



Power Users and Management 301

Arcus

**makes users more successful, productive and secure
in any cloud, using any technology.**

It is the platform for where & how to get things done!



Topics

- Deployment Runs
- Assets
- Services
- ElasticTest™
- Managing Arcus
 - Managing Teams
 - Managing Projects
- Support & Troubleshooting





Deployment Runs

DRs: Where to find Runs

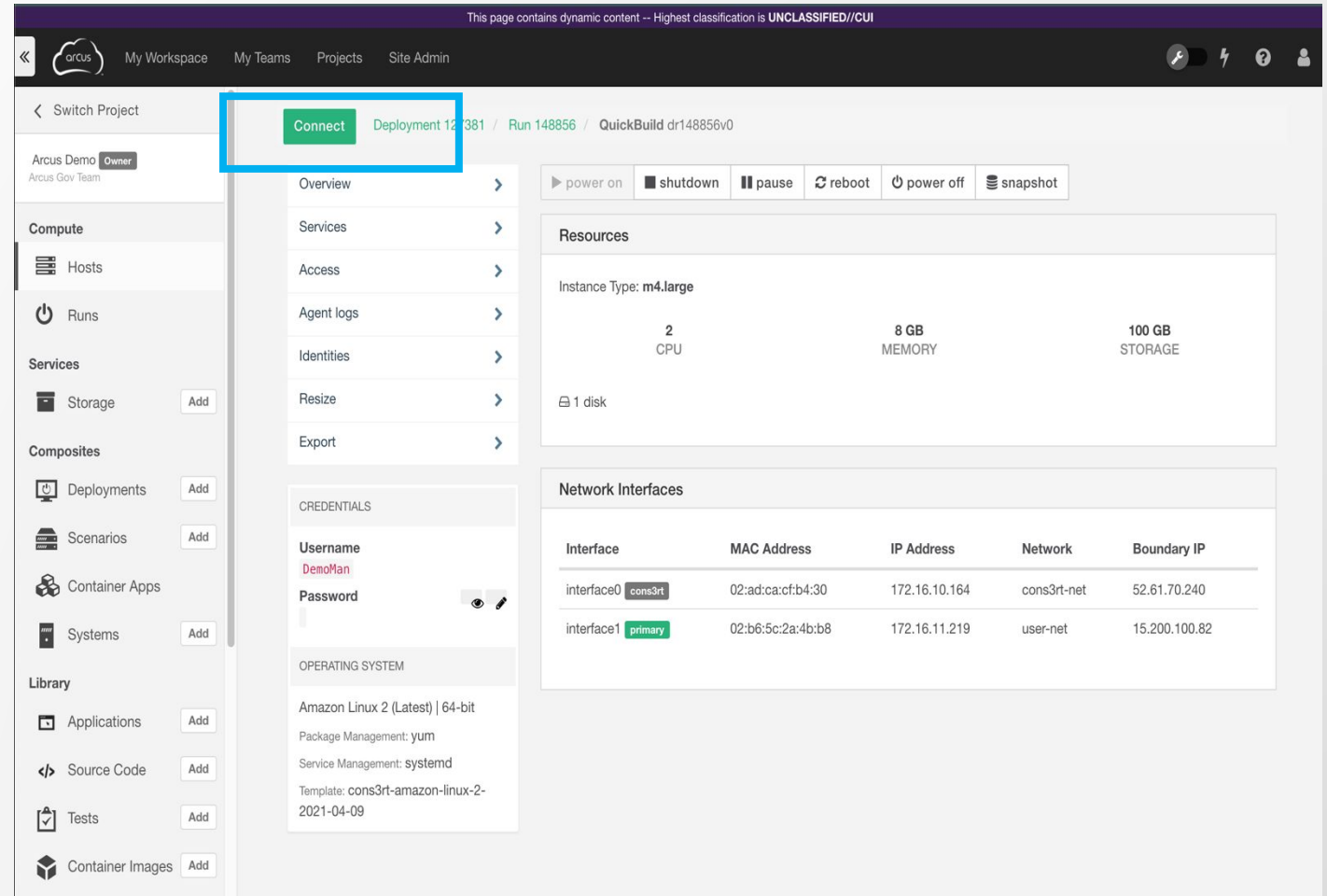
- Runs can be located under **Compute** on the main menu
- Clicking on an individual Deployment Run (DR) tile will bring you to the overview page
- Project Managers can view Runs under:
 - The Project Management interface in the Runs tab, which will show all Runs in the selected project
 - The Cloudspace management interface under the “Deployment Runs” tab, which will show all Runs in the selected Cloudspace

The screenshot shows the Arcus interface for a Cloudspace. The top navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The left sidebar is titled 'Switch Project' and shows 'Arcus Demo' as the selected project. Under the 'Compute' section, 'Runs' is selected. The main content area displays a 'Status' filter set to 'Cloudspace' and shows '2 RUNS'. Two deployment run tiles are visible: 'Workstation Deployment' (Run 146618) and 'New Deployment' (Run 145517). Both are marked as 'AVAILABLE'. The 'Workstation Deployment' tile shows 1 HOSTS and 0 TESTS, with a duration of 477:22:05. The 'New Deployment' tile shows 2 HOSTS and 0 TESTS, with a duration of 645:58:07. The interface also includes a 'Filters' section with options for Status, Duration, and Request Date, and a 'Tags' section.



DRs: Connecting

- Runs can be accessed via RDP, VNC, and/or SSH depending on the Host OS/
- Click the **Connect** button on a Deployment Run or Host
 - A **standard** connection will use the credentials set on the System at launch time
 - A **custom** connection will allow the user to enter different credentials
 - A session can be shared to other members of the Project by filling in their username when the connection is opened
- The remote session opens in a new tab/window
- **A browser pop-up blocker will prevent a connection tab from opening**



The screenshot displays the Arcus UI interface for managing a deployment run. The top navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The main content area shows a deployment run for 'Arcus Demo' (Owner: Arcus Gov Team) with a 'Connect' button highlighted in a blue box. The interface is divided into several sections:

- Compute:** Includes 'Runs' and 'Services'.
- Storage:** Includes 'Storage' with an 'Add' button.
- Composites:** Includes 'Deployments', 'Scenarios', and 'Container Apps', each with an 'Add' button.
- Library:** Includes 'Applications', 'Source Code', 'Tests', and 'Container Images', each with an 'Add' button.

The central panel shows the deployment run details, including a 'Connect' button, a 'Credentials' section with 'Username: DemoMan' and a 'Password' field, and an 'Operating System' section with details like 'Amazon Linux 2 (Latest) | 64-bit', 'Package Management: yum', 'Service Management: systemd', and 'Template: cons3rt-amazon-linux-2-2021-04-09'.

