

# KNIGHTS EVENT JAN 2025



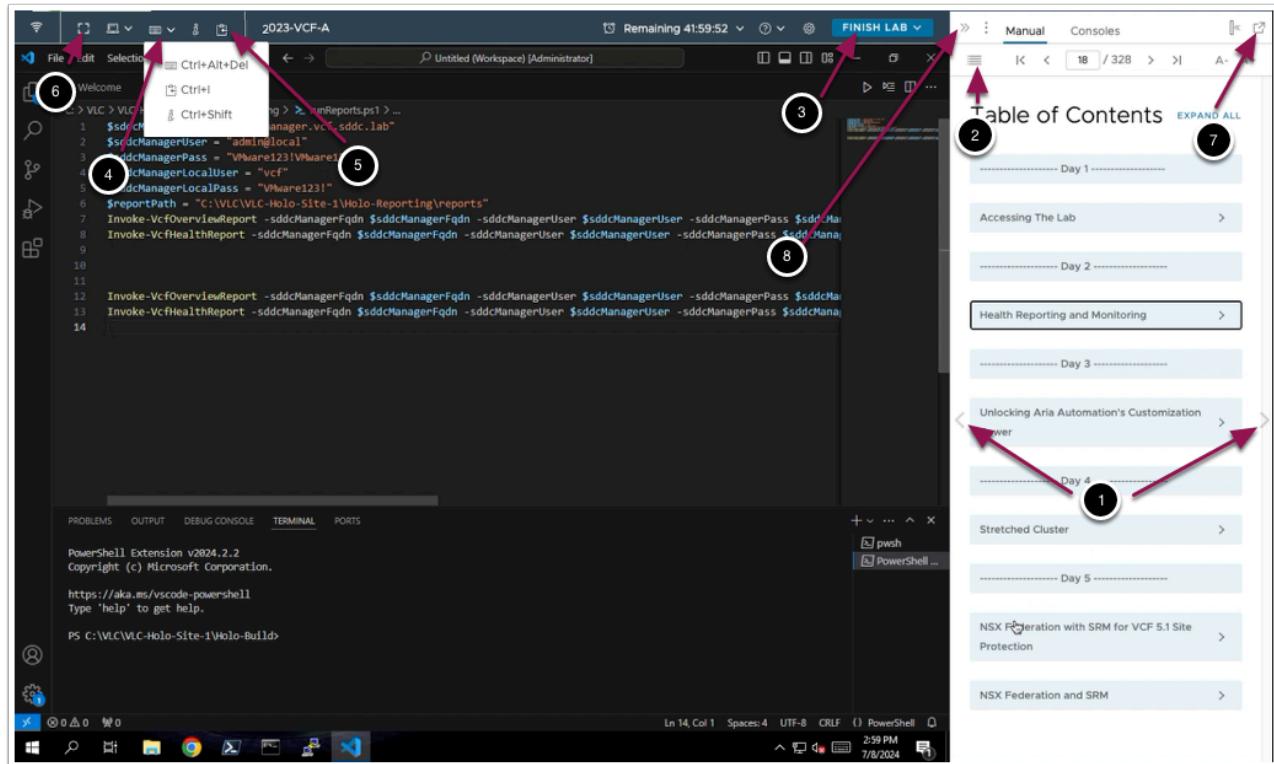
# Table of Contents

Connect To Labs .....	3
0. Lab Guidance .....	4
VCF Bringup.....	8
1. Perform VCF Bringup .....	9
Post Bringup Configuration.....	20
3. Aria Lifecycle Deploy and Configure .....	38

# **Connect To Labs**

# 0. Lab Guidance

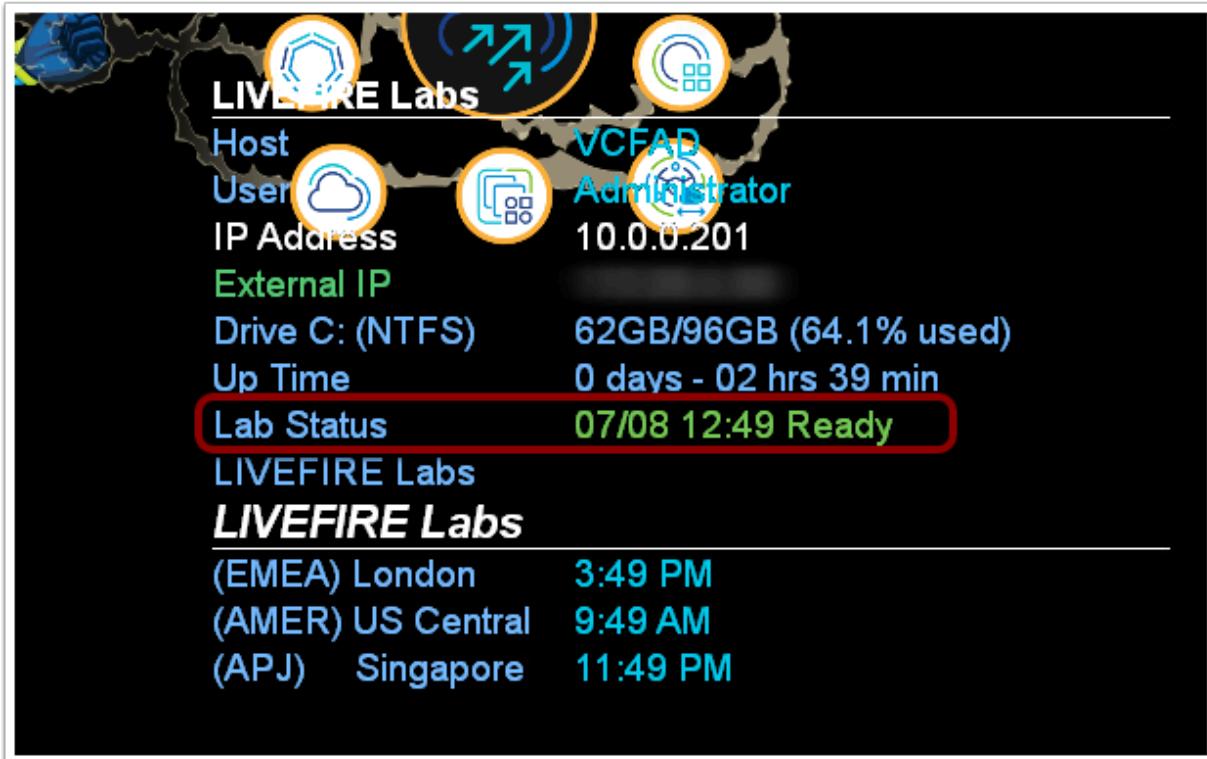
Welcome! To start somewhere other than the beginning, use the Table of Contents in the upper right-hand corner of the Lab Manual or click on one of the modules below.



From here you can:

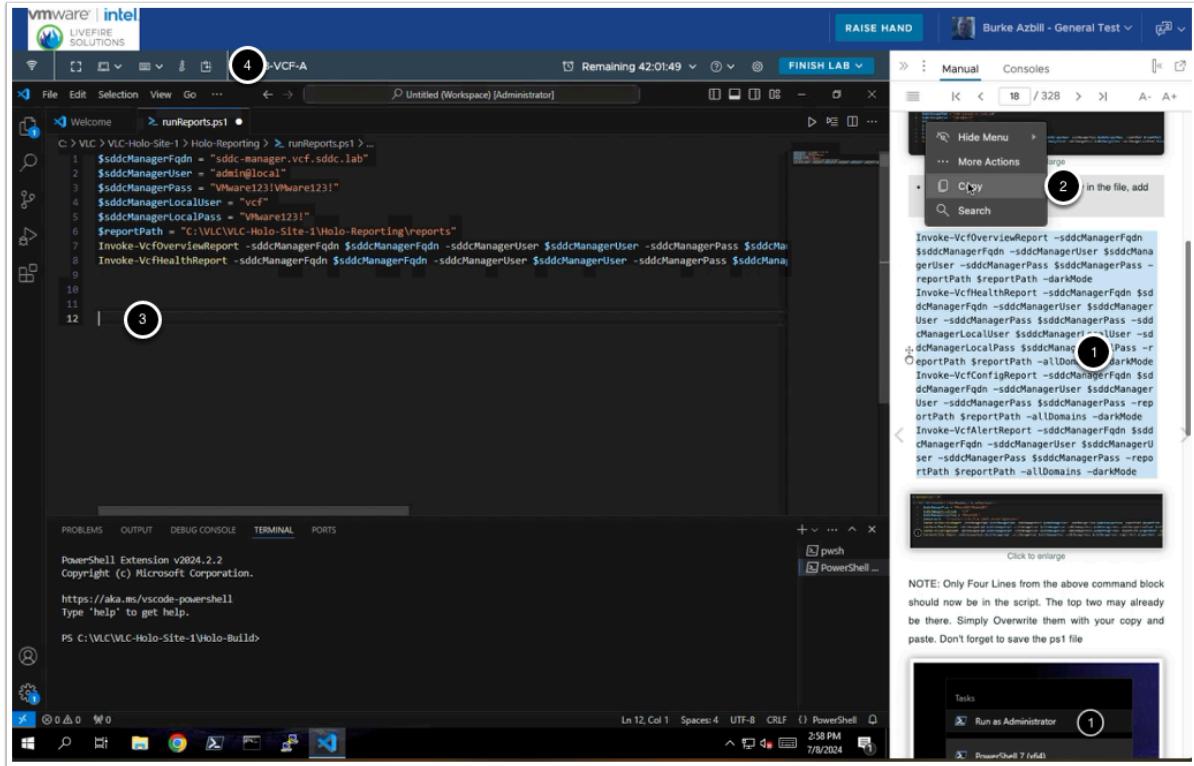
1. Click to advance to the next page and continue with the next lab module
2. Open the **TABLE OF CONTENTS** to jump to any module or lesson in this lab manual
3. Exit your lab and come back and resume it again in the future
4. Send Ctrl+Alt+Del to the console
5. Send Text into (Paste) the console
6. Enter Full-Screen
7. Detach the Lab Manual
8. Collapse the Lab Manual

## You are ready....is your lab?

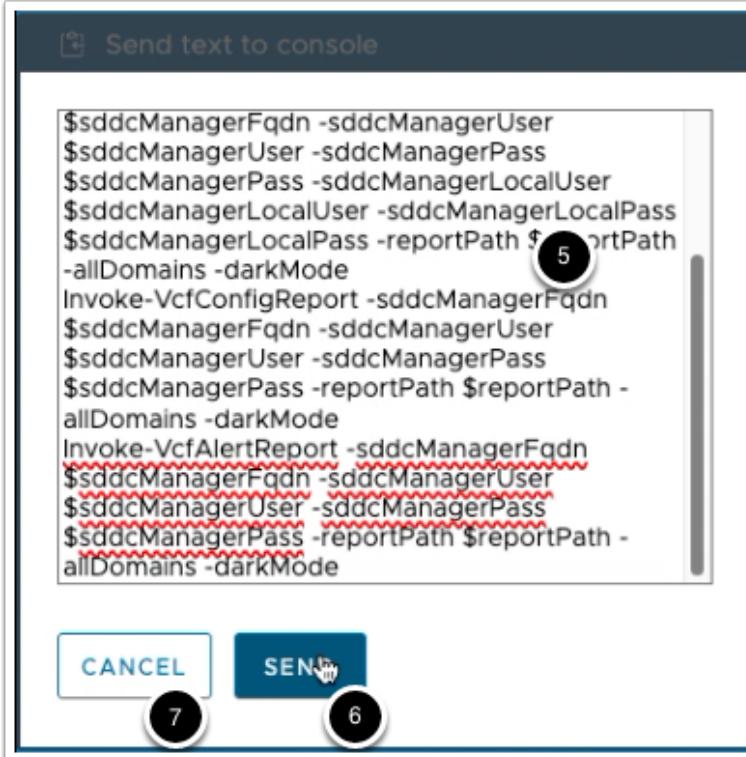


The lab console will indicate when your lab has finished all the startup routines and is ready for you to start. If you see anything other than "Ready", please wait for the status to update. If after 5 minutes your lab has not changed to "Ready", please ask for assistance.

