



VMware Cloud Foundation™ Exploring Your Operational Toolbox

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Agenda

Health Checking, Reporting & Observability

SoS Tool

PowerShell Reporting

Custom Dashboarding and Backup

Logs to Alerts

Administration

Password Management

Patching & Upgrades

Upgrade & Patching Options

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Health Checking, Reporting & Observability

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Health Checking

Why, How & Further...

Introducing the SoS Tool!

```
/opt/vmware/sddc-support/sos
```

```
--health-check  
--get-vcf-summary  
--password-health  
--get-inventory-info
```

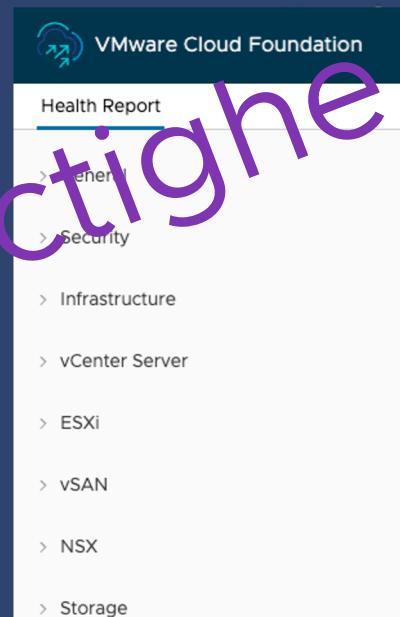


PowerShell Module for VMware Cloud Foundation Reporting

PowerShell module designed to produce HTML reports detailing the operational state of a VCF environment

```
PS C:\Users\Administrator> Get-Command -Module VMware.CloudFoundation.Reporting
```

| CommandType | Name |
|-------------|---|
| ----- | ----- |
| Function | Convert-CssClass |
| Function | Convert-TextToHtml |
| Function | Copy-FiletoSddc |
| Function | Format-DfStorageHealth |
| Function | Get-ClarityReportFooter |
| Function | Get-ClarityReportHeader |
| Function | Get-ClarityReportNavigation |
| Function | Invoke-SddcCommand |
| Function | Invoke-VcfAlertReport |
| Function | Invoke-VcfConfigReport |
| Function | Invoke-VcfHealthReport |
| Function | Invoke-VcfOverviewReport |
| Function | Invoke-VcfUpgradePrecheck |
| Function | Publish-BackupStatus |
| Function | Publish-CertificateHealth |
| Function | Publish-ClusterConfiguration |
| Function | Publish-ClusterDrsRule |
| Function | Publish-ComponentConnectivityHealth |
| Function | Publish-ComponentConnectivityHealthNonS |



SDDC Manager: vcf01.my-sddc.vcd

Service Health Status

| Component | Resource | Service Name | A |
|-----------|-------------------|--------------------|---|
| SDDC | vcf01.my-sddc.vcd | OPERATIONS_MANAGER | G |
| SDDC | vcf01.my-sddc.vcd | DOMAIN_MANAGER | G |
| SDDC | vcf01.my-sddc.vcd | LCM | G |
| SDDC | vcf01.my-sddc.vcd | VIP-MANAGER-I18N | G |
| SDDC | vcf01.my-sddc.vcd | SDDC_MANAGER_UI | G |
| SDDC | vcf01.my-sddc.vcd | SOSREST | G |
| SDDC | vcf01.my-sddc.vcd | NTP | G |
| SDDC | vcf01.my-sddc.vcd | COMMON_SERVICES | G |
| SDDC | vcf01.my-sddc.vcd | POSTGRES | G |
| VCENTER | vc01.my-sddc.vcd | RSYSLOG | G |
| VCENTER | vc01.my-sddc.vcd | APPLMGMT | G |

PowerShell Module for VMware Cloud Foundation Reporting

PowerShell module designed to produce HTML reports detailing the operational state of a VCF environment

```
PS C:\Users\Administrator> Get-Command -Module VMware.CloudFoundation.Reporting
```