The right panel shows the 'Resources' section, including 'Instance Type: m4.large', '2 CPU', '8 GB MEMORY', and '100 GB STORAGE'. Below this is the 'Network Interfaces' section, which contains a table with the following data:

Interface	MAC Address	IP Address	Network	Boundary IP
interface0 cons3rt	02:ad:ca:cf:b4:30	172.16.10.164	cons3rt-net	52.61.70.240
interface1 primary	02:b6:5c:2a:4b:b8	172.16.11.219	user-net	15.200.100.82



DRs: Run Level Info

- The **Activity Log** tab displays actions taken by the CONS3RT agent, which can be helpful in tracking down errors
- The **Properties** tab displays active deployment and runtime properties in use
- The **Test Results** tab will display any test results generated by an ETT

This page contains dynamic content -- Highest classification is UNCLASSIFIED//CUI

arcus My Workspace My Teams Projects Site Admin

Switch Project

Arcus Demo **Owner**
Arcus Gov Team

Compute

- Hosts
- Runs**

Services

- Storage **Add**

Composites

- Deployments **1**
- Scenarios **Add**
- Container Apps
- Systems **Add**

Library

- Applications **Add**
- Source Code **Add**

Webserver Workstation

RUN 155358 of Workstation Webserver

Stop Agents Release Rerun Unpublish Off

Overview **Activity Log** Properties Test Results

About

No description

SERVICES	CPU	MEMORY	STORAGE
2	6	12 GB	200 GB

Status 1032:13:03

Queued Submitted Deployed Available Released

Automated Power Management

Automatically power off and power on deployed virtual systems for cost and energy savings.

CLOUDSPACE

Arcus Demo

OWNER

Stephen Dulany

PROJECT

Arcus Demo

REQUESTED

Jun 24, 2021, 11:45:01 AM

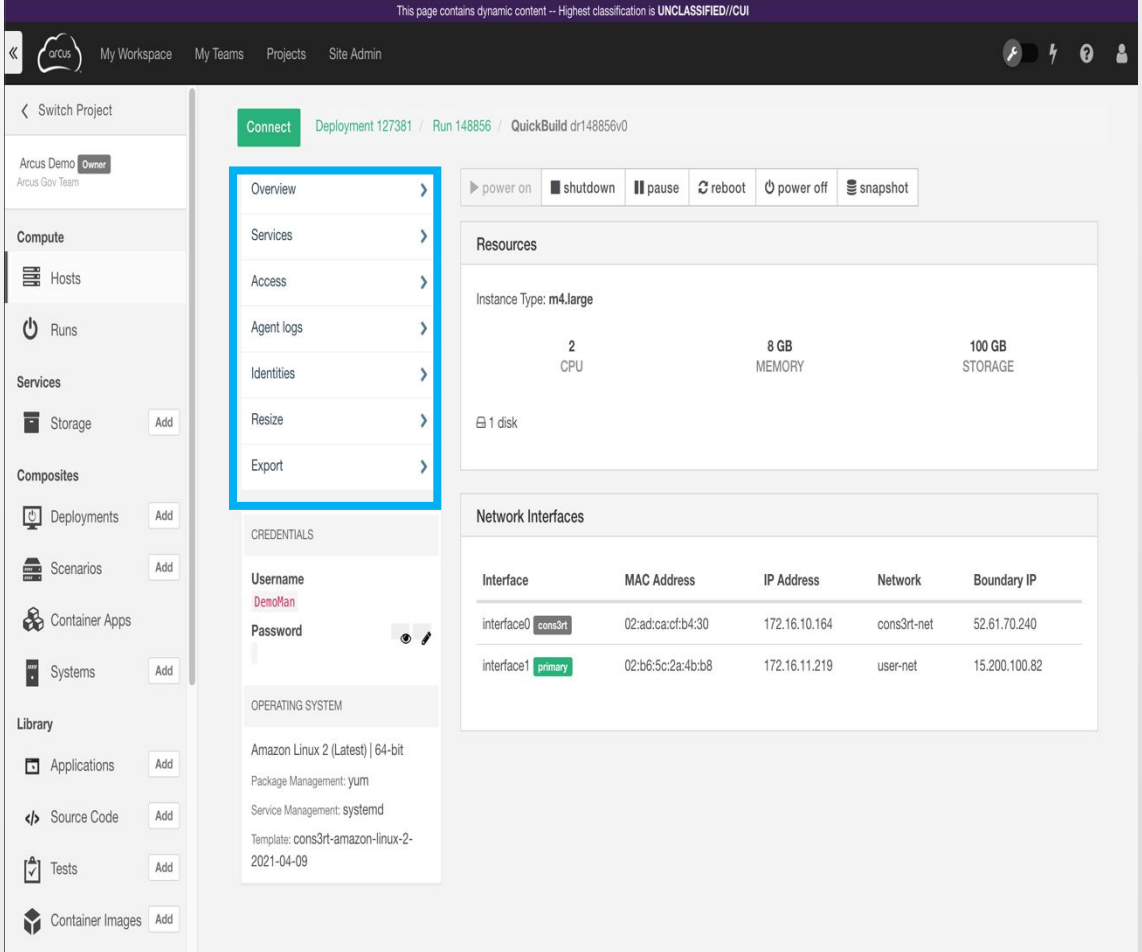
HOST SET

dr155358-d128833-2021-06-24-11-45-24



DRs: Host Level Info

- The **Overview** tab lists the host power buttons, instance size information, and network interfaces
- The **Services** tab allows adding and viewing of connected Arcus services
- The **Agent Logs** tab shows relevant CONS3RT agent logs
- The **Identities** tab allows creation of credentials to access services from your Run
- The **Resize** tab allows resizing of a host after deployment (requires reboot)
- The **Export** tab allows users with sufficient permissions to export an asset bundle that enables a stack of assets to be used elsewhere in Arcus



The screenshot displays the Arcus console interface for a specific deployment. The top navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The main content area is titled 'Switch Project' and shows the deployment details: 'Arcus Demo' (Owner: Arcus Gov Team), 'Deployment 127381 / Run 148856 / QuickBuild dr148856v0'. A 'Connect' button is visible. Below this, there are power control buttons: 'power on', 'shutdown', 'pause', 'reboot', 'power off', and 'snapshot'. The 'Overview' tab is selected and highlighted with a blue box. The 'Resources' section shows 'Instance Type: m4.large' with '2 CPU', '8 GB MEMORY', and '100 GB STORAGE'. The 'Network Interfaces' section contains a table with the following data:

Interface	MAC Address	IP Address	Network	Boundary IP
interface0 <small>cons3rt</small>	02:ad:ca:cf:b4:30	172.16.10.164	cons3rt-net	52.61.70.240
interface1 <small>primary</small>	02:b6:5c:2a:4b:b8	172.16.11.219	user-net	15.200.100.82

The 'Identities' section shows 'Username: DemoMan' and 'Password' (masked). The 'OPERATING SYSTEM' section lists 'Amazon Linux 2 (Latest) | 64-bit', 'Package Management: yum', 'Service Management: systemd', and 'Template: cons3rt-amazon-linux-2-2021-04-09'.



DRs: Power States

- To access the power buttons:
 - You will need to be the owner of the Run or a manager of that Project
 - From the main navigation menu click **Runs** and select the Run
 - Click on the card for the host you'd like to manage
- At the top of the page, there are power options as described below:
 - **ON**: Powers on the host
 - **SHUT DOWN**: Powers down host gracefully.
 - **PAUSE**: Stops host from running temporarily.
 - **REBOOT**: Restarts the host
 - **POWER OFF**: Hard shut down, like pulling the plug

The screenshot displays the Arcus console interface for managing a host. The top navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The main content area is titled 'Deployment 127381 / Run 148856 / QuickBuild dr148856v0'. A blue box highlights the power control buttons: 'power on', 'shutdown', 'pause', 'reboot', and 'power off'. Below this, the 'Resources' section shows the instance type 'm4.large' with 2 CPU, 8 GB MEMORY, and 100 GB STORAGE. The 'Network Interfaces' section contains a table with the following data:

Interface	MAC Address	IP Address	Network	Boundary IP
interface0 cons3rt	02:ad:ca:cf:b4:30	172.16.10.164	cons3rt-net	52.61.70.240
interface1 primary	02:b6:5c:2a:4b:b8	172.16.11.219	user-net	15.200.100.82

The 'CREDENTIALS' section shows the Username 'DemoMan' and a Password field. The 'OPERATING SYSTEM' section lists 'Amazon Linux 2 (Latest) | 64-bit', 'Package Management: yum', 'Service Management: systemd', and 'Template: cons3rt-amazon-linux-2-2021-04-09'.