# How to Copy from manual and Paste into Console



1. Use your mouse to select the text you wish to copy
2. When you release the mouse button to complete your selection, a context menu shows up - Click Copy  
NOTE: Right click on selected text DOES NOT bring up a copy option and CTRL+C/CMD+C does not work
3. Place your cursor/prompt at the location you wish to paste inside the console
4. Click the Clipboard icon to bring up the "Send text to console" window



5. Paste the contents of your clipboard into the window using Right-Click -> Paste, or your OS Keyboard combination of either CTRL+V or CMD+V
6. Click the "SEND" button to send the text to the console
7. Click the "CANCEL" button when you are done sending text to the console. This will close the popup window

```

C:\ > VLC > VLC-Holo-Site-1 > Holo-Reporting > runReports.ps1 > ...
1
2
3
4
5
6  'reports'
7  '$fqdn -sddcManagerUser $sddcManagerUser -sddcManagerPass $sddcManagerPass -reportPath $reportPath -darkMode
8  '$dn -sddcManagerUser $sddcManagerUser -sddcManagerPass $sddcManagerPass -sddcManagerLocalUser $sddcManagerLocalUser -s
9
10
11
12  '$fqdn -sddcManagerUser $sddcManagerUser -sddcManagerPass $sddcManagerPass -reportPath $reportPath -darkMode
13  '$dn -sddcManagerUser $sddcManagerUser -sddcManagerUser $sddcManagerPass -sddcManagerLocalUser $sddcManagerLocalUser -s
14  '$dn -sddcManagerUser $sddcManagerUser -sddcManagerUser $sddcManagerPass -reportPath $reportPath -allDomains -darkMode
15  'In -sddcManagerUser $sddcManagerUser -sddcManagerPass $sddcManagerPass -reportPath $reportPath -allDomains -darkMode

```

8. Confirm that your pasted text is at the desired location

# **VCF Bringup**

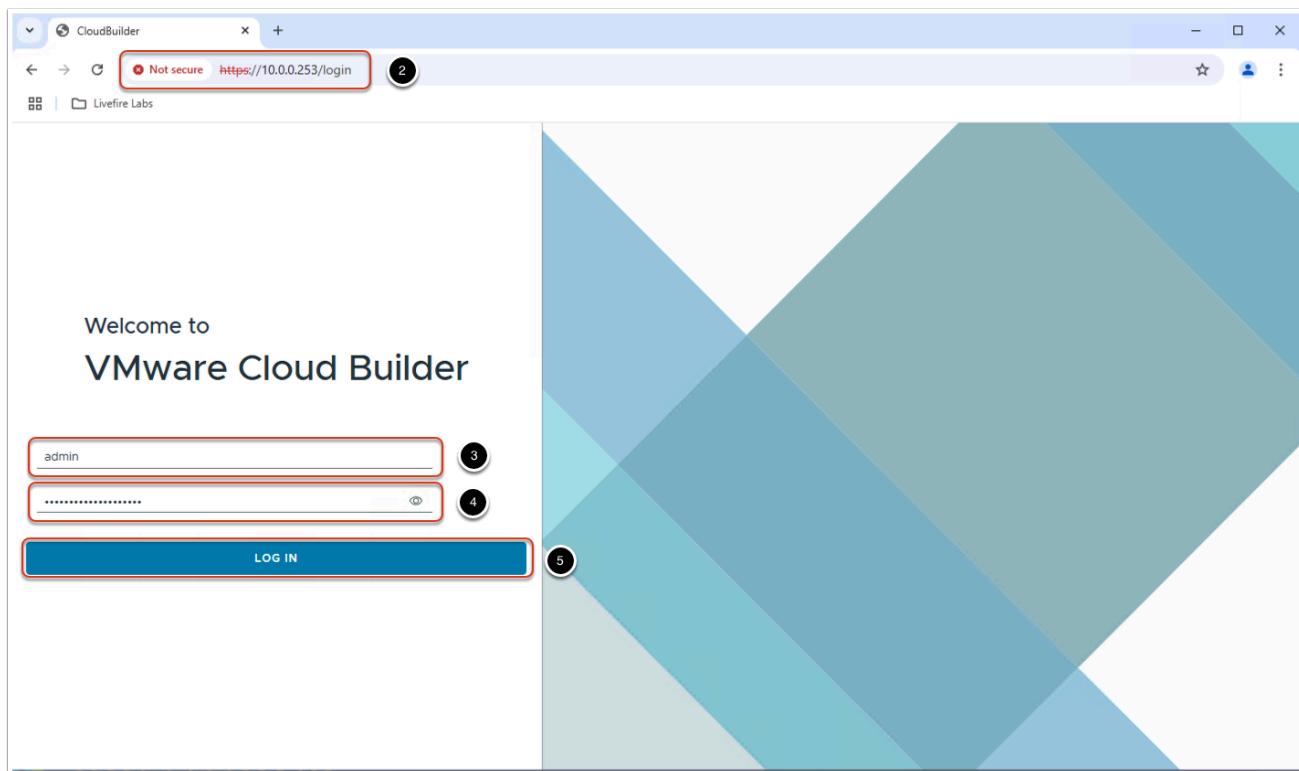
# 1. Perform VCF Bringup

In this lab, you are going to perform a standard VCF bringup, using a pre-prepared JSON file. This will provide you with a blank canvas to perform the post-bringup labs which come later.



Click the Chrome icon in the taskbar to open the web browser

# VMware Cloud Builder



2. Type <https://10.0.0.253> and press enter
3. Type **admin** as the username
4. Type **VMware123!VMware123!** as the password
5. Click **LOG IN**

# Supported Platform

The screenshot shows a web browser window for 'CloudBuilder' at the URL <https://10.0.0.253/architecture-selection>. The page title is 'Cloud Builder™'. The main content area is titled 'VMware Cloud Builder' with the sub-instruction 'Select platform based on your datacenter needs.' Below this, there's a section titled 'Supported Platform' containing two options:

- VMware Cloud Foundation (6)
- VMware Cloud Foundation on Dell EMC VxRail (7)

A large blue button labeled 'NEXT' is highlighted with a red box and the number 8. To the right, a box titled 'VMware Cloud Foundation' provides a brief description and a list of benefits:

**VMware Cloud Foundation**

VMware Cloud Foundation makes it easy to deploy and run a hybrid cloud. VMware Cloud Foundation provides integrated cloud infrastructure (compute, storage, networking and security) and cloud management services to run enterprise applications in both private and public environments.

**Benefits include:**

- Natively integrated software-defined stack
- Enterprise-grade functionality
- Storage elasticity and high performance
- End-to-end security
- Self-Driving Operations
- Automated Infrastructure Provisioning
- Integrated Lifecycle Management

[LEARN MORE](#)

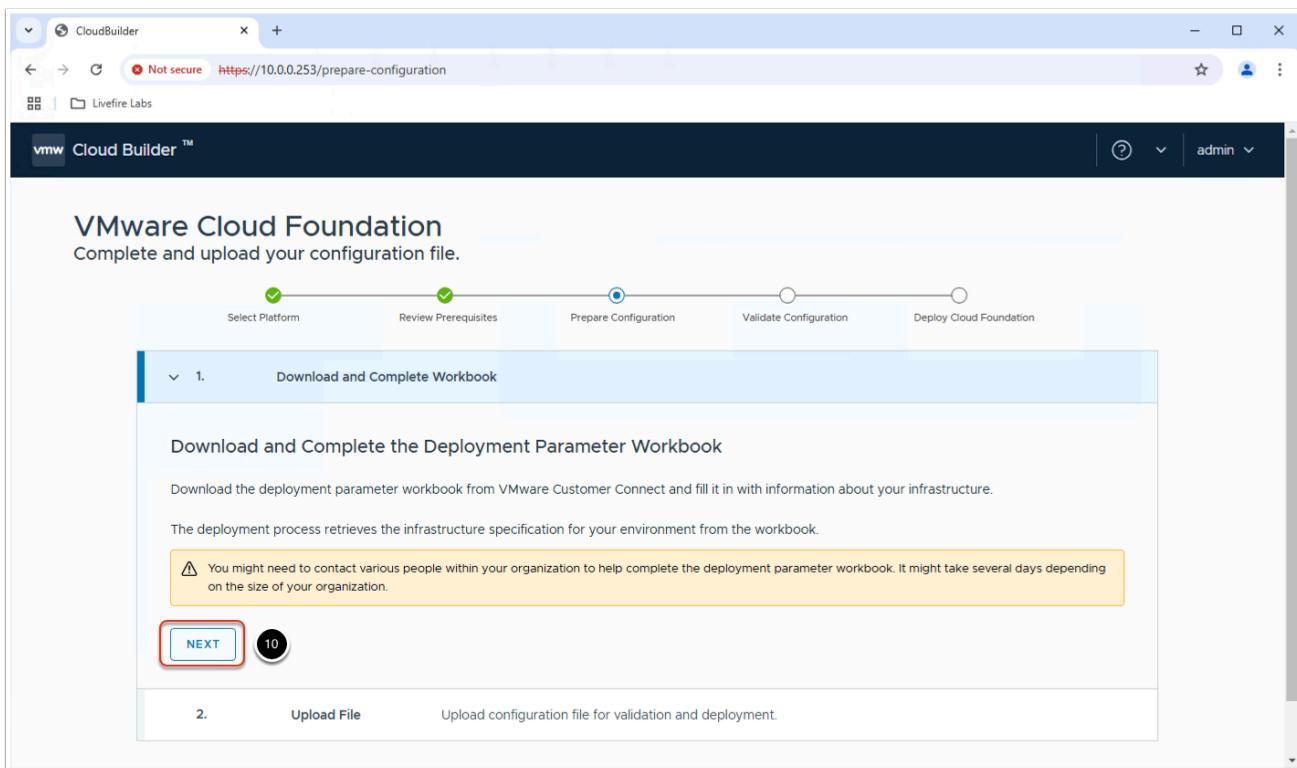
6. Leave the default Supported Platfrom selected (VMware CLoud Foundation)
7. Click **NEXT**

# Acknowledge Prerequisites

The screenshot shows a browser window for 'CloudBuilder' at the URL <https://10.0.0.253/prerequisite>. The page title is 'VMware Cloud Foundation' and the subtitle is 'Review the prerequisites for SDDC deployment.' A progress bar at the top indicates five steps: 'Select Platform' (green checkmark), 'Review Prerequisites' (blue circle with a dot), 'Prepare Configuration' (white circle), 'Validate Configuration' (white circle), and 'Deploy Cloud Foundation' (white circle). Below the progress bar, the 'Prerequisites' section contains a list of requirements under the heading 'Physical Network'. At the bottom of the page, there is a note: 'I have viewed the prerequisites and ensure my infrastructure is configured appropriately.' with a checkbox. Navigation buttons include 'BACK', 'NEXT' (highlighted with a red box), and '9'.

8. Tick the box to acknowledge that you have checked all the pre-requisites
9. Click **NEXT**

# Deployment Parameter Workbook



10. Click NEXT

# Upload Configuration File

The screenshot shows the VMware Cloud Foundation Cloud Builder interface. The top navigation bar includes 'CloudBuilder', 'Not secure https://10.0.0.253/prepare-configuration', 'Livefire Labs', 'vmw Cloud Builder™', and 'admin'. Below the header, a progress bar shows five steps: 'Select Platform' (green checkmark), 'Review Prerequisites' (green checkmark), 'Prepare Configuration' (blue circle), 'Validate Configuration' (white circle), and 'Deploy Cloud Foundation' (white circle). A main panel titled 'VMware Cloud Foundation' contains a sub-section 'Complete and upload your configuration file.' It lists two steps: 'Download and Complete Workbook' (green checkmark) and '2. Upload File' (blue background). Under 'Upload File', it says 'Upload configuration file for validation and deployment.' A sub-panel titled 'Upload Configuration File' asks to 'Upload the XLS or JSON file that contains your SDDC configuration details.' It includes a note: 'Before you continue, verify that you have all the details of your infrastructure configuration in the deployment parameter workbook or JSON file.' A green message box indicates 'Configuration file upload successful.' A red box highlights the 'SELECT FILE' button next to the file name 'NOLIC-Holo-Site-1-vcf-ems-public.json'. Numbered callouts (11, 12, 13) point to the 'SELECT FILE' button, the file path in the address bar, and the file name in the file list respectively.

Click **SELECT FILE**

The screenshot shows a Windows File Explorer 'Open' dialog. The 'File name:' field contains 'NOLIC-Holo-Site-1-vcf-ems-public.json'. The 'Custom Files (\*.json;\*.xlsx)' dropdown is open. The file path in the address bar is 'This PC > Windows (C:) > VLC > VLC-Holo-Site-1'. The file list shows several JSON files, with 'NOLIC-Holo-Site-1-vcf-ems-public.json' highlighted. A red box highlights the 'Open' button at the bottom right of the dialog. Numbered callouts (12, 13, 14) point to the file path in the address bar, the highlighted file in the list, and the 'Open' button respectively.

