPORT

## Conclusion

The Single Host SDDC starter configuration is appropriate for test and development or proof of concept use cases. However, you can easily scale the number of hosts within 30 days to a 3 or more host SDDC. Do not run production workloads on a single host SDDC. You can however start to prove the value of VMware Cloud on AWS with a single host.