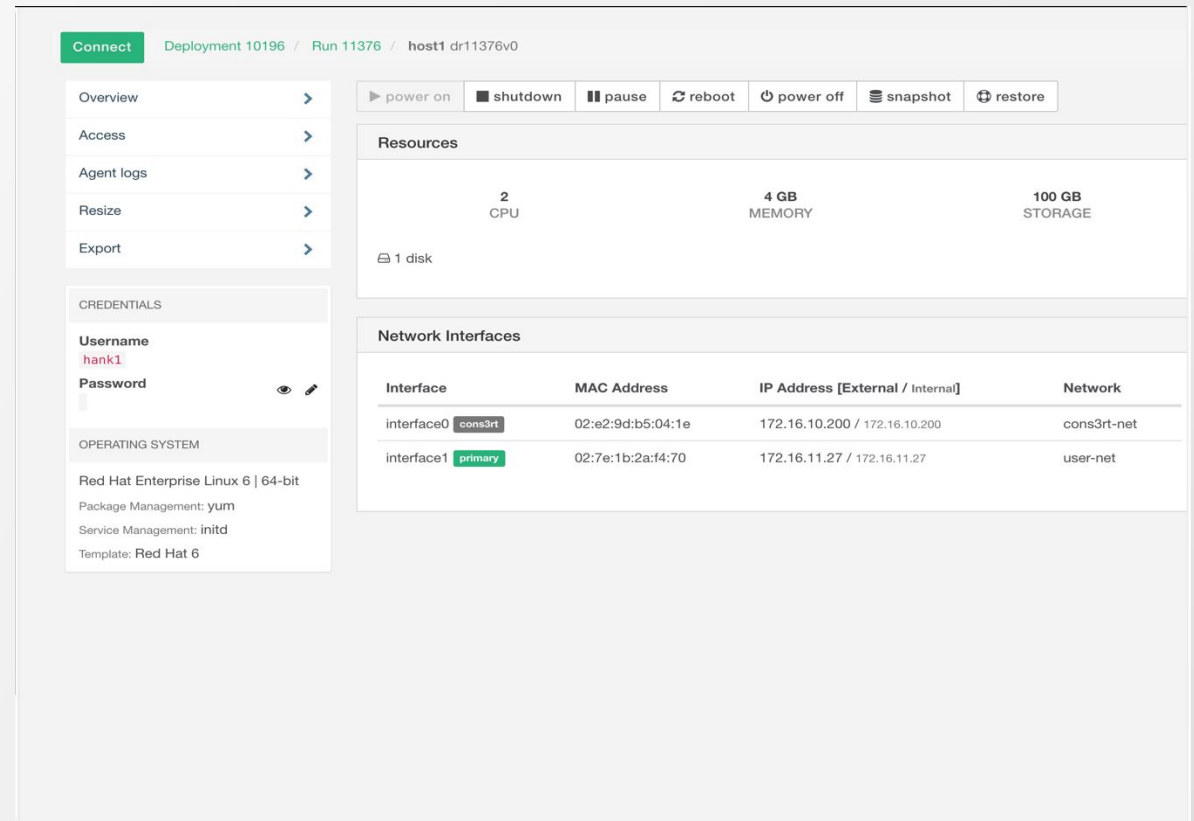


DRs: Snapshots

- A Snapshot preserves the state and data of a VM at a specific point in time, allowing a user to restore that version
- A Team manager must enable Snapshots within a Cloudspace

Limitations of Snapshots

- Can be difficult to manage and track in large number
- Consume large amounts of disk space
- Not protected in the case of hardware failure
- Can negatively affect performance



The screenshot displays the configuration page for a virtual machine named 'host1 dr11376v0'. The interface includes a top navigation bar with 'Connect', 'Deployment 10196', 'Run 11376', and 'host1 dr11376v0'. Below this is a control bar with buttons for 'power on', 'shutdown', 'pause', 'reboot', 'power off', 'snapshot', and 'restore'. The main content area is divided into several sections:

- Overview:** A sidebar menu with options for Overview, Access, Agent logs, Resize, and Export.
- Resources:** A summary of hardware resources: 2 CPU, 4 GB MEMORY, and 100 GB STORAGE. Below this, it indicates '1 disk'.
- Network Interfaces:** A table listing network configurations.
- OPERATING SYSTEM:** Details for Red Hat Enterprise Linux 6 | 64-bit, including Package Management (yum), Service Management (initd), and Template (Red Hat 6).
- CREREDENTIALS:** Fields for Username (hank1) and Password.

Interface	MAC Address	IP Address [External / Internal]	Network
interface0 cons3rt	02:e2:9d:b5:04:1e	172.16.10.200 / 172.16.10.200	cons3rt-net
interface1 primary	02:7e:1b:2a:f4:70	172.16.11.27 / 172.16.11.27	user-net



DRs: Resizing

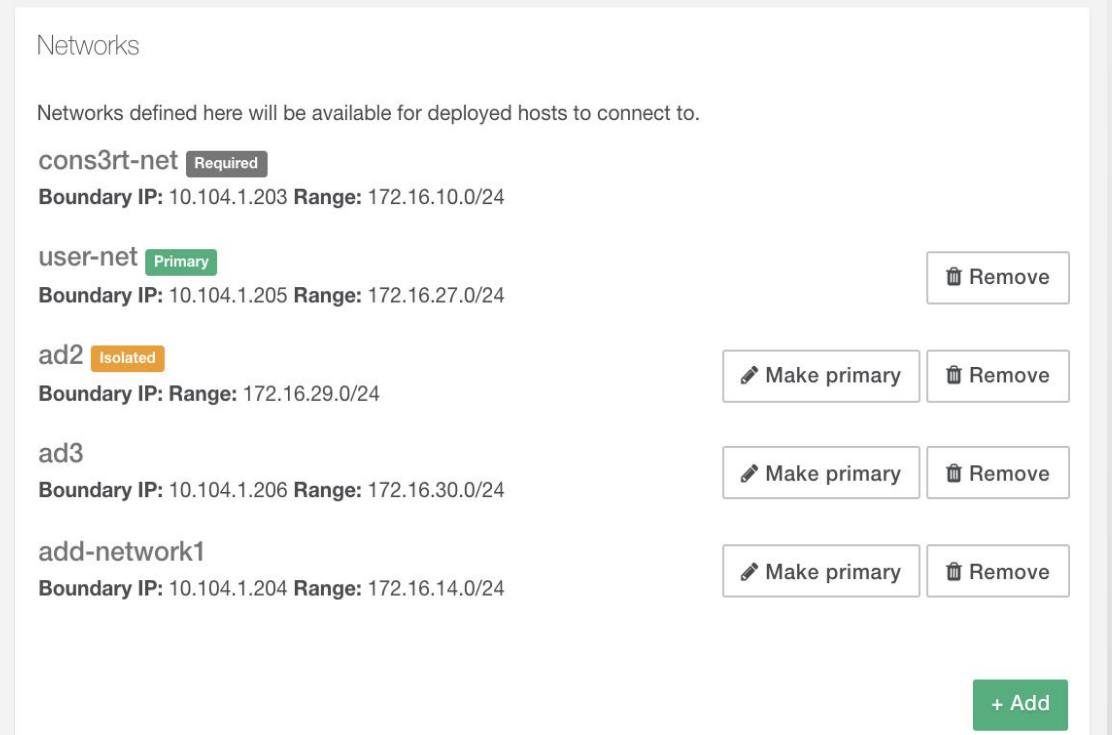
- Runs can be resized after deployment
 - Note: This does require the host to be rebooted once the change has been confirmed
- Click on the host that needs to be resized
- Click on **Resize** in the host menu
- Edit the size of the host, and confirm your changes
 - Note: Use caution when reducing the size of a host to avoid potential errors
- You will be prompted that this change requires a reboot