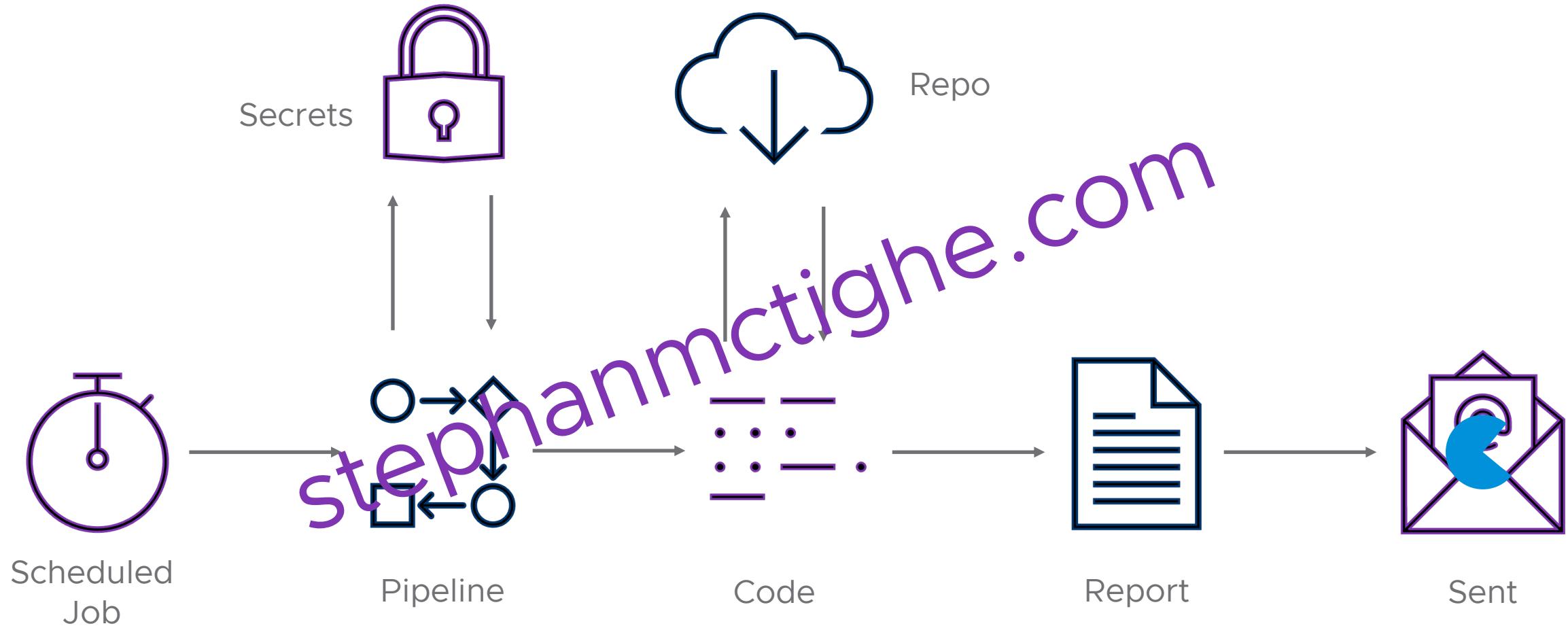
| CommandType | Name |
|-------------|---|
| ----- | ----- |
| Function | Convert-CssClass |
| Function | Convert-TextToHtml |
| Function | Copy-FiletoSddc |
| Function | Format-DfStorageHealth |
| Function | Get-ClarityReportFooter |
| Function | Get-ClarityReportHeader |
| Function | Get-ClarityReportNavigation |
| Function | Invoke-SddcCommand |
| Function | Invoke-VcfAlertReport |
| Function | Invoke-VcfConfigReport |
| Function | Invoke-VcfHealthReport |
| Function | Invoke-VcfOverviewReport |
| Function | Invoke-VcfUpgradePrecheck |
| Function | Publish-BackupStatus |
| Function | Publish-CertificateHealth |
| Function | Publish-ClusterConfiguration |
| Function | Publish-ClusterDrsRule |
| Function | Publish-ComponentConnectivityHealth |
| Function | Publish-ComponentConnectivityHealthNonS |

The screenshot shows the VMware Cloud Foundation Health Report interface. The left sidebar has a navigation tree with categories: General, Security, Infrastructure, vCenter Server, ESXi, vSAN, NSX, and Storage. The main content area displays the 'Service Health Status' for the SDDC Manager 'vcf01.my-sddc.vcd'. A large callout box highlights the 'Invoke-VcfHealthReport' command.

| Component | Resource | Service Name |
|-----------|-------------------|--------------------|
| SDDC | vcf01.my-sddc.vcd | OPERATIONS_MANAGER |
| SDDC | vcf01.my-sddc.vcd | DOMAIN_MANAGER |
| SDDC | vcf01.my-sddc.vcd | LCM |
| SDDC | vcf01.my-sddc.vcd | VIP-MANAGER-I18N |
| SDDC | vcf01.my-sddc.vcd | SDDC_MANAGER_UI |
| SDDC | vcf01.my-sddc.vcd | SOSREST |
| SDDC | vcf01.my-sddc.vcd | NTP |
| SDDC | vcf01.my-sddc.vcd | COMMON_SERVICES |
| SDDC | vcf01.my-sddc.vcd | POSTGRES |
| VCENTER | vc01.my-sddc.vcd | RSYSLOG |
| VCENTER | vc01.my-sddc.vcd | APPLMGMT |

Automation Workflow

In simple terms...



Dashboarding

Managing VCF with vRealize Operations and the SDDC Health Management Pack - VMware Cloud Management

SDDC - Environment Growth

All

Search

Availability

Capacity

Cloud Management Assessment

- › Hybrid Cloud with VMware Cloud on AWS
- › Public Cloud
- › vSphere and VMware Cloud Foundation
 - vSphere and VCF Application Grouping
 - vSphere and VCF Capacity
 - vSphere and VCF Configuration
 - vSphere and VCF Cost

vSAN Performance

vSAN Peak VM Latency

Peak VM

vSAN Peak CPU Ready

Average vSAN CPU Ready

vSAN Peak Dropped Packet

Peak Packet Dropped

vSAN Clusters

| Name | Worst vM Disk Latency | Worst vSAN CPU Ready | Worst vSAN Network Dropped IOPS | Throughput | ESXi | VMs |
|--------------------|-----------------------|----------------------|---------------------------------|------------|----------|-----|
| vSAN Cluster(c0f0) | 38.7 ms | 1 % | 0 % | 814 | 0.1 Gbps | 4 |