1. Navigate to **C:\VLC\VLC-Holo-Site-1**

2. Click **NOLIC-Holo-Site-1-vcf-ems-public.json**

3. Click **Open**

The screenshot shows the VMware Cloud Foundation CloudBuilder interface. The title bar says "CloudBuilder" and the address bar shows "https://10.0.0.253/prepare-configuration". The main content area is titled "VMware Cloud Foundation" with the sub-instruction "Complete and upload your configuration file." Below this is a progress bar with five steps: "Select Platform" (green checkmark), "Review Prerequisites" (green checkmark), "Prepare Configuration" (blue circle with dot), "Validate Configuration" (white circle), and "Deploy Cloud Foundation" (white circle). The "Prepare Configuration" step is currently active. A sub-task list shows "Download and Complete Workbook" (green checkmark) and "2. Upload File" (blue arrow icon). The "Upload File" task has the instruction "Upload configuration file for validation and deployment." Below this is a green success message box containing "Configuration file upload successful." A "SELECT FILE" button is shown with the file path "NOLIC-Holo-Site-1-vcf-ems-public.json". At the bottom are navigation buttons: "BACK", a red-bordered "NEXT" button, and "15".

15. Click **NEXT**

# Monitor Validation

The screenshot shows a browser window for 'CloudBuilder' at the URL <https://10.0.0.253/validation-result>. The page title is 'VMware Cloud Foundation'. It displays a progress bar with five steps: 'Select Platform' (green checkmark), 'Review Prerequisites' (green checkmark), 'Prepare Configuration' (green checkmark), 'Validate Configuration' (blue circle with question mark), and 'Deploy Cloud Foundation' (white circle). Below the progress bar is a message: 'Configuration file validation in progress.' A red box highlights a table titled 'Validation Items' with columns 'History', 'Validation Items', and 'Status'. The table shows the following tasks:

History	Validation Items	Status
Current 1/13/25, 8:04 PM	JSON Spec Validation	Success
	> Cloud Builder Configuration Validation	Warning
	DNS Resolution Validation	Success
	Preparing Security Requirements for Running Validation	Success
	ESXi Host Configuration Validation	In Progress

At the bottom left are 'BACK', 'RETRY' (highlighted in blue), and 'NEXT' buttons. At the bottom right is a circular icon with the number '16'.

Monitor the progress of the validation process, scroll down the list to see all tasks

# Acknowledge Warning

VMware Cloud Foundation

Cloud Builder will validate data provided in the configuration file and elements of the physical infrastructure.

Select Platform   Review Prerequisites   Prepare Configuration   Validate Configuration   Deploy Cloud Foundation

17 Errors found during configuration file validation. Proceed with caution. [Acknowledge](#)

[DOWNLOAD](#) [PRINT](#)

History	Validation Items	Status
Current 1/13/25, 8:04 PM	JSON Spec Validation	Success
	> Cloud Builder Configuration Validation	Warning
	DNS Resolution Validation	Success
	Preparing Security Requirements for Running Validation	Success
	ESXi Host Configuration Validation	Success

BACK [RETRY](#) NEXT

Review the warning messages. There should only be two, both related to NTP.

Click the **Acknowledge** link to continue

**!** Out in the real world, you would need to review any warning or error messages before continuing. Failure to resolve and re-validate could lead to bringup failing, and also result in having to rebuild the ESXi hosts before another attempt at bringup can be made.

In this case however, you can safely acknowledge the warnings and continue. In the lab, the Cloudbuilder is configured to be its own NTP server.

# Cloudbuilder - Move On

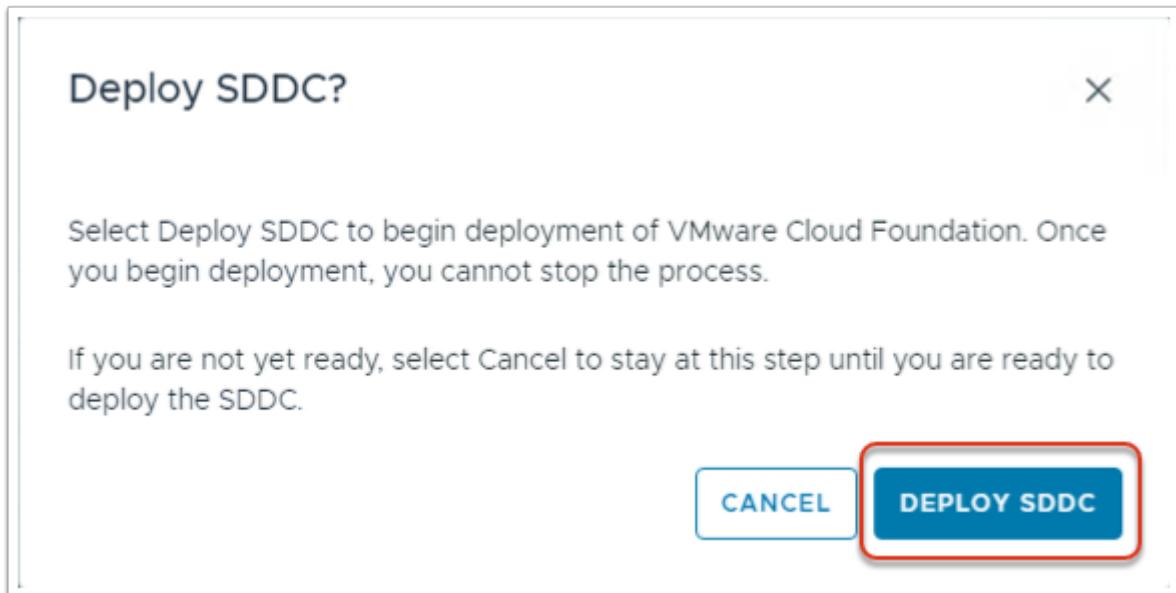
The screenshot shows a browser window titled "CloudBuilder" with the URL "https://10.0.0.253/validation-result". The page header includes "vmw Cloud Builder™" and a user "admin". The main content area is titled "VMware Cloud Foundation" and states "Cloud Builder will validate data provided in the configuration file and elements of the physical infrastructure." Below this is a progress bar with five steps: "Select Platform" (green checkmark), "Review Prerequisites" (green checkmark), "Prepare Configuration" (green checkmark), "Validate Configuration" (blue circle), and "Deploy Cloud Foundation" (white circle). A yellow banner at the top indicates "Errors found during configuration file validation. Proceed with caution." Below the banner is a table of validation items:

History	Validation Items	Status
Current 1/13/25, 8:04 PM	JSON Spec Validation	Success
	> Cloud Builder Configuration Validation	Warning
	DNS Resolution Validation	Success
	Preparing Security Requirements for Running Validation	Success
	ESXi Host Configuration Validation	Success

At the bottom are buttons for "BACK", "RETRY", and a large blue "NEXT" button, which is highlighted with a red box. To the right of the "NEXT" button is a circular icon with the number "18".

Click **NEXT**

## Deploy SDDC



Click **DEPLOY SDDC** to start bringup

## Monitor the progress of the bringup process

- The bring up process performs dozens of tasks and sub tasks to deploy and configure the VCF management workload domain. In the lab, this takes about two hours and fifteen minutes

The screenshot shows the VMware Cloud Foundation Cloud Builder interface. At the top, it says "CloudBuilder" and "Not secure https://10.0.0.253/bringup-result". The main title is "VMware Cloud Foundation" with the subtitle "Cloud Builder will deploy your SDDC.". Below this is a progress bar with five steps: "Select Platform" (green checkmark), "Review Prerequisites" (green checkmark), "Prepare Configuration" (green checkmark), "Validate Configuration" (green checkmark), and "Deploy Cloud Foundation" (blue circle). A red box highlights the "Deploy Cloud Foundation" step. A message box in the center says "SDDC Bringup is in progress." Below this is a table of tasks:

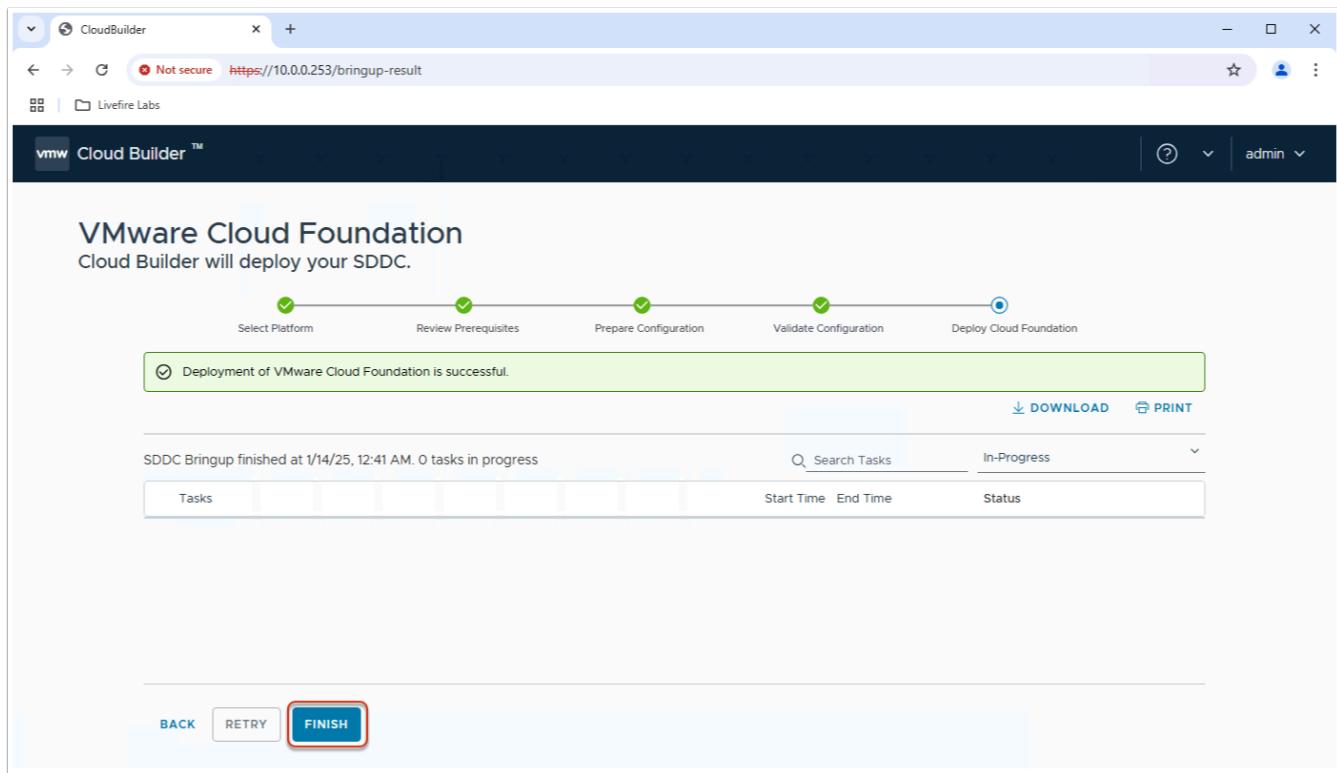
Tasks	Start Time	End Time	Status
Validate SSH/SSL Thumbprints	8:30:01 PM	8:30:01 PM	Success
Generate Security Thumbprints Input Data	8:30:01 PM	8:30:01 PM	Success
Validate Security Thumbprints	8:30:01 PM	8:30:01 PM	Success
Add Certificates in Trust-Store	8:30:01 PM	8:30:01 PM	Success
Generate Input for Trust-Certificates	8:30:01 PM	8:30:01 PM	Success

At the bottom of the table are buttons for "BACK", "RETRY", and "FINISH".

- While VCF is deploying, we will be presenting topics around post bring up tasks and the automation that can be employed to speed up those tasks. Once bring up has completed, there will be further labs to perform these tasks using PowerShell.

# Post Bringup Configuration

## Finish Cloudbuilder Bring Up



When Bring up has completed (from the previous lab),

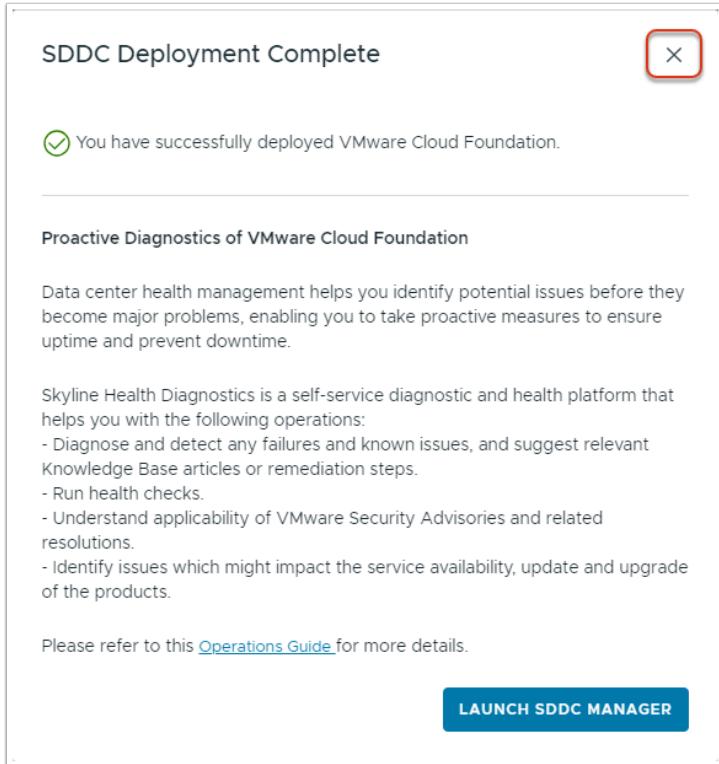
Click **FINISH**

In this lab, you are going to review and run PowerShell scripts that will perform the post-deployment configuration of VMware Cloud Foundation.