The screenshot displays the Arcus console interface. On the left, a sidebar menu lists various components: Arcus Demo (Owner), Compute (Hosts, Runs), Services (Storage, Deployments, Scenarios, Container Apps, Systems), Composites, and Library (Applications, Source Code, Tests, Container Images). The main content area shows a 'Connect' button and a breadcrumb trail: Deployment 127381 / Run 148856 / QuickBuild dr148856v0. Below this, a 'Resize your host' dialog box is open, featuring dropdown menus for 'Family' (set to '* Best Matches *') and 'Type' (set to 'm4.large'). The dialog also displays the specifications: '2 cpu, 8192 MB RAM, up to 2 networks'. At the bottom of the dialog are 'Cancel' and 'Save' buttons. A blue box highlights the 'Resize' option in the host menu on the left. The top of the console shows navigation tabs for 'My Workspace', 'My Teams', 'Projects', and 'Site Admin', along with a status bar indicating 'This page contains dynamic content -- Highest classification is UNCLASSIFIED//CUI'.



DRs: Cloudspace Networking

- Each Arcus cloudspace has two default networks
 - **cons3rt-net** – provisioning, asset installations, remote access, yum repo
 - **user-net** – systems-to-system communication, Internet access
 - Both each with a class C (/24) address space
- Team managers can customize networks:
 - Pick a Cloudspace, click **Manage**, then select **Networking**
 - Add, rename, and remove networks
 - Note: the **cons3rt-net** is required and cannot be modified
- Standardized across AWS, Azure, and VMware



Networks

Networks defined here will be available for deployed hosts to connect to.

cons3rt-net	Required	Boundary IP: 10.104.1.203 Range: 172.16.10.0/24	
user-net	Primary	Boundary IP: 10.104.1.205 Range: 172.16.27.0/24	Remove
ad2	Isolated	Boundary IP: Range: 172.16.29.0/24	Make primary Remove
ad3		Boundary IP: 10.104.1.206 Range: 172.16.30.0/24	Make primary Remove
add-network1		Boundary IP: 10.104.1.204 Range: 172.16.14.0/24	Make primary Remove

+ Add



DRs: Boundary IP Addresses

- Boundary IP addresses allow secure communication with resources outside a Cloudspace
- Automatically assigned
- Can be found...
 - on the host options page of a given Deployment Run...
 - in the deployment run properties...
 - and in the networking overview of the Cloudspace

The screenshot displays the Arcus Cloudspace interface for a deployment. The top navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The main content area is divided into several sections:

- Connect:** Shows deployment details: Deployment 127381 / Run 148856 / QuickBuild dr148856v0. It includes control buttons for power on, shutdown, pause, reboot, power off, and snapshot.
- Resources:** Displays instance details for 'm4.large': 2 CPU, 8 GB MEMORY, and 100 GB STORAGE. It also shows '1 disk'.
- Network Interfaces:** A table listing network interfaces with their MAC addresses, IP addresses, networks, and boundary IP addresses.
- CREDENTIALS:** Shows fields for Username (DemoMan) and Password.
- OPERATING SYSTEM:** Lists details such as 'Amazon Linux 2 (Latest) | 64-bit', 'Package Management: yum', 'Service Management: systemd', and 'Template: cons3rt-amazon-linux-2-2021-04-09'.

Interface	MAC Address	IP Address	Network	Boundary IP
interface0	02:ad:ca:cf:b4:30	172.16.10.164	cons3rt-net	52.61.70.240
interface1	02:b6:5c:2a:4b:b8	172.16.11.219	user-net	15.200.100.82



DRs: Physical Systems

- Arcus can be used to connect to and access most physical systems
- Three types:
 - **Physical hardware** (Server, Laptop, Raspberry Pi, etc.)
 - **Virtual entities** (Specialized VM that isn't redeployable)
 - **Network-connected devices** (Tablets, Phones, UAVs, network appliances, 3D printers, CNC machines, Arduinos, FPGAs, etc.)
- Set up behind a firewall and connected to your virtual environment via a secure VPN
- Users can connect to these physical machines from other VMs within their cloudspace, as well as via VNC/RDP/SSH remote access
- Contact support to discuss physical setup and what may be needed to connect to your systems in Arcus





Assets

Assets: Asset Types

Resource Assets

*Elements of a Cloud that are **registered** to be available for use by the CONS3RT agent. The Cloud Administrator controls which resources they want to allow access to. Users do not interface or manage.*

Clouds
Cloudspaces
Networks
Operating System Templates

Component Assets

*Component assets are the building blocks that can be mixed and matched as part of Composite Assets. Components can be **imported** by a user with appropriate permissions via the web application.*

Software Applications
Container Images
Test Cases (Nessus, Fortify, etc.)

Composite Assets

*Users **assemble** Component Assets by combining available Resources and Components to define how systems and scenarios will be built, configured and deployed. Users often refer to these as “designs,” “recipes,” “blueprints,” or “manifests.” Assembly is done via the web application.*

App Bundles
Systems
Scenarios
Deployments
Compositions



Assets: Composite Assets

Composite Asset	Description	Contents
App Bundles	A collection of Software assets	<ul style="list-style-type: none">• LAMP Stack• Developer Suite
Systems	The design of a single Virtual or Physical System. An Operating Systems with software Assets.	<ul style="list-style-type: none">• OS Type• Ordered sequence of Software Assets• Reboots• CPU/RAM and Disk Requirements
Scenarios	Design consisting of multiple interconnected Systems with a build order. The core baseline/ managed/shared version of an environment.	<ul style="list-style-type: none">• Role Names (□ IP addresses)• Ordered Sequence of Systems• Build Order: Parallel vs. Serial• Customization and Teardown Scripts
Deployments	Customized Scenario(s) with optional test or security scans.	<ul style="list-style-type: none">• CPU/RAM Customization• Custom Properties• Test Cases
Compositions	Runs, Deployments, and Workstations published in a simplified tiled view for consumption by Express Users.	<ul style="list-style-type: none">• CPU/RAM Customization• Custom Properties• Test Cases



Assets: Examples of Component Assets

Operating Systems	Platforms	GOTS Software	COTS Software	
Red Hat 6/7/8	Kubernetes	STIG	SCAP	Fidelis Cmd Post
Windows 10	OpenShift	Unicorn DB	ActiveDirectory	ArcSight
Windows 2016/2019	OKD	DCGS Backbone	SQL Server	Splunk
Windows Core	Docker	Ozone Widgets	Cameo	GitLab
CentOS & Fedora	Podman	AgileClient	Selenium	Java
Oracle Linux	CRI-O	World Wind	PiPlanning	RADIUS
Ubuntu & Debian		GCCS Desktop	Fortify	PostgreSQL
Amazon Linux		SCC (scanner)	Puppet	Data Generators
USAF SDC		GDES	Chef	JupyterHub
Kali		FLARE Client	Hadoop	ElasticStack
VyOS		SpiderSense	Sharepoint	Oracle
Fortinet		SIRIS	Jetty	SoapUI
F5		BigData (BDP)	IBM WebSphere	PuTTY



Assets: Where to find Assets

Everything is an Asset!