Disk Groups

| Name | IOPS Congestion | Bus Resets | IOPS Aborted | Disk I/O Read Latency | Disk I/O Write Latency | RC Hlt Rate | RC Read Latency | RC Write Latency | Read IOPS | Write IOPS |
|----------------------|-----------------|------------|--------------|-----------------------|------------------------|-------------|-----------------|------------------|-----------|------------|
| Disk group (S21#Ba2) | 0 | 0 | 0 | 1.03 ms | 12 ms | - | - | - | 105 | 223 |
| Disk group (S22#017) | 0 | 0 | 0 | 1.16 ms | 7.56 ms | - | - | - | 123 | 395 |
| Disk group (S22#E14) | 0 | 0 | 0 | 1.09 ms | 9.74 ms | - | - | - | 125 | 392 |
| Disk group (S22#9Ba) | 0 | 0 | 0 | 1.13 ms | 7 ms | - | - | - | 69 | 172 |

Capacity Disk: Latency Issues?

| Capacity Disk | Latency Issues? |
|----------------|-----------------------------|
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |

Cache Disk: Latency Issues?

| Cache Disk | Latency Issues? |
|----------------|-----------------------------|
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |
| VMFS Datastore | No latency issues detected. |

The screenshot shows the SDDC Certificate Monitoring Dashboard. The left sidebar includes links for Home, Manage, Create, Favorites, Recents, SDDC Health History Trend, SDDC Management Health Overview, SDDC Certificate Monitoring Dashboard, and SDDC - Environment Growth. The main content area displays certificate monitoring details for various components:

- vCenter certificates**: Shows a table with one item: `vc01.my-sddc.vcd` (3,510 days) with Certificate DN `OU=VMware Engine..`.
- ESXi certificates**: Shows a table with four items:

| Name | No of expiry days | Certificate DN |
|-------------------|-------------------|--------------------|
| esx01.my-sddc.vcd | 1,688 | OU=VMware Engine.. |
| esx02.my-sddc.vcd | 1,688 | OU=VMware Engine.. |
| esx03.my-sddc.vcd | 1,688 | OU=VMware Engine.. |
| esx04.my-sddc.vcd | 1,688 | OU=VMware Engine.. |
- NSX-T certificates**: Shows a table with five items:

| Name | Instance Name | No of expiry days | Certificate DN |
|-------------------|-------------------------|-------------------|---------------------|
| nsx01.my-sddc.vcd | LocalManager | 688 | CN=local-manager.. |
| nsx01.my-sddc.vcd | mp-cluster certificat.. | 688 | CN=nsx01a.my-sddc.. |
| nsx01.my-sddc.vcd | tomcat certificate fo.. | 688 | CN=nsx01a.my-sddc.. |
| nsx01.my-sddc.vcd | tomcat certificate fo.. | 688 | CN=nsx01b.my-sddc.. |
| nsx01.my-sddc.vcd | tomcat certificate fo.. | 688 | CN=nsx01c.my-sddc.. |
- NSX-T manager node certificates**: Shows a table with six items:

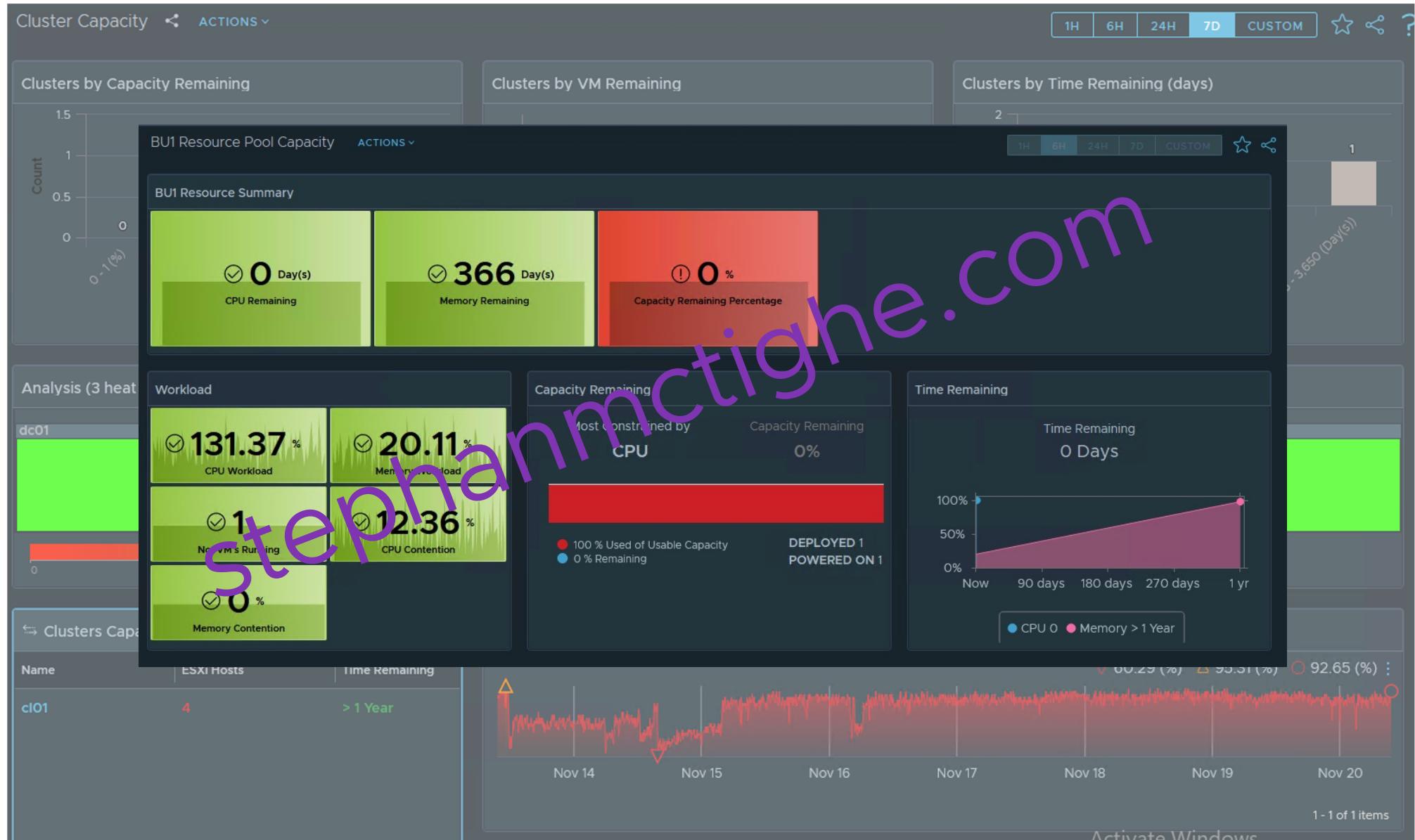
| Name | Instance Name | No of expiry days | Certificate DN |
|--------------------|------------------------|-------------------|---------------------|
| nsx01a.my-sddc.vcd | APH-AR certificate f.. | 688 | OU=VMware Engine.. |
| nsx01a.my-sddc.vcd | APH-AR certificate f.. | 3,913 | UID=t079fha2-2d8b.. |
| nsx01b.my-sddc.vcd | 765436aa-fd4b-408.. | 688 | OU=VMware Engine.. |
| nsx01b.my-sddc.vcd | APH-AR certificate f.. | 3,913 | UID=t0244ba-387.. |
| nsx01c.my-sddc.vcd | 5056dbd0-20c7-43.. | 688 | OU=VMware Engine.. |
| nsx01c.my-sddc.vcd | APH-AR certificate f.. | 3,913 | UID=t205357c-3fb.. |