This will include the following

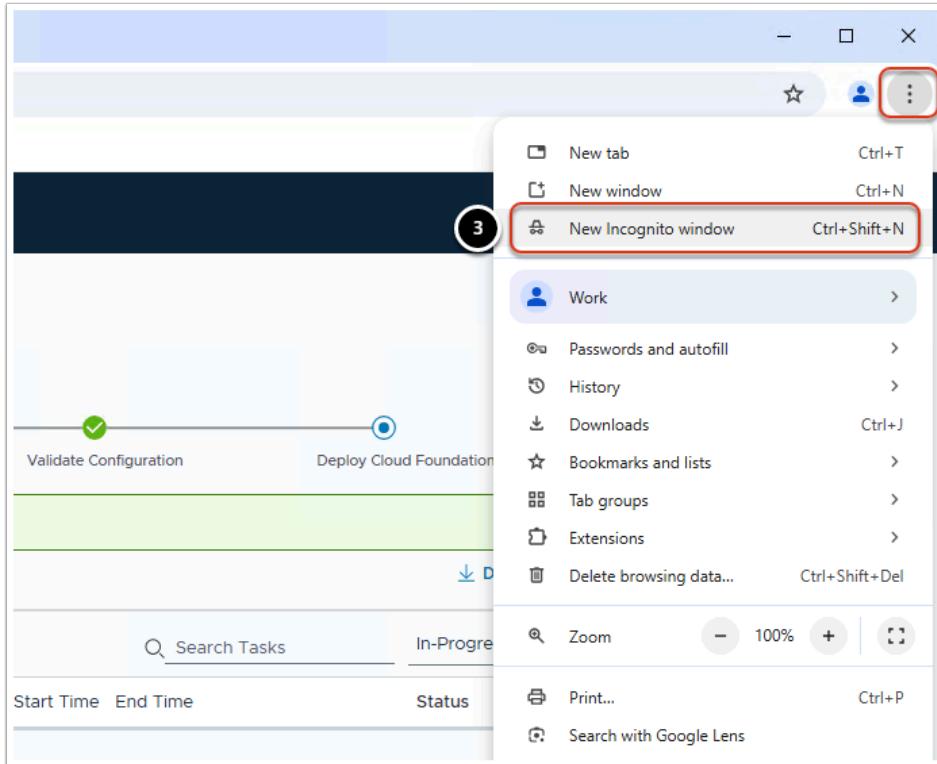
- Deploy NSX Edge Cluster
- Deploy AVNs
- Configure SDDC Manager and NSX Manager backups
- Connect to offline depot
- Download and Deploy Aria Lifecycle

# Close Cloudbuilder



Click the X in the top right corner.

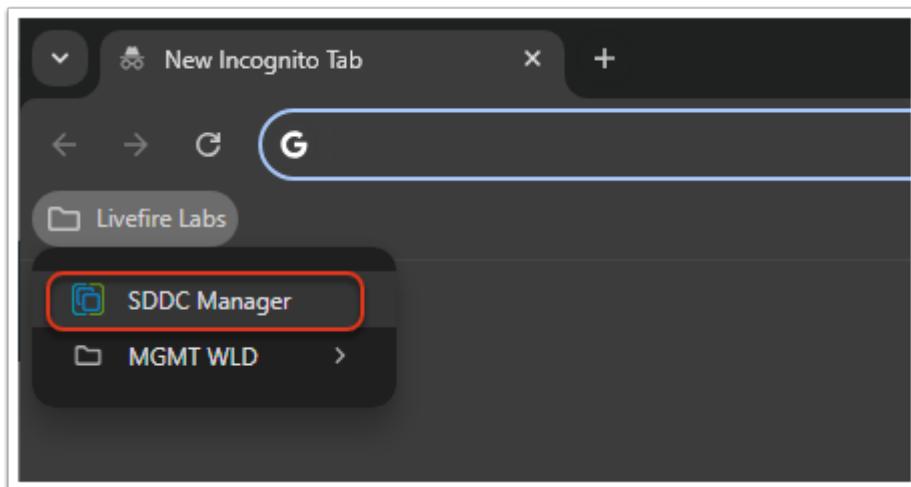
## New Incognito Window



Click the three dots in the chrome browser

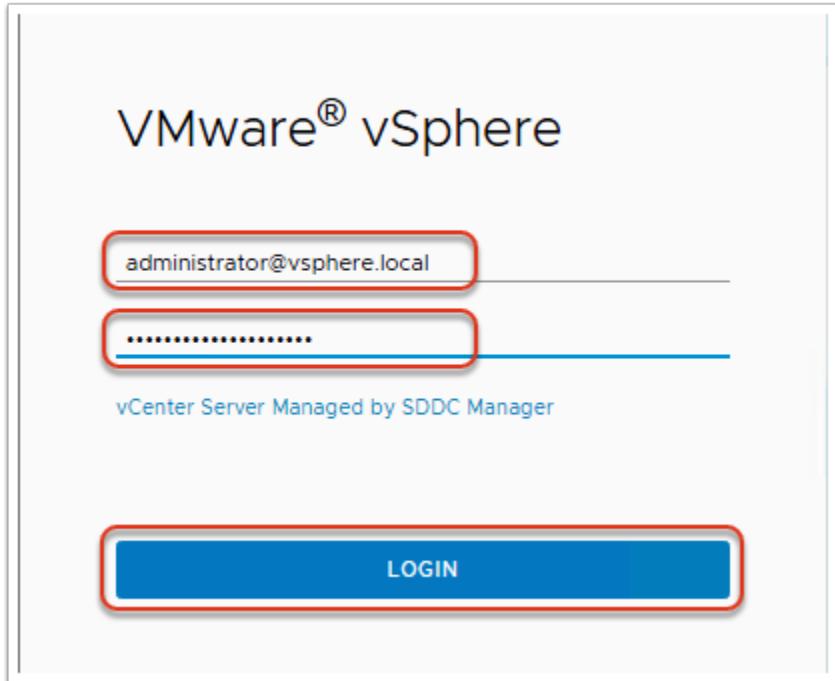
Click **New Incognito window**

## Open SDDC Manager



Click the **Livefire Labs** Bookmarks Folder and then click **SDDC Manager**

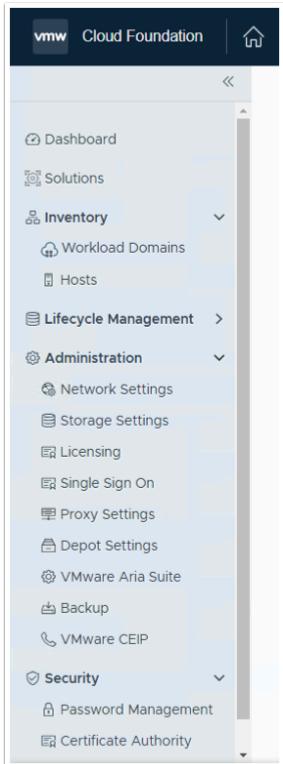
## Login Toi SDDC Manager



i Click the Advanced button and proceed to SDDC Manager link

6. Type ***administrator@vsphere.local*** as the username
7. Type ***VMware123!VMware123!*** as the password
8. Click **LOGIN**

# SDDC Manager UI

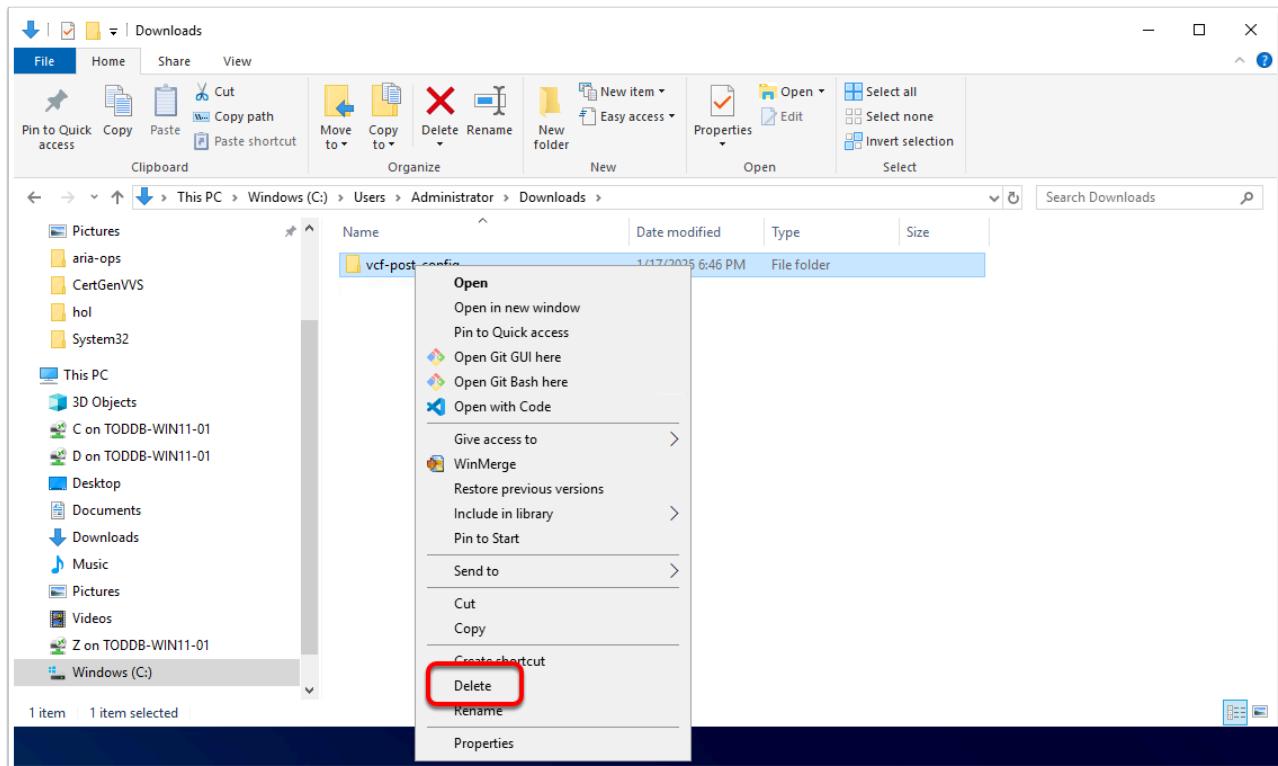


**i** SDDC Manager provides GUI based options for all the post-deployment configuration items, but this all takes time. With a little pre-planning, we can implement all the post config requirements using scripting, Terraform, Ansible, etc as appropriate for the customer. In this lab, we will be using PowerShell.

## PowerShell Automation Scripts

### Cleanup Old Scripts

**i** We have prepared all the PowerShell scripts you will need to automate the Post Bring Up steps for this Lab.



But first we need you to cleanup some older work we left behind. Open Windows explorer and go to

```
C:\Users\Administrator\Downloads
```

Delete the existing **vcf-post-config** folder.

## git clone new scripts

Now that you have cleaned up our mess (Thank You!), go ahead and get the new scripts for this lab



1. Open PowerShell 7 from the task bar

## Powershell Window

```
Administrator: PowerShell 7 (x64)
PowerShell 7.4.6
Loading personal and system profiles took 2774ms.
> cd C:\Users\Administrator\Downloads\
```

A screenshot of a PowerShell window titled "Administrator: PowerShell 7 (x64)". The window shows the command "cd C:\Users\Administrator\Downloads\" highlighted with a red box. The PowerShell icon on the taskbar is also highlighted with a red box.