The screenshot displays the Arcus dashboard interface. At the top, a navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. A central panel shows 'Project Info' for 'Arcus Demo', including details like 'members of 999' and 'No restriction'. To the right, there are sections for 'Automated Provisioning' (with a memory usage graph), 'Deployment Runs', 'Cloudspace Status' (listing 'Arcus Demo' as Online), and 'Virtual Resources' (showing CPU, Memory, Storage, Hosts, and GPU usage). On the left, a sidebar lists asset categories: Compute (Hosts, Runs), Services (Storage), Composites (Deployments, Scenarios, Container Apps, Systems), and Library (Applications, Source Code, Tests, Container Images). A blue arrow points from the 'Systems' category in the sidebar to the 'Available Test Tools' section, which lists tools like LISA, Nessus, Script, and soapUI.

Browse to find existing Software, Tests, Systems, Scenarios, and Deployments



Assets: Asset Library

Viewable Assets = Selected Project + Asset Visibility

The screenshot displays the Arcus Asset Library interface. At the top, a navigation bar includes 'My Workspace', 'My Team', 'Projects', and 'Site Admin'. A search bar on the right contains 'Me' and 'Everyone' with a search icon. A left sidebar lists categories: Compute (Hosts, Runs), Services (Storage), Composites (Deployments, Scenarios, Container Apps, Systems), and Library (Applications, Source Code, Tests, Container Images). The main area shows '37 SOFTWARE ASSETS' sorted by 'Newest'. Assets are displayed as cards with details like 'SEAS v4.7', 'Chrome 79 for Windows', and 'Modded Multi-User VNC'. Callouts with blue arrows point to: 'Projects' (left sidebar), 'Tags' (top filter), 'Filters' (top filter), 'Visibility' (top filter), 'Search' (top search bar), 'Asset Sub-Type' (top of asset card), and 'Add Assets' (bottom of sidebar).

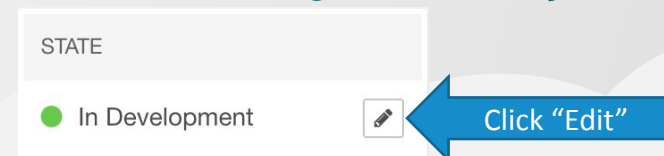


Assets: Asset States

- Designed to fit your Team's processes
- Leverage for configuration management, workflow

State	Behavior
In Development (Initial State)	Owner can edit the Install script and update the Asset components. Other users can expect change.
Published	The Asset cannot be updated. Other users can rely on stability.
Certified	Same as <i>Published</i> plus support standing behind the Asset.
Deprecated	Greyed out in Asset Library (select "Include Inactive" to see) Cannot be used in new Systems; existing Runs will launch CANNOT change back to "Published"
Retired	Greyed out in Asset Library (select "Include Inactive" to see) Deployment Runs cannot launch with a <i>Retired</i> Asset CANNOT change back to "Published"

- Using a shared Asset that is "In Development" will generate a warning that it may change
- Set the Asset State by clicking the gear icon



Assets: Asset Ownership

- Assets belong to:
 - Owner – the person who created the Asset
 - Project – the owner’s Project when the Asset was created
- Site Admins and Project Managers can change the Asset owner
- Only Site Admins can move Asset ownership to another Project

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Switch Project

Arcus Demo **Owner**
Arcus Gov Team

Compute

- Hosts
- Runs

Services

- Storage **Add**

Composites

- Deployments **Add**
- Scenarios **Add**
- Container Apps
- Systems **Add**

Library

- Applications **Add**
- Source Code **Add**
- Tests **Add**
- Container Images **Add**
- App Bundles

Manage

- Projects **Add**

Chrome 79 for Windows **+ Add to System Builder** **Re-import**

APPLICATION Updated 1 month ago
★ 0 stars

Overview Related Help User Agreement

About

Asset 113449 Description Placeholder

Platform *Unknown*

System Requirements Memory: 512 MB CPU: 1
Storage: 512 MB Architecture: x64, 64-bit

File Size 58 MB

Vendor Google

Version 79

Files

Installation Script
install_chrome.cmd

LICENSE
README
asset.properties
media/

STATE

- In Development

ONLINE

-

PROJECT

- Arcus Demo

OWNER

- Ian Elett

WHO HAS ACCESS

- Not shared

RESTRICTION

- None

CLOUD IMPACT LEVEL

- No Data Impact Level

INSTANCE LIMIT

- Unlimited

HISTORY

Owning Project

Asset Owner

Visibility



Assets: Visibility and Sharing

- Set the Visibility for all your Assets
- Leverage for privacy, publishing, configuration management, workflow, sharing