A large watermark "stephan" is overlaid across the dashboard.

The screenshot displays the vRealize Operations Manager interface across three main sections:

- Top Left:** A dashboard titled "Worst VM Disk Latency" showing a summary for the "vSAN Cluster(vD0)". Key metrics include Worst VM Disk Latency (38.7 ms), Worst vSAN CPU Ready (1%), and Worst vSAN Network Driven IOPS (0). The throughput is listed as 0.1 Gbps.
- Middle Left:** A detailed view of "Disk Groups". It lists four disk groups with their respective IOPS Congestion, Bus Resets, IOPS Aborted, and latency metrics (Read and Write IOPS).
- Bottom Left:** Two horizontal bar charts under the heading "Capacity Disk Latency Issues?". The first chart is for "vSAN Cluster(vD0)" and the second for "Cache Disk Latency Issues?". Both charts show green bars indicating no issues.
- Top Right:** A "Sustainability" dashboard with various metrics like VMware Cloud Foundation, VCF Capacity, and VCF Inventory.
- Middle Right:** A "Are Objects healthy?" dashboard showing the status of various objects including SDDC Manager, vSphere Hosts, and vCenter Server.
- Bottom Right:** A "node-mgmt" dashboard featuring a large green box with the text "swap" and a "search" button, along with other metrics and charts for vRealize Operations, Tier-1 Routers, vROps Health, and topologysvc.

Creating Custom Dashboards



Protecting Aria Ops Custom Content

Why?

Time and Innovation

Operational Availability

```
#Acquire Authentication Token
$Splat = @{
    "URI"      = "https://vrops01.my-sddc.vcd/suite-api/api/auth/token/acquire"
    "Headers"   = @{
        'Content-Type' = "application/json"
        'Accept'      = "application/json"
    }
    "Method"    = "POST"
    "body"      = @{
        username = "smctighe@my-sddc.vcd"
        authSource = "vIDMAuthSource"
        password = "VMware13!"
    } | ConvertTo-JSON -Depth 6
}
Invoke-RestMethod @Splat -SkipCertificateCheck | Select-Object -expandproperty token

#Export Content
$Splat = @{
    "URI"      = "https://vrops01.my-sddc.vcd/suite-api/api/content/operations/export"
    "Headers"   = @{
        'Content-Type' = "application/json"
        'Accept'      = "application/json"
        Authorization = "vRealizeOpsToken 0bd65cc3-2561-48a6-9c2c-7aac9b3e6af5::a8f3bd7e-0d32-4ccc-8718-3cf0"
    }
    "Method"    = "POST"
    "body"      = @{
        scope = "ALL"
        contentTypes = "DASHBOARDS","CUSTOM_GROUPS","SUPER_METRICS"
    } | ConvertTo-JSON -Depth 6
}
Invoke-RestMethod @Splat -SkipCertificateCheck

#Download Content
$Splat = @{
    "URI"      = "https://vrops01.my-sddc.vcd/suite-api/api/content/operations/export/zip"
    "Headers"   = @{
        'Content-Type' = "application/json"
    }
}
```