2. Switch to the ~\Downloads folder

```
cd ~\Downloads
```

```
Administrator: PowerShell 7 (x64)
```

```
PowerShell 7.4.6
```

```
Loading personal and system profiles took 2774ms.  
> cd C:\Users\Administrator\Downloads  
> git clone https://github.com/Livefire-Labs/vcf-post-bringup.git  
Cloning into 'vcf-post-bringup'...  
remote: Enumerating objects: 15, done.  
remote: Counting objects: 100% (15/15), done.  
remote: Compressing objects: 100% (11/11), done.  
remote: Total 15 (delta 2), reused 12 (delta 2), pack-reused 0 (from 0)  
Receiving objects: 100% (15/15), 12.62 KiB | 3.15 MiB/s, done.  
Resolving deltas: 100% (2/2), done.
```

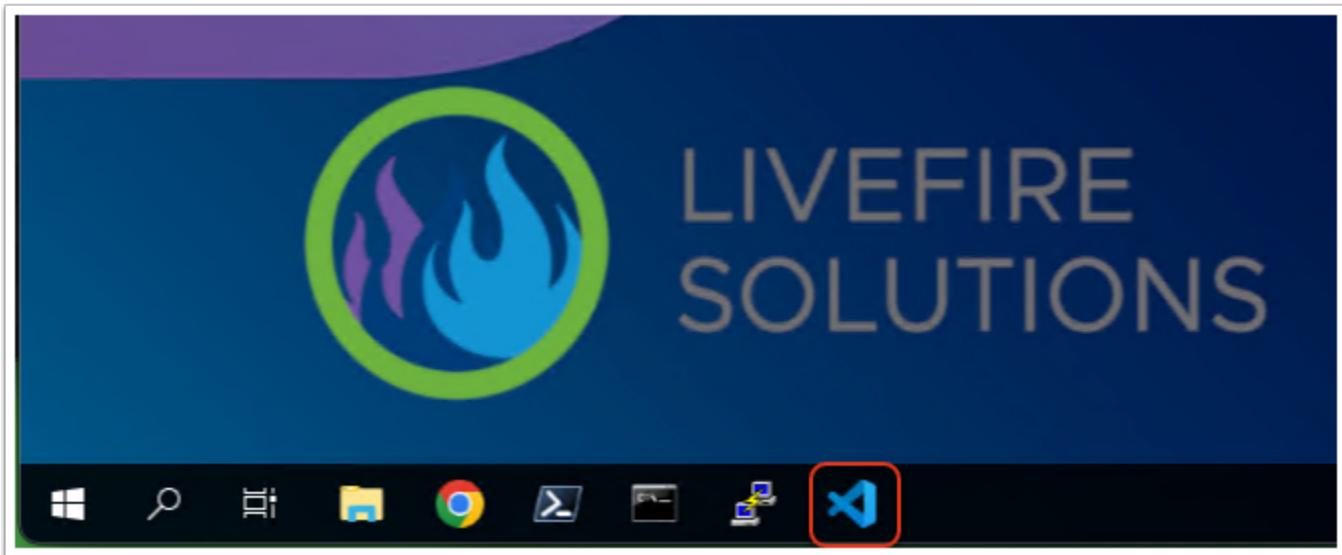


### 3. Run git clone

```
git clone https://github.com/Livefire-Labs/vcf-post-bringup.git
```

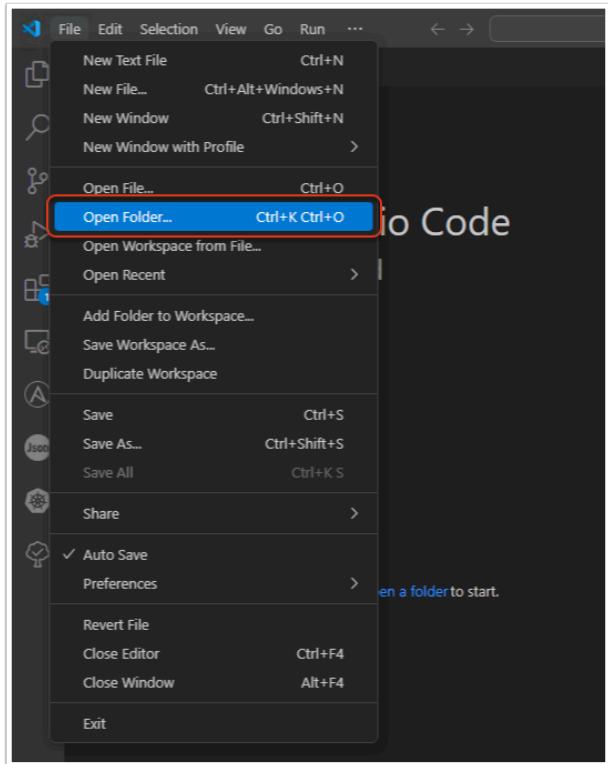
## Replace self signed certificates with those from a Microsoft CA, and Configure the SDDC Manager and NSX Backup

### Open Scripts in VSCode

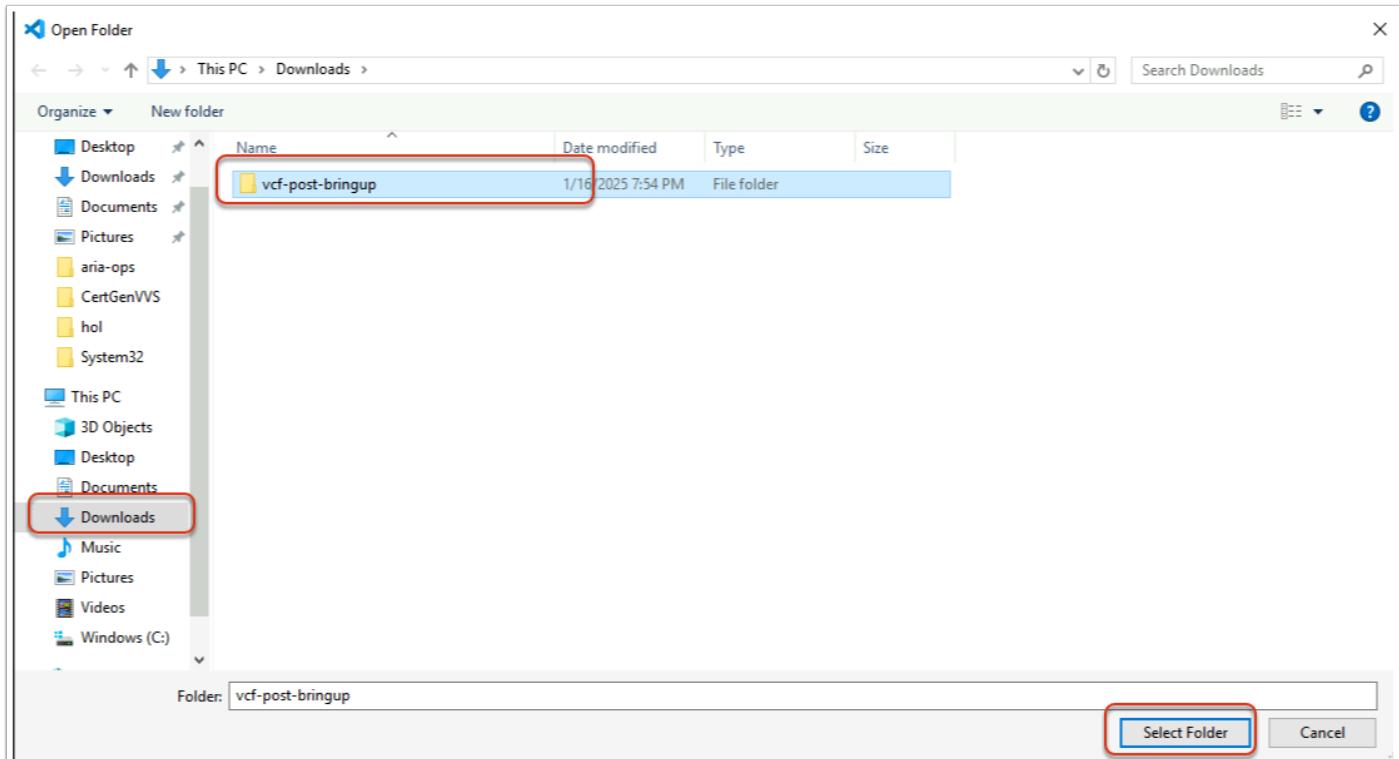


Click the Visual Studio Code icon in the taskbar

## Open Script Folder

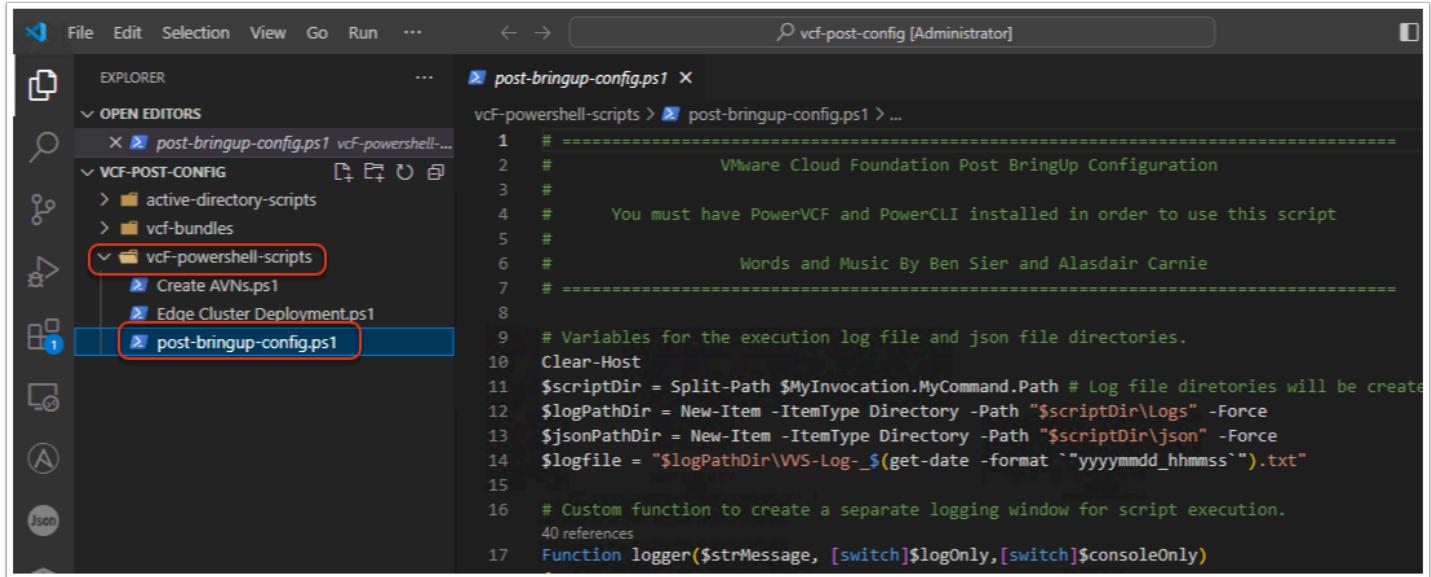


Click File / Open Folder



- Click the Downloads folder in the left menu (Also c:\Users\Administrator\Downloads)
- Click the vcf-post-bringup
- Click Select Folder

## Review Scripts



The screenshot shows a PowerShell script editor window. The title bar says 'vcf-post-config [Administrator]'. The left sidebar has icons for File, Edit, Selection, View, Go, Run, etc. Below it is an 'EXPLORER' pane showing a file tree. Under 'OPEN EDITORS', there are two tabs: 'post-bringup-config.ps1' and 'vcf-powershell-...'. In the tree, under 'VCF-POST-CONFIG', there are 'active-directory-scripts', 'vcf-bundles', and 'vcf-powershell-scripts'. Inside 'vcf-powershell-scripts', there are three files: 'Create AVNs.ps1', 'Edge Cluster Deployment.ps1', and 'post-bringup-config.ps1', which is currently selected and highlighted with a red box.

```

1 # =====
2 # VMware Cloud Foundation Post BringUp Configuration
3 #
4 # You must have PowerVCF and PowerCLI installed in order to use this script
5 #
6 # Words and Music By Ben Sier and Alasdair Carnie
7 # =====
8
9 # Variables for the execution log file and json file directories.
10 Clear-Host
11 $scriptDir = Split-Path $MyInvocation.MyCommand.Path # Log file directories will be created
12 $logPathDir = New-Item -ItemType Directory -Path "$scriptDir\Logs" -Force
13 $jsonPathDir = New-Item -ItemType Directory -Path "$scriptDir\json" -Force
14 $logfile = "$logPathDir\VVS-Log-$(get-date -format `yyyyymmdd_hhmmss`).txt"
15
16 # Custom function to create a separate logging window for script execution.
17 Function logger($strMessage, [switch]$logOnly,[switch]$consoleOnly)

```

- Click the vcf-powershell-scripts folder
- Click the post-bringup-config.ps1 script

**i** This script will connect the SDDC Manager with the Microsoft CA, it will replace all the self signed certificates. It will then configure the backup settings for the SDDC Manager and the NSX Manager. Please explore the script, and note the slightly different techniques used for generating the JSON files used as input for the PowerVCF cmdlets. Note that on lines 87, 89 and 91, we had to define the object type as it is not part of the standard output from the API, but is a required field.