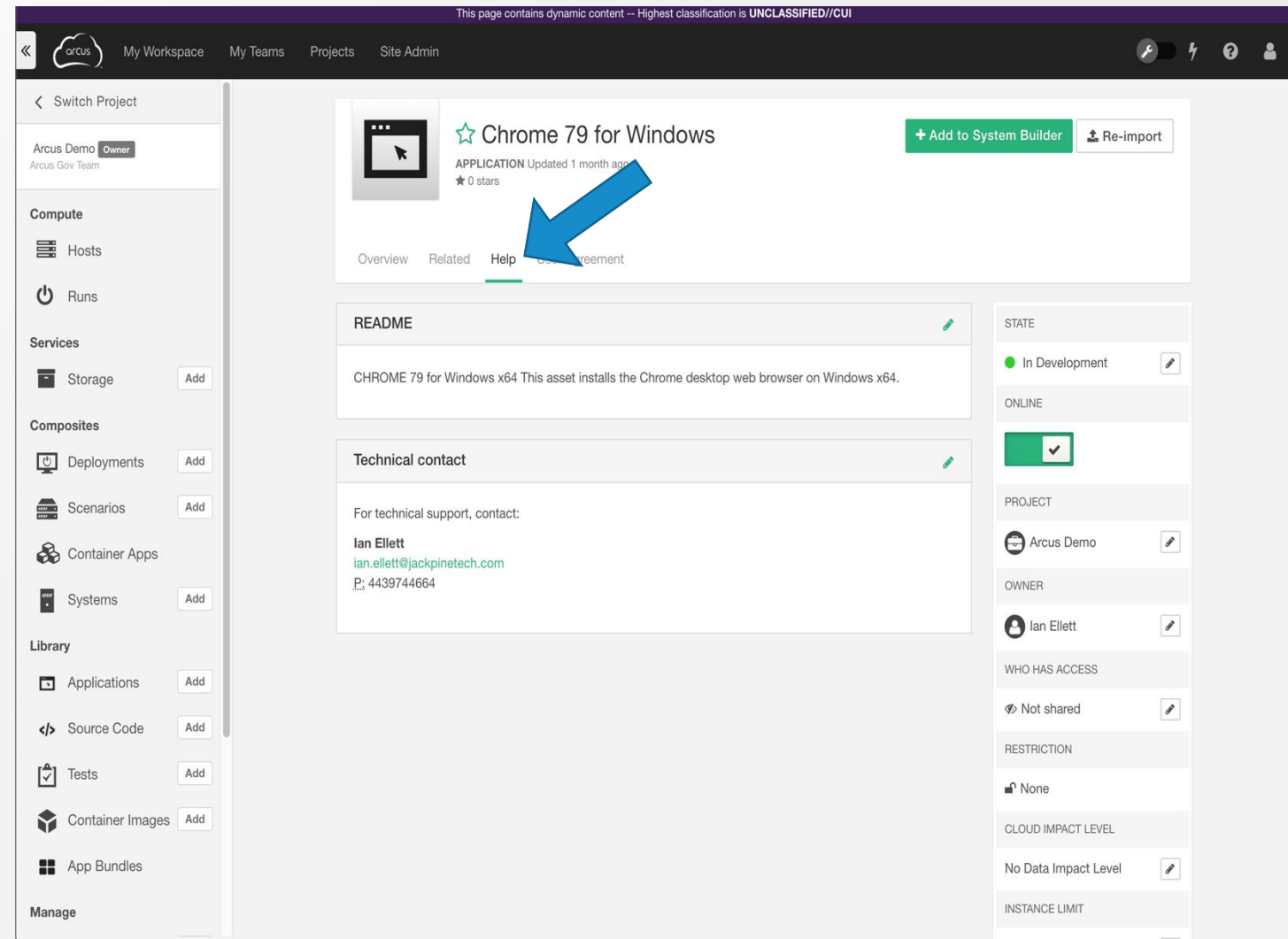
Level	Visibility
No one else (me)	Asset is not shared, only visible to you
Project	Members of the Asset owning Project
Partner Projects	Select from a list of “Trusted Projects”
Everyone	Anyone in the Community can view and use the Asset

- Default Visibility is “No one else”
- Change visibility via the edit (pencil) button
- Trusted Projects are set up by the Project Manager
- Maximize re-usability by using Community Assets in your Project!
- Deployments cannot be shared outside of a Project



Assets: Help/Readme

- Includes...
 - How to use Asset
 - Properties used
 - List of any prerequisites (Operating System, Asset dependencies)
- Exit Codes
- Uses Markdown (.md) formatting or plain text



This page contains dynamic content -- Highest classification is UNCLASSIFIED//CUI

arcus My Workspace My Teams Projects Site Admin

Switch Project

Arcus Demo Owner
Arcus Gov Team

Compute

- Hosts
- Runs

Services

- Storage Add

Composites

- Deployments Add
- Scenarios Add
- Container Apps
- Systems Add

Library

- Applications Add
- Source Code Add
- Tests Add
- Container Images Add
- App Bundles

Manage

Chrome 79 for Windows

APPLICATION Updated 1 month ago
★ 0 stars

+ Add to System Builder Re-import

Overview Related **Help** License Agreement

README

CHROME 79 for Windows x64 This asset installs the Chrome desktop web browser on Windows x64.

Technical contact

For technical support, contact:

Ian Ellett
ian.ellett@jackpinetech.com
P: 4439744664

STATE

- In Development

ONLINE

-

PROJECT

- Arcus Demo

OWNER

- Ian Ellett

WHO HAS ACCESS

- Not shared

RESTRICTION

- None

CLOUD IMPACT LEVEL

- No Data Impact Level

INSTANCE LIMIT



Assets: License/User Agreement

- Add applicable software license/user agreement or link to a public license
- This is **NOT** for license keys
- Uses Markdown (.md) formatting or plain text

The screenshot displays the Arcus workspace interface. At the top, a navigation bar includes 'Arcus', 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. A purple banner at the top right states 'This page contains dynamic content -- Highest classification is UNCLASSIFIED//CUI'. The main content area shows a project titled 'Chrome 79 for Windows' with an 'APPLICATION' label, updated 1 month ago, and 0 stars. A blue arrow labeled '1) Click "User Agreement"' points to the 'User Agreement' tab in the navigation bar. Below this, the 'Terms & Conditions' section is visible, containing the text: 'Google Chrome Terms of Service These Terms of Service apply to the executable components of Google Chrome. Source code for Google Chrome is available free of charge under open source software license agreements at https://code.google.com/chromium/terms.html. 1. Your relationship with Google 1.1 Your use of Google's products, software, services and... referred to collectively as the "Services" in this document and excluding any services provided by Google under a separate written agreement) is subject to the terms of a legal agreement between you and Google. "Google" means Google Inc., whose principal place of business is at 1600 Amphitheatre Parkway, Mountain View, CA 94043, United States. This document explains how the agreement is made up, and sets out some of the terms of that agreement. 1.2 Unless otherwise agreed in writing with Google, your agreement with Google will always include, at a minimum, the terms and conditions set out in this document. These are referred to below as the "Universal Terms". Open source software licenses for Google Chrome source code constitute separate written agreements. To the limited extent that the open source software licenses expressly supersede these Universal Terms, the open source licenses govern your agreement with Google for the use of Google Chrome or specific included components of Google Chrome.' A second blue arrow labeled '2) Click "Edit"' points to the 'Edit' button in the top right corner of the 'Terms & Conditions' section. The right sidebar contains metadata for the project, including 'STATE: In Development', 'ONLINE' status, 'PROJECT: Arcus Demo', and 'OWNER: Ian Ellett'.



Assets: Tags

- Choose up to three Tags from list
- The Tags list is managed by the Site Admin
- Disruptive Tags generate notifications to Site Admins when Asset is used

Edit Tags

i You may only choose up to 3 tags.

Application Services Collaboration Data Collection

Data Visualization Databases Developer Tools DevOps

Disruptive Testing Enterprise Export HealthCheck

Infrastructure jaic Migrate Mobile Networking Remain

Security & Compliance TBD Utilities Web

Done



Assets: Instance Limits

- Manages number of simultaneous times an Asset is deployed
- Use to manage software license compliance
- To set the Instance Limit...

The screenshot shows the Arcus console interface. A modal dialog is open, asking "How many instances of 'Chrome 79 for Windows' can be used simultaneously?". The dialog has two options: "Unlimited" (selected with a radio button) and "Fixed number:" (with an empty input field). Below the options are "Cancel" and "Confirm change" buttons. A blue arrow labeled "2) Set 'Unlimited' or a Fixed Number" points to the "Unlimited" option. Another blue arrow labeled "3) Confirm or Cancel" points to the "Confirm change" button. In the background, the console shows the asset details for "Chrome 79 for Windows", including system requirements (Memory: 512 MB, CPU: 1, Storage: 512 MB, Architecture: x64, 64-bit), file size (58 MB), vendor (Google), and version (79). A blue arrow labeled "1) Click 'Edit'" points to the "Edit" button in the "INSTANCE LIMIT" section of the asset details.



Assets: Cloud Impact Level

- Set the FedRamp Data Impact Level for an Asset
- Assets cannot be deployed into a Cloudspace that does not support that data Impact Level or higher
- Cloudspace Administrators set the data Impact Level
- To set the Impact Level...