Protecting Aria Ops Custom Content

How?

```
1 $Splat = @{
2     "URI"          = "https://vrops01.my-sddc.vcd/suite-api/api/auth/token/acquire"
3     "Headers"      = @{
4         'Content-Type' = "application/json"
5         'Accept'       = "application/json"
6     }
7     "Method"       = "POST"
8     "body"         = @{
9         username = "$(user)"
10        authSource = "vIDMAuthSource"
11        password = "$(password)"
12    } | ConvertTo-JSON -Depth 6
13 }
14 $token = Invoke-RestMethod @Splat -SkipCertificateCheck | Select-Object -expandproperty token
15
16 $Splat = @{
17     "URI"          = "https://vrops01.my-sddc.vcd/suite-api/api/content/operations/export"
18     "Headers"      = @{
19         'Content-Type' = "application/json"
20         'Accept'       = "application/json"
21         Authorization = "vRealizeOpsToken $($token)"
22     }
23     "Method"       = "POST"
24     "body"         = @{
25         scope = "ALL"
26         contentTypes = "ASHBEEARS","CUSTOM_GROUPS","SUPER_METRICS"
27     } | ConvertTo-JSON -Depth 6
28 }
29 Invoke-RestMethod @Splat -SkipCertificateCheck
30
31 $Splat = @{
32     "URI"          = "https://vrops01.my-sddc.vcd/suite-api/api/content/operations/export/zip"
33     "Headers"      = @{
34         'Content-Type' = "application/json"
35         'Accept'       = "application/json"
36         Authorization = "vRealizeOpsToken $($token)"
37     }
38     "Method"       = "GET"
39 }
40
41 Invoke-RestMethod @Splat -SkipCertificateCheck -OutFile "content.zip"
42
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\Administrator>

Protecting Aria Ops Custom Content

Working smarter, not harder...

The screenshot shows a CI/CD pipeline interface with two main sections: a left sidebar and a right details panel.

Left Sidebar: Shows the pipeline run details and a list of jobs.

- Run ID: #20231120.8
- Job Name: aria-ops-backup
- Jobs List:
 - Aria_Ops_Content_Backup (32s)
 - Initialize job (<1s)
 - Pre-job: Acquiring Secrets From... (2s)
 - Pre-job: Acquiring Secrets From... (2s)
 - Checkout TheSmallHumanClou... (5s)
 - Checkout smctighevcp/ps-code... (4s)
 - Acquiring Secrets From VCF Ma... (5s)
 - Acquiring Secrets From Central ... (4s)
 - Execute Aria Ops Backup (4s)
 - Post-job: Checkout smctighev... (<1s)
 - Post-job: Checkout TheSmallH... (<1s)
 - Finalize Job (<1s)

Right Details Panel: Displays the logs for the "Execute Aria Ops Backup" job.

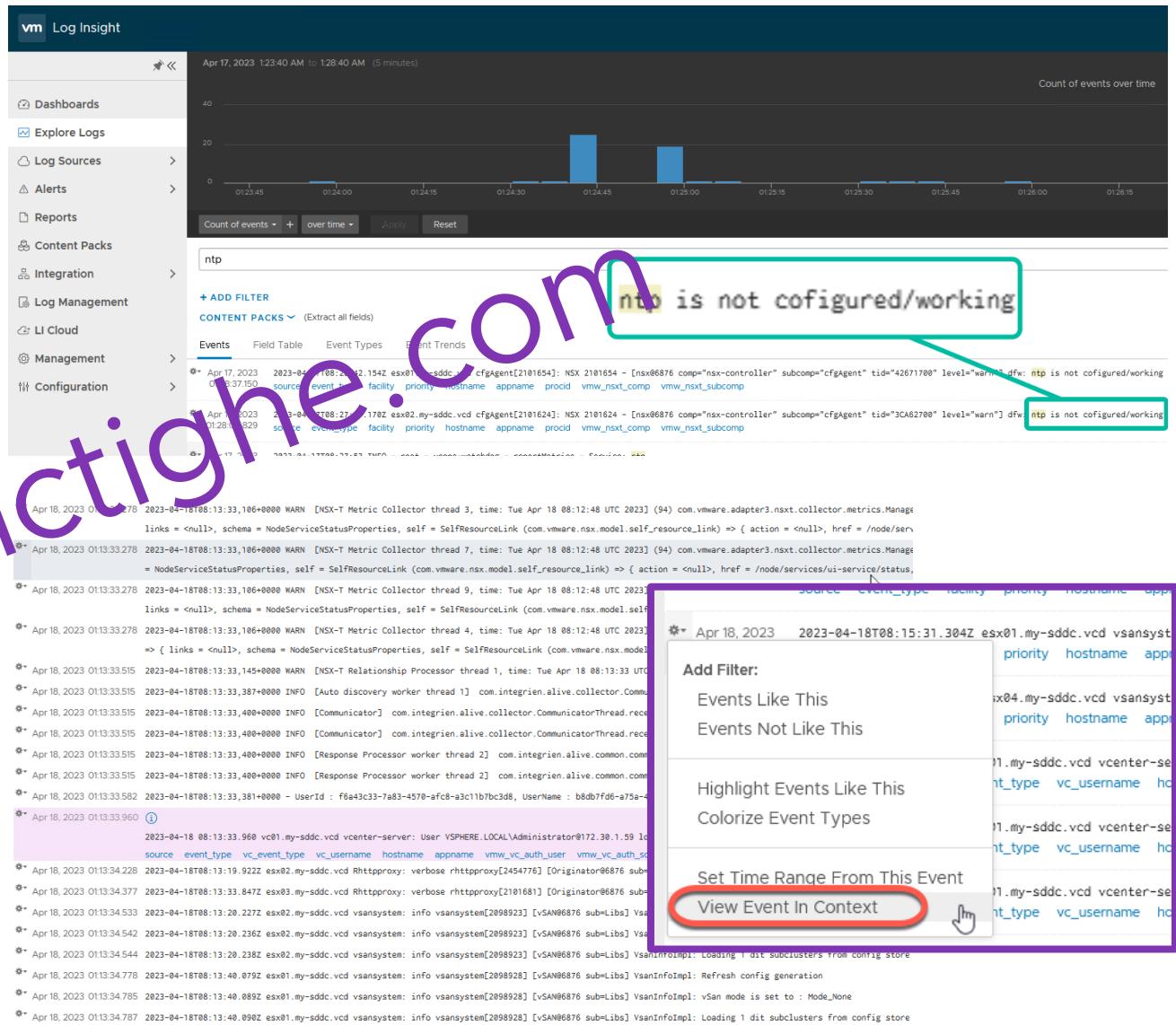
Job Status: ✓ Execute Aria Ops Backup

Log Output:

```
1 Starting: Execute Aria Ops Backup
2 =====
3 Task      : PowerShell
4 Description : Run a PowerShell script on Linux, macOS, or Windows
5 Version    : 2.231.0
6 Author     : Microsoft Corporation
7 Help       : https://docs.microsoft.com/azure/devops/pipelines/tasks/utility/powershell
8 =====
9 Generating script.
10 ===== Starting Command Output =====
11 "C:\Program Files\PowerShell\7\pwsh.exe" -NoLogo -NoProfile -NonInteractive -ExecutionPolicy Unrestricted -Command "."
12 [11-20-2023_07:58:34] INFO Aquiring authentication token...
13 [11-20-2023_07:58:35] INFO Authentication token acquired.
14 [11-20-2023_07:58:35] INFO Exporting content...
15 [11-20-2023_07:58:36] INFO Exported content types: DASHBOARDS CUSTOM_GROUPS SUPER_METRICS
16 [11-20-2023_07:58:36] INFO Content Exported.
17 [11-20-2023_07:58:36] INFO Downloading content...
18 [11-20-2023_07:58:36] INFO Content downloaded.
19 Finishing: Execute Aria Ops Backup
```

Aria Operations for Logs Filtering

Unstructured Data



Basic text or RegEx Filtering

Agent based ingestion

Queries can be saved for future use or with Dashboards

View events in context

Offline Logs Importer

Auto Discovery

Integration with Aria Operations

Visualising Log Data as Alerts

Unstructured Data to Alerts

Aria toolset integration

Seeing the wood through the trees

Webhooks into ITSM

Email notifications

The screenshot displays the VMware Aria Operations web interface. The left sidebar contains navigation links such as Home, Data Sources, Environment, Visualize, Troubleshoot, Alerts (which is selected), Workload, Log Analysis, Optimize, Plan, Configure, Automation Central, Administration, and Developer Center. The main content area is titled 'All Alerts' and shows a list of alerts grouped by time: '4 Hours' (with 3 items), 'Today' (with 1 item), 'Last Week' (with 5 items), and 'Older' (with 0 items). The first alert in the '4 Hours' group is expanded, showing details for a 'usercon demo' entry. The alert summary states: 'Notification event-"VMware Aria Operations for Logs: This is a test notification" has been observed on usercon demo'. It also mentions 'Virtual Machine is violating VMsafe Security Configuration GUI...' and 'Virtual Machine is violating CIS...' under 'Alert Details'. The 'Alert Basis' section lists '1. Self - VirtualMachine' with symptoms including a critical symptom observed on 'usercon demo'. The 'Notes' section has a placeholder 'Leave a note...'. At the bottom right are 'SUBMIT' and 'CLEAR' buttons.

Password Management

Password Management & Rotation

Avoid changing passwords outside of SDDC Manager !

Passwords can be remediated, updated and rotated

Passwords can be retrieved via API or the command line

Because of the API, passwords can be fed into CMDB or password storage tools

Passwords Expire!

Avoid removing expiration settings!

The screenshot displays two main windows related to password management:

Top Window (Password Manager): This window shows a list of credentials for the ESXI entity. The columns include User Name, FQDN, Status, Domain, and Last Modified. All entries are marked as Active and have m01 as the domain. The last modified date is 11/28/22, 3:08 AM.

| | User Name | FQDN | Status | Domain | Last Modified |
|---|---------------|-------------------|--------|--------|-------------------|
| 1 | root | esx01.my-sddc.vcd | Active | m01 | 11/28/22, 3:08 AM |
| 2 | svc-vcf-esx01 | esx01.my-sddc.vcd | Active | m01 | 11/28/22, 3:08 AM |
| 3 | root | esx02.my-sddc.vcd | Active | m01 | 11/28/22, 3:08 AM |
| 4 | vcf-vcf-esx02 | esx02.my-sddc.vcd | Active | m01 | 11/28/22, 3:08 AM |
| 5 | root | vcf-vcf-esx03 | Active | m01 | 11/28/22, 3:08 AM |
| 6 | svc-vcf-esx03 | | | | |

Bottom Window (Password Management): This window shows a list of credentials for the NSXT entity. The columns include User Name, FQDN, Status, Domain, Last Modified, Rotation Schedule, and Next Rotation. The entries are admin (status Active, domain m01, last modified 3/29/23, 4:12 AM, rotation disabled), root (status Active, domain m01, last modified 3/29/23, 4:59 AM, rotation disabled), and audit (status Active, domain m01, last modified 3/29/23, 7:14 AM, rotation disabled).

| | User Name | FQDN | Status | Domain | Last Modified | Rotation Schedule | Next Rotation |
|---|-----------|-------------------|--------|--------|------------------|-------------------|---------------|
| 1 | admin | nsx01.my-sddc.vcd | Active | m01 | 3/29/23, 4:12 AM | Disabled | -- |
| 2 | root | nsx01.my-sddc.vcd | Active | m01 | 3/29/23, 4:59 AM | Disabled | -- |
| 3 | audit | nsx01.my-sddc.vcd | Active | m01 | 3/29/23, 7:14 AM | Disabled | -- |

Terminal Session: A terminal window titled "root@vcf01 [/home/vcf]# lookup_passwords" is shown. It prompts for an entity type (VCENTER) and provides a command-line interface for retrieving passwords. The command "lookup_passwords" is run, and it asks for the identifier (172.30.1.100, vc01.my-sddc.vcd), workload (m01), username (root), password (VMware123!), type (SSH), and account type (USER). The output shows the password "VMware123!".