## Open Powershell Window

A screenshot of a PowerShell terminal window titled "Administrator: PowerShell 7 (x64)". The window shows the following command history:

```
Administrator: PowerShell 7 (x64)
Loading personal and system profiles took 1013ms.
> Set-ExecutionPolicy Unrestricted
> cd .\Downloads\vcf-post-config\vcf-powershell-scripts\
> .\post-bringup-config.ps1
```

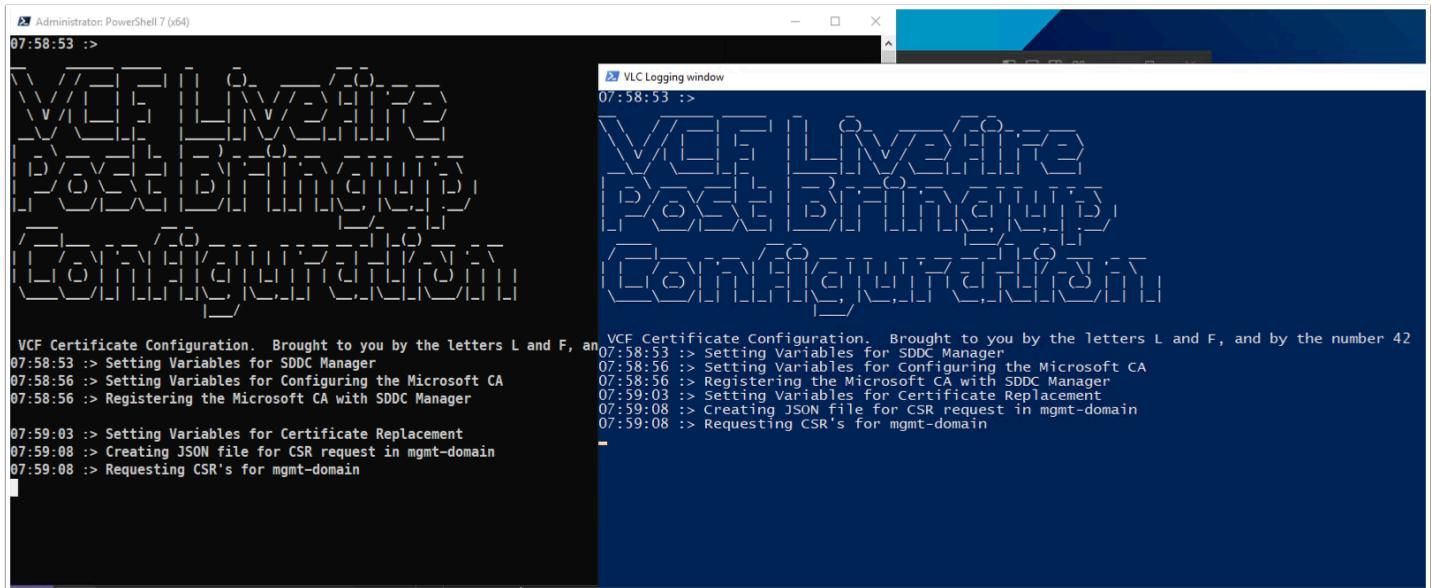
A "Security warning" message is displayed, stating: "Run only scripts that you trust. While scripts from the internet can be useful, this script can potentially harm your computer. If you trust this script, use the Unblock-File cmdlet to allow the script to run without this warning message. Do you want to run C:\Users\Administrator\Downloads\vcf-post-config\vcf-powershell-scripts\post-bringup-config.ps1?". The user is prompted with "[D] Do not run [R] Run once [S] Suspend [?] Help (default is "D"): R". The letter "R" is highlighted with a red box.

- Click the PowerShell icon in the taskbar
- In the PowerShell terminal window, type the following

```
Set-ExecutionPolicy Unrestricted
cd ~\Downloads\vcf-post-bringup\vcf-powershell-scripts
& '.\post-bringup-config.ps1'
```

10. When prompted, type **R** to run once and press enter

# Monitor Logs



 Reposition the terminal window and the VLC Logging Window so that you can monitor the process of the script, and see that each process is being logged for future reference / documentation. The script takes about 22 minutes to run. Now would be a good time to get up, stretch and get a drink.

```

Administrator: PowerShell 7 (x64)
.\vcf-post-config\vcf-powershell-scripts\vcf-post-config.ps1
VCF Certificate Configuration. Brought to you by the letters L and F, and by the number 42
07:58:53 -> Setting Variables for SDDC Manager
07:58:56 -> Setting Variables for Configuring the Microsoft CA
07:58:56 -> Registering the Microsoft CA with SDDC Manager

07:59:03 -> Setting Variables for Certificate Replacement
07:59:08 -> Creating JSON file for CSR request in mgmt-domain
07:59:08 -> Requesting CSR's for mgmt-domain
07:59:20 -> Creating JSON spec for certificate creation in mgmt-domain
07:59:20 -> Generating Certificates on CA for mgmt-domain
07:59:31 -> Creating JSON Spec for installing certificates
07:59:31 -> Installing Certificates for mgmt-domain
08:20:00 -> Setting Variables for Backup and extracting SSH Key for Backup User
08:20:08 -> Create Backup Configuration JSON Specification
08:20:08 -> Creating Backup Configuration JSON file
08:20:08 -> Configuring SDDC Manager Backup Settings
> 8
8

```

## Confirm Changes

- When the script has completed, open up the chrome browser, and using the Livefire Labs menu, connect to the SDDC Manager, vCenter and NSX Manager using the credentials in the table below.

Appliance	User Name	Password
SDDC Manager	administrator@vsphere.local	VMware123!VMware123!
vCenter	administrator@vsphere.local	VMware123!VMware123!
NSX Manager	Admin	VMware123!VMware123!

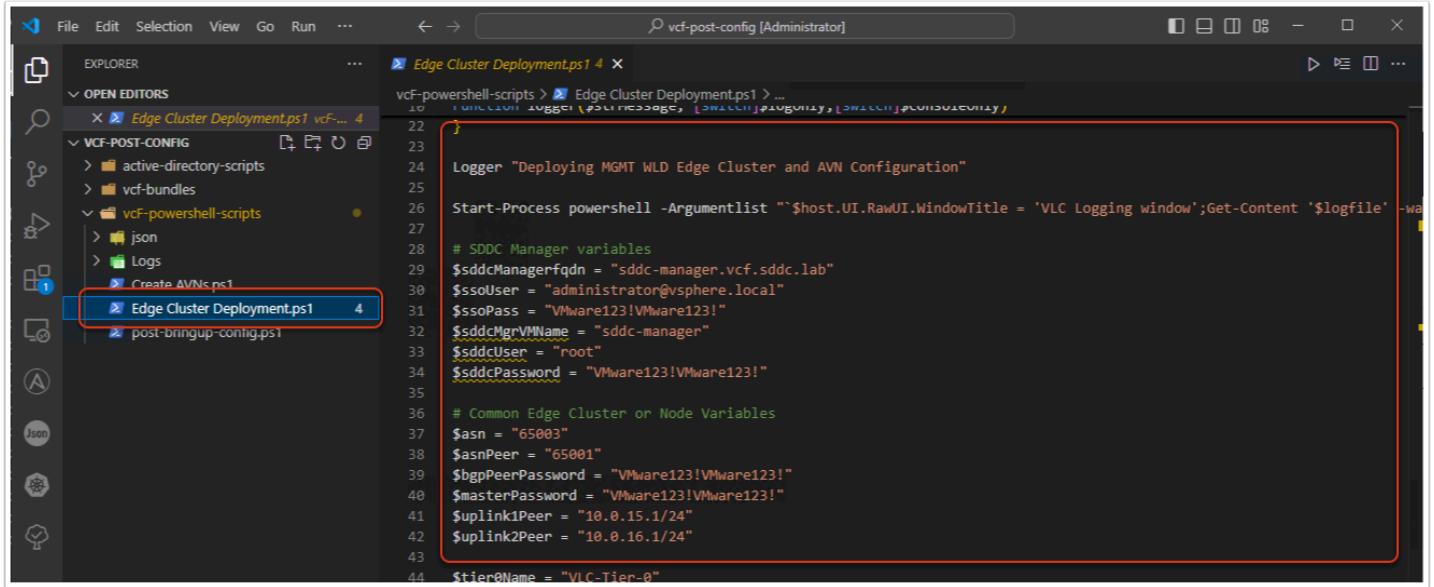
The screenshot shows the VMware Cloud Foundation SDDC Manager configuration interface. The main panel is titled 'Backup' under 'SDDC Manager Configurations'. A sub-section titled 'Site Settings' is highlighted with a red box. On the left, a navigation menu includes 'Backup' which is also highlighted with a red box. The 'Tasks' section at the bottom shows three completed tasks with green checkmarks: 'Release Lock on SDDC Manager', 'Replace Certificate for vcenter-mgmt.vcf.sddc.lab and resource type vcenter', and 'Generate Certificate for vcenter-mgmt.vcf.sddc.lab and resource type vcenter'.

- Check that each appliance has a sign certificate, clicking on each tab, then return to the SDDC Manager
- Click Backup in the left menu
- Click Site Settings in the centre panel and check that a backup location has been set

## Deploy NSX Edge Cluster and AVNs

**i** Now we are going to deploy an edge cluster and the AVN configuration. Using the process above, run the Edge Cluster Deployment and Create AVN configuration scripts.

# Review Scripts



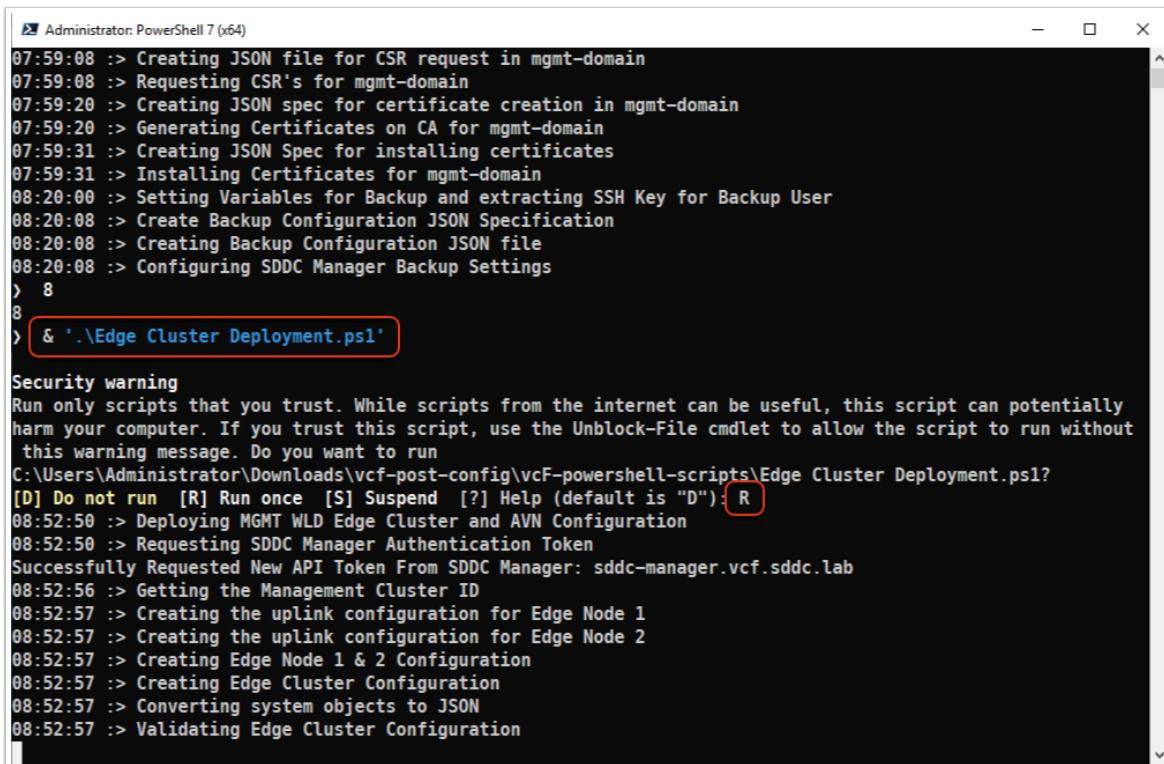
The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Search Bar:** vcf-post-config [Administrator]
- Explorer:** Shows a tree view of files and folders:
  - VCF-POST-CONFIG
    - active-directory-scripts
    - vcf-bundles
  - vcF-powershell-scripts
    - json
    - Logs
    - Create AVN.ps1
    - Edge Cluster Deployment.ps1** (highlighted with a red box)
    - post-bringup-config.ps1
- Code Editor:** Displays the content of Edge Cluster Deployment.ps1. The code defines variables for SDDC Manager and common edge cluster or node variables, and performs tasks like generating certificates and configuring backup settings.