This page contains dynamic content -- Highest classification is UNCLASSIFIED//CUI

arcus My Workspace My Teams Projects Sites

Switch Project

Arcus Demo Owner
Arcus Gov Team

Compute

- Hosts
- Runs

Services

- Storage Add

Composites

- Deployments Add
- Scenarios Add
- Container Apps
- Systems Add

Library

- Applications Add
- Source Code Add
- Tests Add
- Container Images Add
- App Bundles

Manage

- Projects Add

Overview

Asset 113449 Description Placeholder

Platform Unknown

System Requirements Memory: 512 MB CPU: 1
Storage: 512 MB Architecture: x64, 64-bit

File Size 58 MB

Vendor Google

Version 79

Files Update Download

Installation Script
install_chrome.cmd

LICENSE
README
asset.properties
media/

STATE

- In Development

ONLINE

-

PROJECT

- Arcus Demo

OWNER

- Ian Elett

WHO HAS ACCESS

- Not shared

RESTRICTION

- None

CLOUD IMPACT LEVEL

-

INSTANCE LIMIT

- Unlimited

HISTORY

Edit Impact Level

If specified, this value will restrict the installation and deployment of this asset into Cloudspaces whose declared impact level is no higher than the specified value.

No Data Impact Level

Cancel Save

2) Set "Impact Level"

3) Click "Save"

1) Click "Edit"



Assets: ITAR Restriction

- Set at the Project level
- Cannot share ITAR Assets at the Community level
- ITAR Restrictions carry through to Composite Assets
- Once something is ITAR restricted, it cannot be undone
- To set the ITAR Restriction, see the image to the right...

This page contains dynamic content -- Highest classification is UNCLASSIFIED//CUI

arcus My Workspace My Teams Projects Site Admin

Switch Project

Arcus Demo **Owner**
Arcus Gov Team

Compute

- Hosts
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Services

- Storage

Composites

- Deployments
- Scenarios
- Container Apps
- Systems

Library

- Applications
- Source Code
- Tests
- Container Images
- App Bundles

video-demo
1 member · No restriction

1) Select "Manage" → ...

Overview Runs Members

Basic Info

Cloudspaces

Trusted Projects

Integrations

Basic Info

Name

Description

Visibility Private
This project can only be viewed by members.

Default User Role Standard Express

Sharing Restrictions

Restrictions govern the sharing of resources between projects. Once a project is made restricted, its resources can no longer be shared with the community or other non-restricted projects.

Adding a restriction is an irreversible action and cannot be undone.