```
root@vcf01 [ /home/vcf ]# lookup_passwords
Password lookup operation requires ADMIN user credentials. Please refer VMware Cloud Foundation documentation for more information.
Supported entity types: ESXI VCENTER PSC NSX_MANAGER NSX_CONTROLLER NSXT_MANAGER NSXT_EDGE VPC
Enter an entity type from above list: VCENTER
Enter page number (optional):
Enter page size (optional, default=50):
Enter Username: administrator@vsphere.local
Enter Password:
VCENTER
identifiers: 172.30.1.100,vc01.my-sddc.vcd
workload: m01
username: root
password: VMware123!
type: SSH
account type: USER

Page : 1/1, displaying 1 of total 1 entities in a page.
```

Automating Password Rotation

PowerVCF, PowerShell for VMware Cloud Foundation

| CommandType | Name | Version |
|-------------|-------------------------------------|------------|
| Alias | Commission-VCFHost | 2.4.0.1011 |
| Alias | Decommission-VCFHost | 2.4.0.1011 |
| Alias | Get-VCFAriaAutomation | 2.4.0.1011 |
| Alias | Get-VCFAriaLifecycle | 2.4.0.1011 |
| Alias | Get-VCFAriaOperations | 2.4.0.1011 |
| Alias | Get-VCFAriaOperationsConnection | 2.4.0.1011 |
| Alias | Get-VCFAriaOperationsLogs | 2.4.0.1011 |
| Alias | Get-VCFAriaOperationsLogsConnection | 2.4.0.1011 |
| Alias | Get-VCFNsxEdgeCluster | 2.4.0.1011 |
| Alias | Get-VCFNsxManagerCluster | 2.4.0.1011 |
| Alias | New-VCFAriaLifecycle | 2.4.0.1011 |
| Alias | New-VCFNsxEdgeCluster | 2.4.0.1011 |
| Alias | Remove-VCFAriaLifecycle | 2.4.0.1011 |
| Alias | Reset-VCFAriaLifecycle | 2.4.0.1011 |
| Alias | Set-VCFAriaOperationsConnection | 2.4.0.1011 |
| Alias | Set-VCFAriaOperationsLogsConnection | 2.4.0.1011 |
| Function | Add-VCFApplicationVirtualNetwork | 2.4.0.1011 |
| Function | Add-VCFNetworkIPPool | 2.4.0.1011 |
| Function | Connect-CloudBuilder | 2.4.0.1011 |
| Function | Debug-CatchWriter | 2.4.0.1011 |
| Function | Get-CloudBuilderSDDC | 2.4.0.1011 |
| Function | Get-CloudBuilderSDDCValidation | 2.4.0.1011 |
| Function | Get-VCFApplicationVirtualNetwork | 2.4.0.1011 |
| Function | Get-VCFBackupConfiguration | 2.4.0.1011 |
| Function | Get-VCFBundle | 2.4.0.1011 |
| Function | Get-VCFCeip | 2.4.0.1011 |
| Function | Get-VFCertificate | 2.4.0.1011 |
| Function | Get-VFCertificateAuthority | 2.4.0.1011 |

Uses the SDDC API's

Hard work done for you

Well maintained

Can be used to automate all the things...

Patching & Upgrades



Pre Upgrade Checks

Things to consider

Check release notes!

Hardware and firmware checks

Custom images

Upgrade bundles

Run health checks

Confirm backups

Cold Snapshots

Backup vDS

3rd Party integrations

Proactive SR (if you have an appropriate support agreement)



Upgrade pre assessment

SDDC Manager

- > ✓ Domain Manager
- > ✓ Sddc Manager Ui
- > ✓ Operations Manager
- > ✓ Sddc Security Configuration
- Common Services
- Lcm

Cluster

- > ✓ cl01
- PSC
- vc01.my-sddc.vcd
- > ⚠ vSAN - cl01
- nsx01.my-sddc.vcd

Upgrading with PowerShell

PowerShell Script for VMware Cloud Foundation Bundle Management (94760)

The terminal session content is as follows:

```
===== VMware Cloud Foundation Bundle Management =====

1: Refresh the bundle information.
2: Show all bundles.
3: Show the downloaded bundles.
4: Show the disk space used by bundles
5: Delete a bundle.
6: Delete all bundles for a version.
7: Delete all obsolete bundles.
8: Download a bundle.