Open the Edge Cluster Script in Visual Studio Code

Review the contents

## Run Script



The screenshot shows a PowerShell window with the following details:

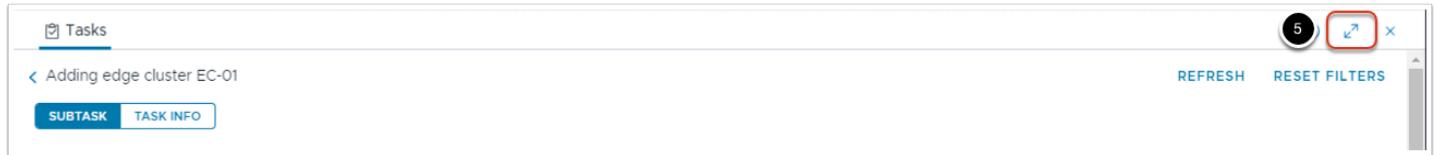
- Title Bar:** Administrator: PowerShell 7 (x64)
- Output:** Log of script execution steps.
- Input:** User command: & '.\Edge Cluster Deployment.ps1'
- Warning:** Security warning message about running scripts from the internet.
- Decision:** User selects [R] Run once.
- Execution:** Script runs, showing deployment steps like certificate creation, management cluster ID retrieval, and configuration validation.

Go back to the PowerShell Terminal Window type the following

```
& '.\Edge Cluster Deployment.ps1'
```

When prompted, type **R** to run the script

## Monitor Progress in SDDC Manager



Go back to the SDDC Manager and monitor the progress in the Tasks menu, by expanding the task list

A screenshot of the SDDC Manager interface showing a detailed list of subtasks for the 'Adding edge cluster EC-01' task. The subtasks include: Deploy NSX Edge Node VM, Deploy and Configure Multiple NSX Edge Nodes, Generate NSX Edge Cluster Input Data, Update SDDC Manager Inventory with VLAN Port Groups, Create Trunked Port VLAN Port Group, Generate VLAN Port Group Input Data, Create NSX Transport Zone Teaming Policy, Create NSX Host Switch Uplink Profiles, Generate Host Switch Profile Input Data, Create Resource Pool(s), Fetch portgroup managed object reference id, Fetch VLAN Port Group for VM Management traffic, Update SDDC Manager Inventory with NSX Edge Cluster, Generate Edge Cluster Input Data, Pre-Validation of NSX Edge Cluster Deployment, Ensure Edge Node NSX VDS Uplink Values are Present, and Fetch NSX enabled VDS uplinks used for overlay. All subtasks are listed as 'Successful' with a timestamp of 1/15/25, 8:58 PM. A red box highlights the refresh button in the top right corner.

Subtask	Task Status	Last Occurrence
Deploy NSX Edge Node VM	Running	1/15/25, 8:59 PM
Deploy and Configure Multiple NSX Edge Nodes	Running	1/15/25, 8:58 PM
Generate NSX Edge Cluster Input Data	Successful	1/15/25, 8:58 PM
Update SDDC Manager Inventory with VLAN Port Groups	Successful	1/15/25, 8:58 PM
Create Trunked Port VLAN Port Group	Successful	1/15/25, 8:58 PM
Generate VLAN Port Group Input Data	Successful	1/15/25, 8:58 PM
Create NSX Transport Zone Teaming Policy	Successful	1/15/25, 8:58 PM
Create NSX Host Switch Uplink Profiles	Successful	1/15/25, 8:58 PM
Generate Host Switch Profile Input Data	Successful	1/15/25, 8:58 PM
Create Resource Pool(s)	Successful	1/15/25, 8:58 PM
Fetch portgroup managed object reference id	Successful	1/15/25, 8:58 PM
Fetch VLAN Port Group for VM Management traffic	Successful	1/15/25, 8:58 PM
Update SDDC Manager Inventory with NSX Edge Cluster	Successful	1/15/25, 8:58 PM
Generate Edge Cluster Input Data	Successful	1/15/25, 8:58 PM
Pre-Validation of NSX Edge Cluster Deployment	Successful	1/15/25, 8:58 PM
Ensure Edge Node NSX VDS Uplink Values are Present	Successful	1/15/25, 8:57 PM
Fetch NSX enabled VDS uplinks used for overlay	Successful	1/15/25, 8:57 PM

**!** Once you have kicked off the NSX Edge Deployment script, we will do some more presentation and discussion regarding VMware Validated Solutions and the VVS Health Reporting Solution

# Create AVNs

**i** Once the Edge Cluster script has completed, open the Create AVN script, review the content and execute it as previously discussed.

The screenshot shows the SDDC Manager interface with the 'Workload Domains' page selected in the left sidebar. A red box highlights the 'Workload Domains' link. In the main content area, there is a summary bar with CPU, Memory, and vSAN Storage usage, followed by a table listing workloads. One row in the table is highlighted with a red box, showing the 'mgmt-domain'. The table columns include Domain, Type, CPU Usage, Memory Usage, vSAN Storage Usage, NFS Storage Usage, VMFS on FC Storage Usage, vVol Storage Usage, Configuration Status, and Cluster.

When the AVNs have deployed, you can view them in the SDDC Manager.

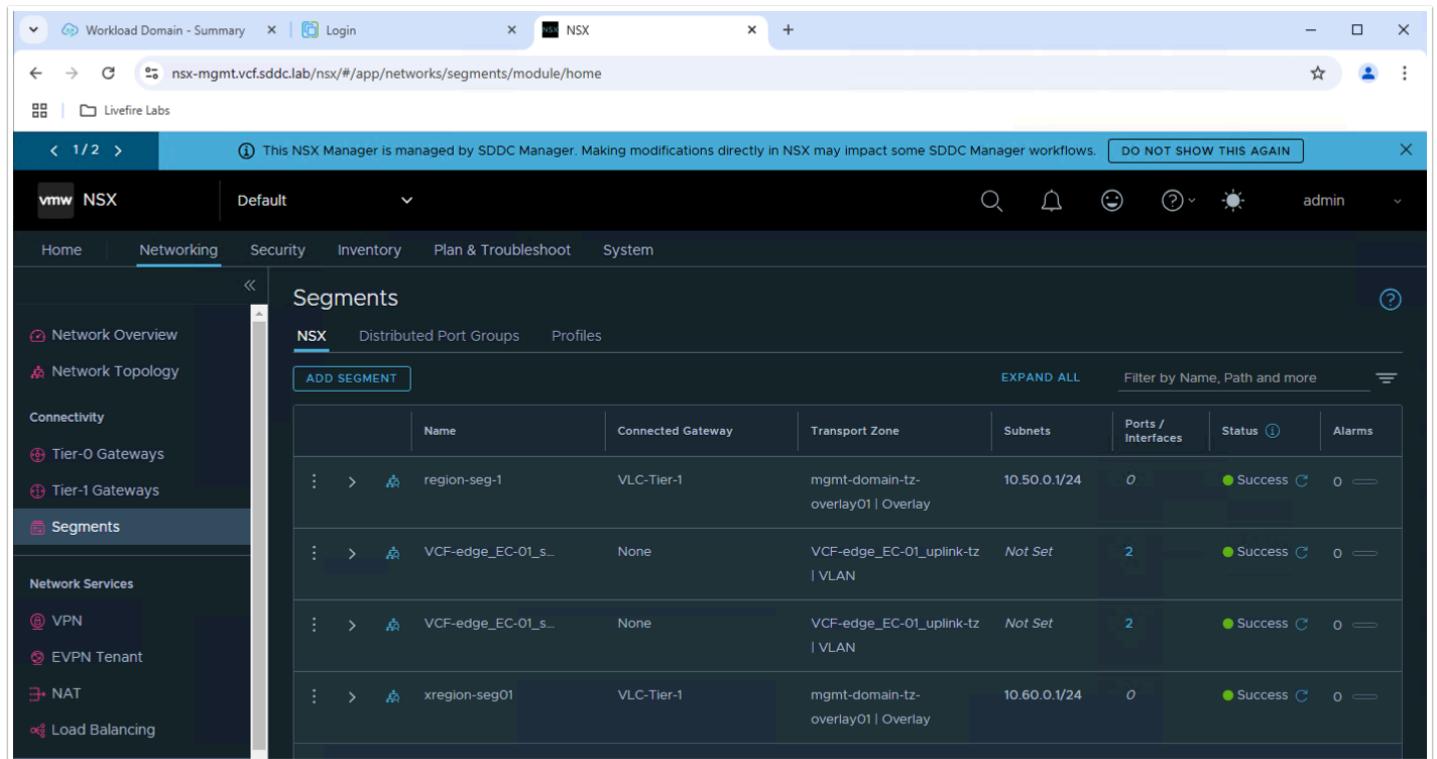
- Click on Workload Domain in the left menu
- Click on the mgmt-domain
- 

The screenshot shows the SDDC Manager interface with the 'Workload Domain - Summary' page selected in the left sidebar. A red box highlights the 'Workload Domains' link. The main content area displays 'General Information' and 'Network' settings. A red box highlights the 'NSX Segment Settings' section, which contains two columns: 'Region-A' and 'X-Region'. The table rows are: Segment Name (region-seg-1, xregion-seg01), Network (10.50.0.0, 10.60.0.0), Subnet Mask (255.255.255.0, 255.255.255.0), Default Gateway (10.50.0.1, 10.60.0.1), and MTU (8000, 8000).

- Review the NSX Segment Settings

## Review In NSX Manager

 Alternatively, you can also view them in the NSX Manager



	Name	Connected Gateway	Transport Zone	Subnets	Ports / Interfaces	Status	Alarms
...	region-seg-1	VLC-Tier-1	mgmt-domain-tz-overlay01   Overlay	10.50.0.1/24	0	Success	0
...	VCF-edge_EC-01_s...	None	VCF-edge_EC-01_uplink-tz   VLAN	Not Set	2	Success	0
...	VCF-edge_EC-01_s...	None	VCF-edge_EC-01_uplink-tz   VLAN	Not Set	2	Success	0
...	xregion-seg01	VLC-Tier-1	mgmt-domain-tz-overlay01   Overlay	10.60.0.1/24	0	Success	0

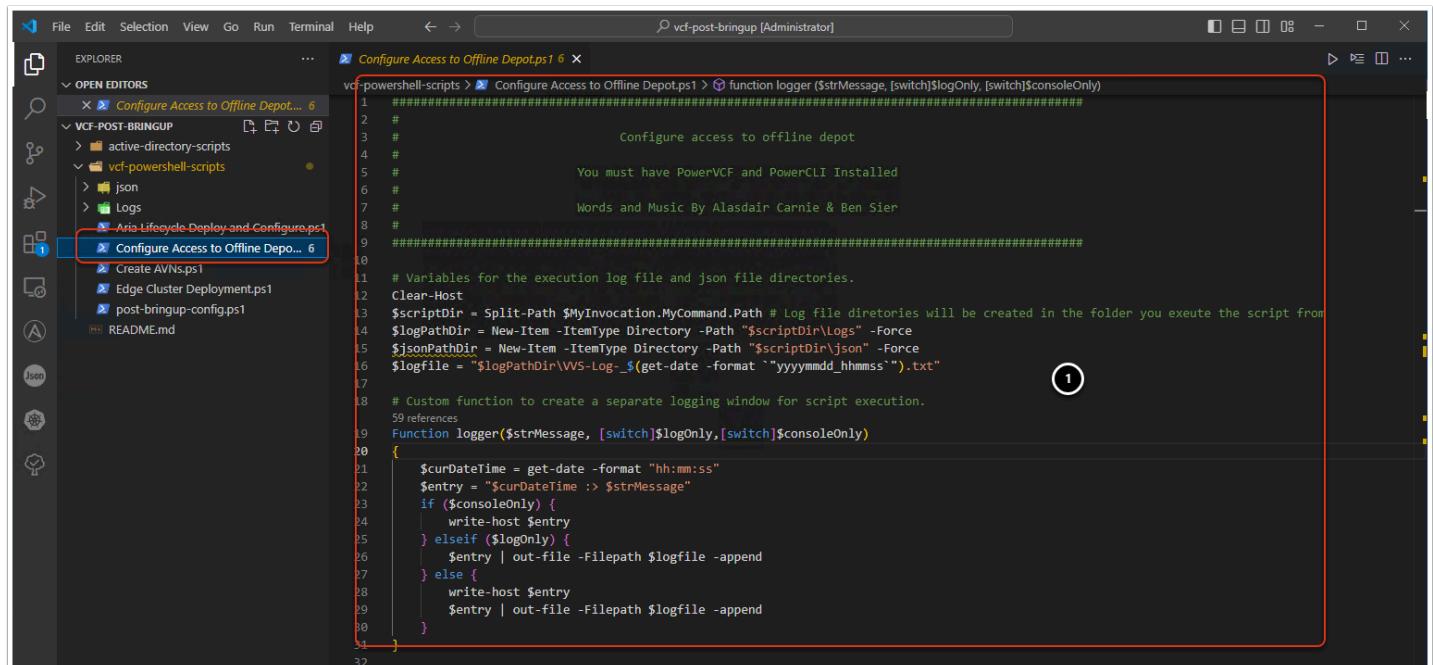
# 3. Aria Lifecycle Deploy and Configure

## Configure Access to Depot

Here, we are going to use a Powershell script to connect with a VCF offline Depot. Unfortunately the current Powershell toolkits, do not have a cmdlet for this, so we've created one using the REST API of SDDC Manager

- If you had previously closed Visual Studio Code, please open it again, and open the folder **C:\Users\Administrator\vcf-post-bringup**

## Open Scripts In VSCode



The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Search Bar:** vcf-post-bringup [Administrator]
- Explorer Sidebar:** Shows a tree view of files and folders:
  - OPEN EDITORS: Configure Access to Offline Depot... 6
  - VCF-POST-BRINGUP:
    - active-directory-scripts
    - vcf-powershell-scripts
      - Configure Access to Offline Depot... 6 (highlighted with a red border)
      - Create AVNs.ps1
      - Edge Cluster Deployment.ps1
      - post-bringup-config.ps1
    - Logs
    - Aria-Lifecycle-Deploy-and-Configure.ps1
  - README.md
- Code Editor:** The file "Configure Access to Offline Depot.ps1" is open, showing PowerShell code. The code includes a custom function "function logger" and various comments explaining the script's purpose and usage.