Q: Quit

SDDC Manager: sfo-vcf01.sfo.rainpole.io
Username : administrator@vsphere.local

=====
WARNING: A bundle download in progress. Please wait for the download to finish before deleting bundles.
WARNING: Deleting bundles while a download is in progress will result in the download being marked as 'FAILED'.
Select an option or press 'Q' to quit.: -
```

The SDDC Manager Dashboard window shows the following resource usage data for m01:

| Type | Total | Used | Free |
|---------|------------|-----------|-----------|
| CPU | 127.68 GHz | 3.07 GHz | 84.6 GHz |
| Memory | 512 GB | 273.37 GB | 238.63 GB |
| Storage | 3.91 TB | 2.25 TB | 1.65 TB |

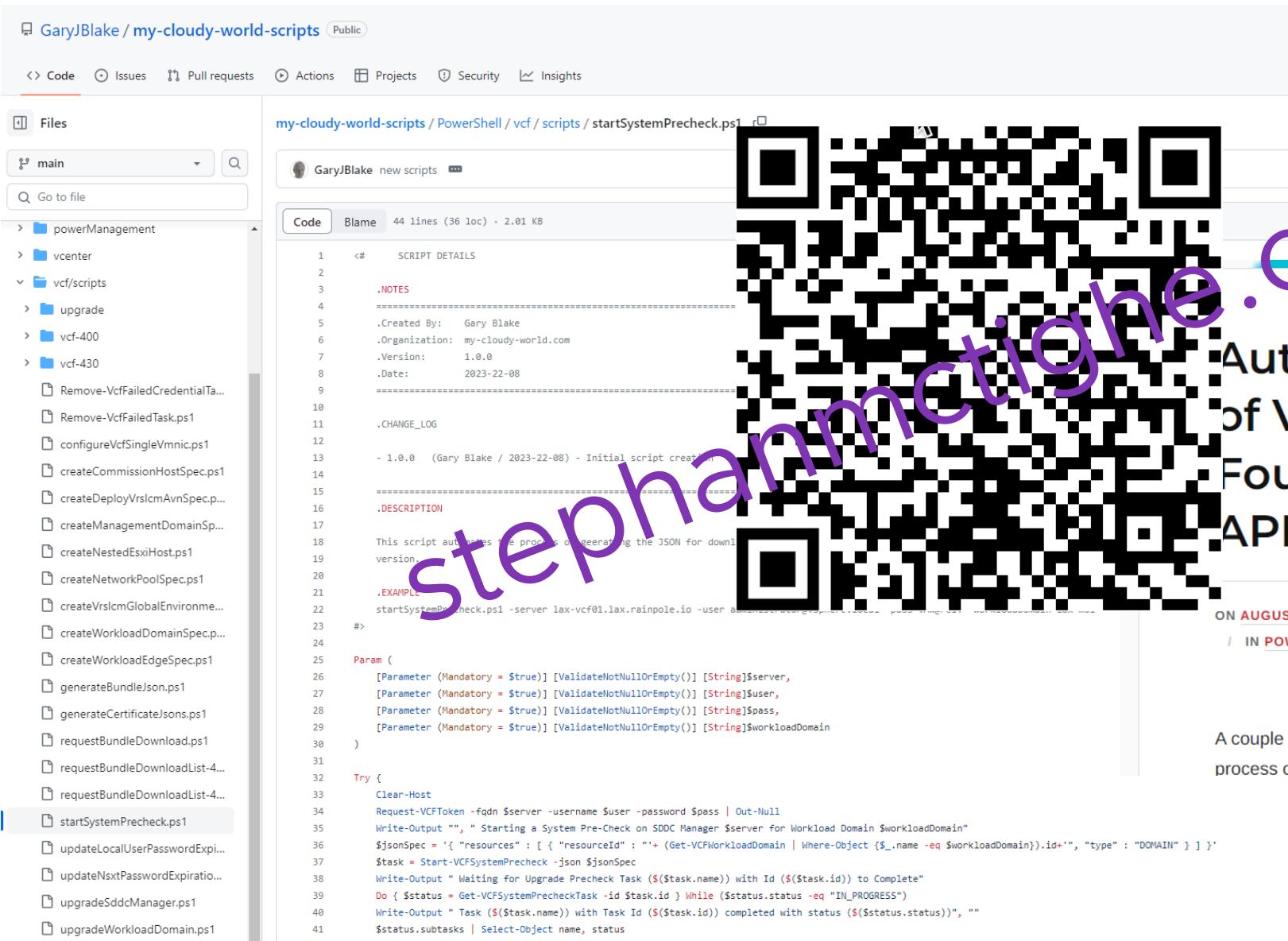
Task Status: All tasks are successful.

| Task Status | Last Occurrence |
|-------------|--------------------|
| Successful | 11/21/23, 12:00 AM |
| Successful | 11/20/23, 2:15 PM |
| Successful | 11/20/23, 2:51 AM |

Updates are available. Required updates need to be installed. Go to Settings to activate Windows.

Automation Resources

My Cloudy World – Gary Blake - Senior Staff Solutions Architect



The screenshot shows a GitHub repository page for 'my-cloudy-world-scripts'. The repository contains various PowerShell scripts for managing VMware Cloud Foundation. One specific script, 'startSystemPrecheck.ps1', is displayed in the code editor. The script details the process of generating JSON for downgrading the VCF version. It includes parameters for server, user, password, and workload domain, and performs a system pre-check task.

Automating the Upgrade
of VMware Cloud
Foundation with
APIs/PowerVCF/PowerShell

ON AUGUST 24, 2023 / BY GARYJBLAKE
/ IN POWERVCF, VMWARE CLOUD FOUNDATION

A couple of years ago I wrote a series of blogs ([see here](#)) which discussed the process of automating the deployment procedures of VMware Cloud

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Questions?



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Thank You