Click on the Configure Access to Office Depot

Review the contents, taking note of the custom function creating for this task

# Run Script



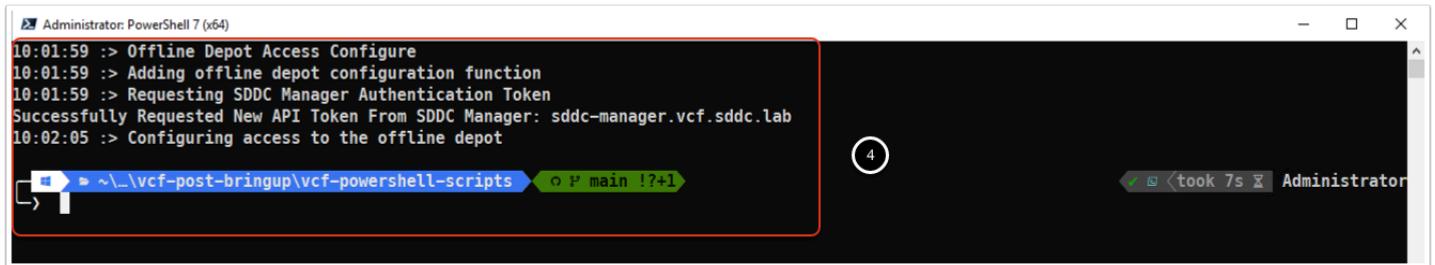
A screenshot of a Windows PowerShell window titled "Administrator: PowerShell 7 (x64)". The window shows the command `& '.\Configure Access to Offline Depot.ps1'` being run. A red box highlights the command line. The status bar at the bottom right shows "Administrator".

Open a PowerShell Terminal Window and type

```
cd ~\Downloads\vcf-post-bringup\vcf-powershell-scripts  
& '.\Configure Access to Offline Depot'
```

Press Enter

## Wait for Completion

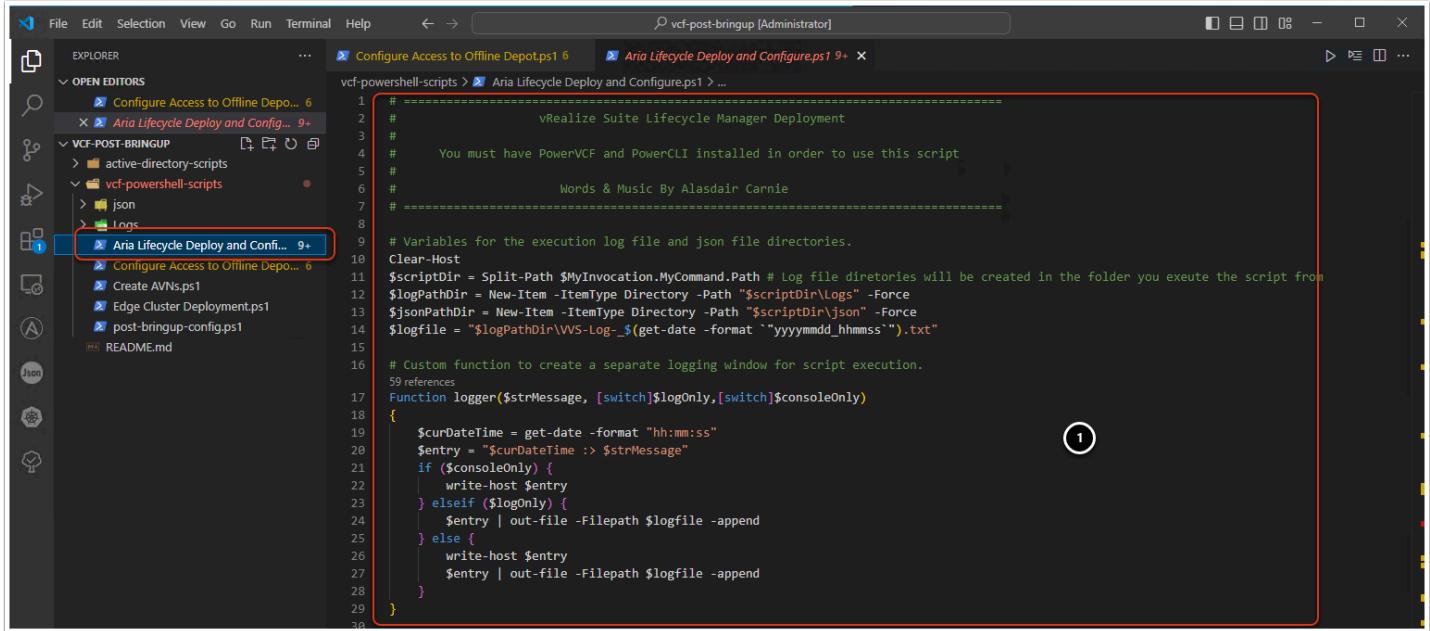


A screenshot of a Windows PowerShell window titled "Administrator: PowerShell 7 (x64)". The window shows the output of the script execution, including logs like "Offline Depot Access Configure" and "Successfully Requested New API Token From SDDC Manager: sddc-manager.vcf.sddc.lab". A red box highlights the command line. A circular progress indicator with the number "4" is visible in the center of the window. The status bar at the bottom right shows "took 7s" and "Administrator".

Monitor the script until it completes

# Deploy Aria LCM

## Deploy Review Scripts



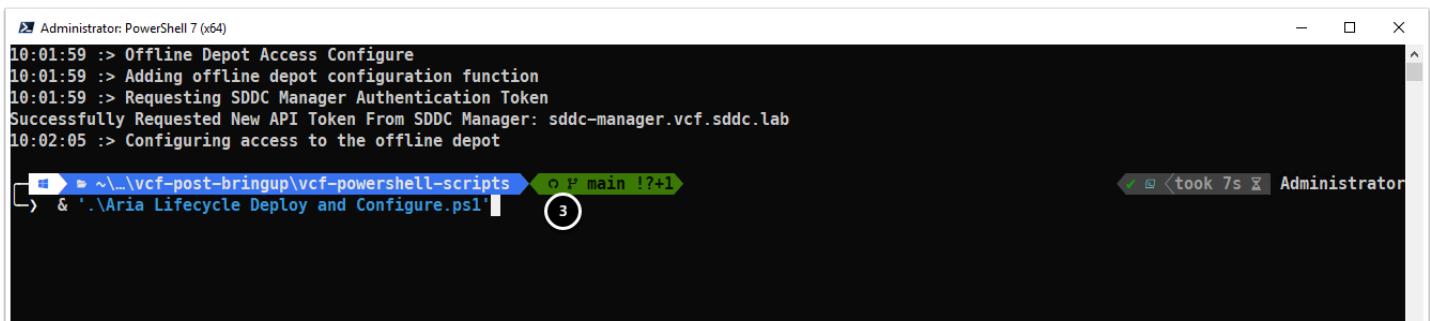
```
# =====
# vRealize Suite Lifecycle Manager Deployment
#
# You must have PowerVCF and PowerCLI installed in order to use this script
#
# Words & Music By Alasdair Carnie
#
# =====
#
# Variables for the execution log file and json file directories.
Clear-Host
$scriptDir = Split-Path $MyInvocation.MyCommand.Path # Log file directories will be created in the folder you execute the script from
$logPathDir = New-Item -ItemType Directory -Path "$scriptDir\Logs" -Force
$jsonPathDir = New-Item -ItemType Directory -Path "$scriptDir\Json" -Force
$logfile = "$logPathDir\VVS-Log_$(get-date -format "yyyymmdd_hhmmss").txt"

# Custom function to create a separate logging window for script execution.
Function logger($strMessage, [switch]$logOnly,[switch]$consoleOnly)
{
    $curDateTime = get-date -format "hh:mm:ss"
    $entry = "$curDateTime :: $strMessage"
    if ($consoleOnly) {
        write-host $entry
    } elseif ($logOnly) {
        $entry | out-file -filepath $logfile -append
    } else {
        write-host $entry
        $entry | out-file -filepath $logfile -append
    }
}
```

Click on the Aria Lifecycle Deploy and Configure script

Review the content, noting the custom function that was created for this task

## Run Script



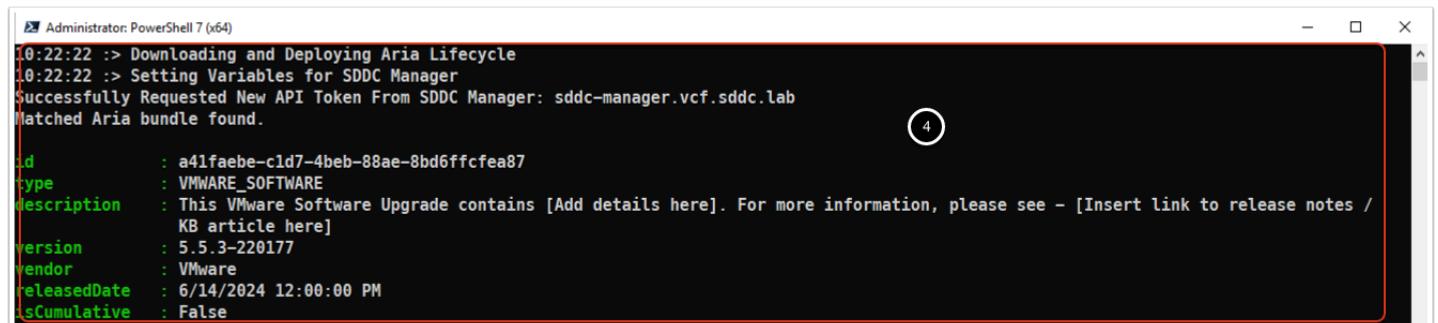
```
Administrator: PowerShell 7 (x64)
10:01:59 -> Offline Depot Access Configure
10:01:59 -> Adding offline depot configuration function
10:01:59 -> Requesting SDDC Manager Authentication Token
Successfully Requested New API Token From SDDC Manager: sddc-manager.vcf.sddc.lab
10:02:05 -> Configuring access to the offline depot
[<--> ~\vcf-post-bringup\vcf-powershell-scripts] <--> main !?+1
-> & '.\Aria Lifecycle Deploy and Configure.ps1' <--> took 7s Administrator
```

At the PowerShell Terminal type

```
& '.\Aria Lifecycle Deploy and Configure.ps1'
```

Press Enter

# Wait For Completion



```
Administrator: PowerShell 7 (x64)
10:22:22 -> Downloading and Deploying Aria Lifecycle
10:22:22 -> Setting Variables for SDDC Manager
Successfully Requested New API Token From SDDC Manager: sddc-manager.vcf.sddc.lab
Matched Aria bundle found.

Id          : a41faebe-c1d7-4beb-88ae-8bd6ffcf8a87
Type        : VMWARE_SOFTWARE
Description : This VMware Software Upgrade contains [Add details here]. For more information, please see - [Insert link to release notes / KB article here]
Version     : 5.5.3-220177
Vendor      : VMware
releasedDate : 6/14/2024 12:00:00 PM
isCumulative : False
```

Monitor the script until completion