ITAR restricted ← 2) Turn on ITAR

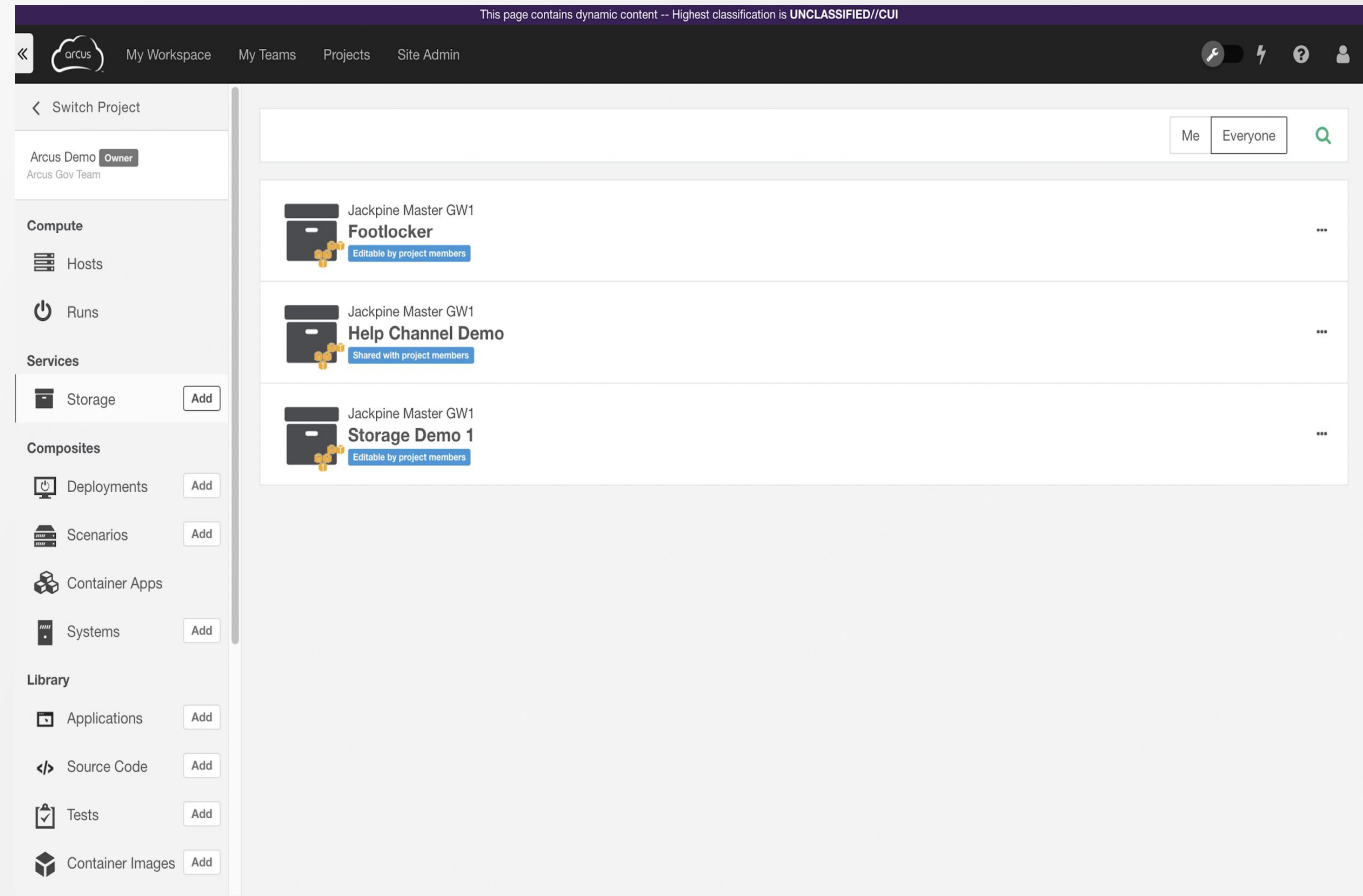




Storage Service

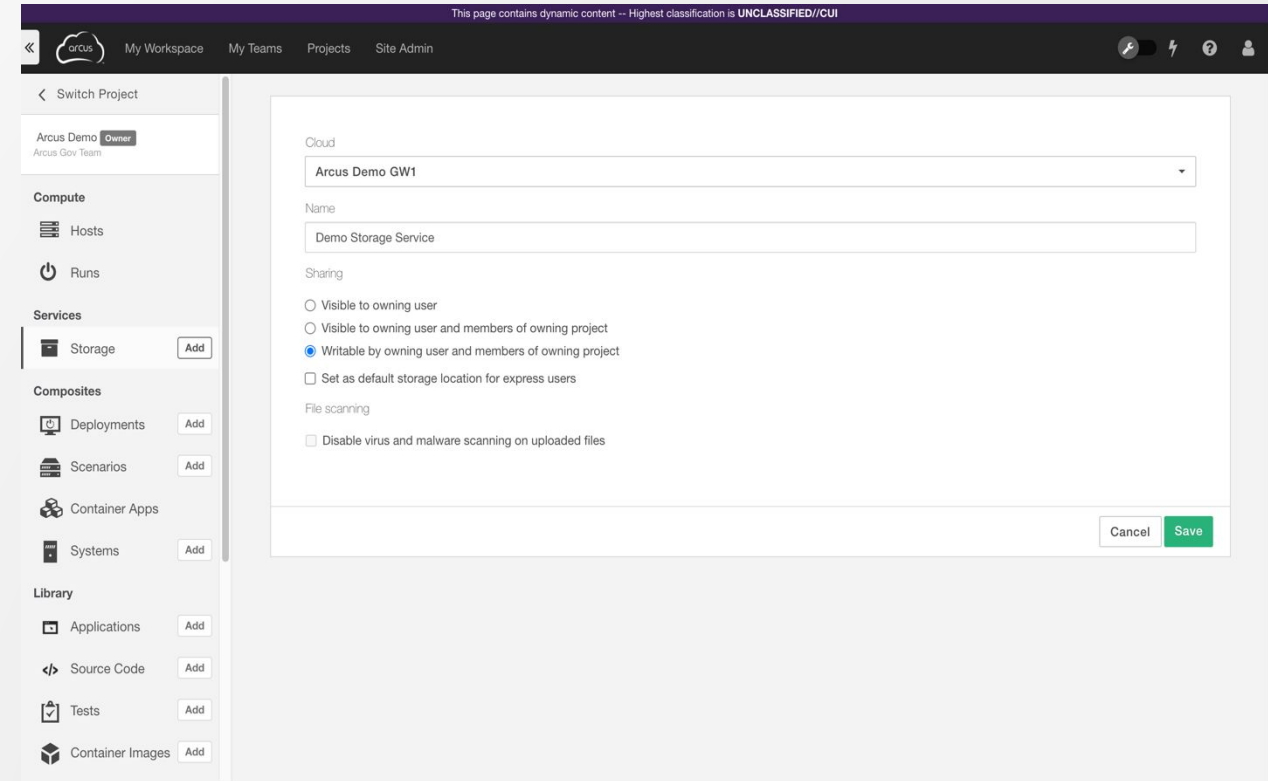
Storage: Storage Service

- Use the **Data Storage Service** to create storage resources in your chosen cloud provider (e.g. an Amazon S3 bucket)
- Create and manage these resources via the Arcus UI
- Upload and download files up to 4GB in size



Storage: Creating

- Locate the **Storage** section under the services header in the main menu
- Click the **Add** button next to **Storage**
- Select a cloudspace
- Enter a name for your bucket
- Select the access controls for your bucket



The screenshot shows the Arcus web interface for creating a storage bucket. The top navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The main content area is titled 'Switch Project' and shows the 'Arcus Demo' project selected. A sidebar menu on the left lists various services: Compute (Hosts, Runs), Services (Storage, Add), Composites (Deployments, Scenarios, Container Apps, Systems), and Library (Applications, Source Code, Tests, Container Images). The 'Storage' service is selected, and the 'Add' button is visible. The main form area contains the following fields and options:

- Cloud:** A dropdown menu with 'Arcus Demo GW1' selected.
- Name:** A text input field containing 'Demo Storage Service'.
- Sharing:** Three radio button options:
 - Visible to owning user
 - Visible to owning user and members of owning project
 - Writable by owning user and members of owning project
- Set as default storage location for express users
- File scanning:** Disable virus and malware scanning on uploaded files

At the bottom right of the form, there are 'Cancel' and 'Save' buttons.



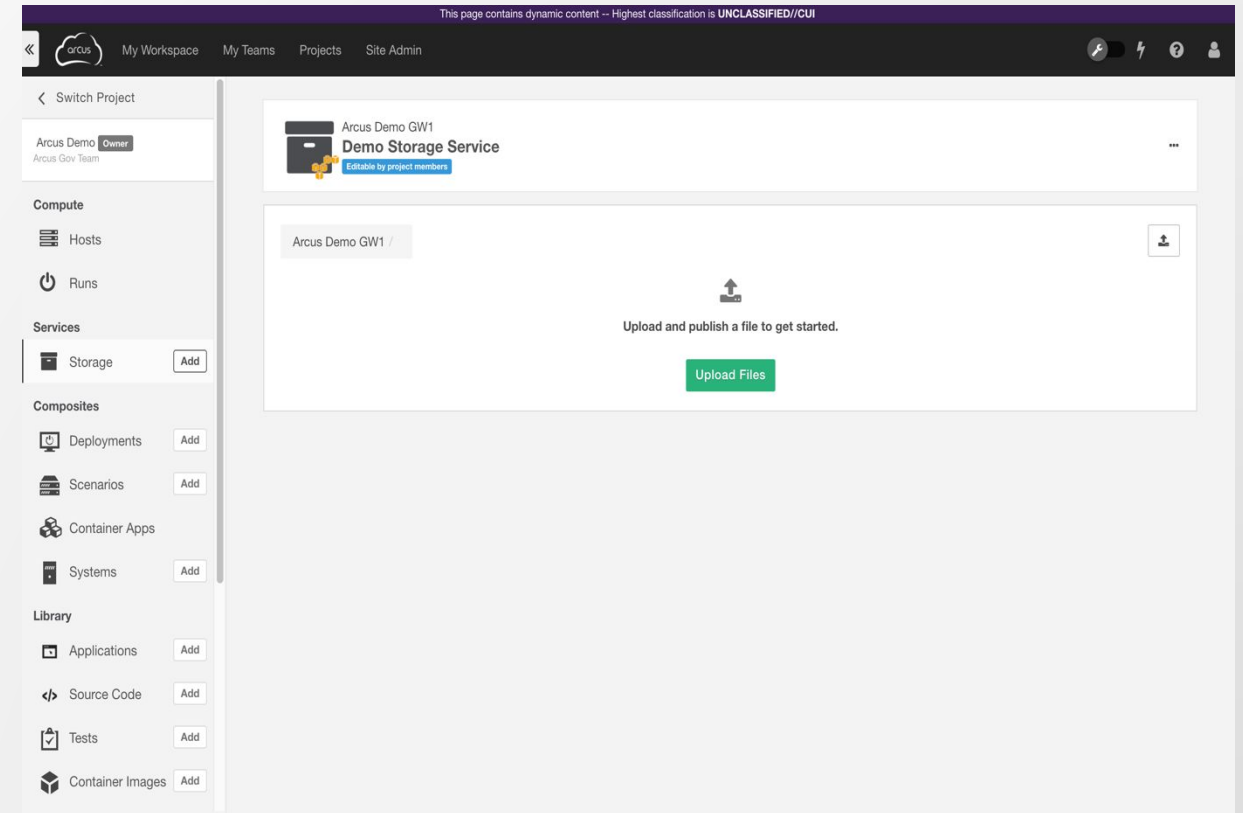
Storage: Upload & Download Files

■ Uploading

- Select your bucket
- Click **Upload File** and choose a file from your local system, or simply drag and drop the file

■ Downloading

- Select your bucket
- Select the file you wish to download
- Click the **Download** icon in the upper right of the page
- Click the link in the pop-up window to download your file.

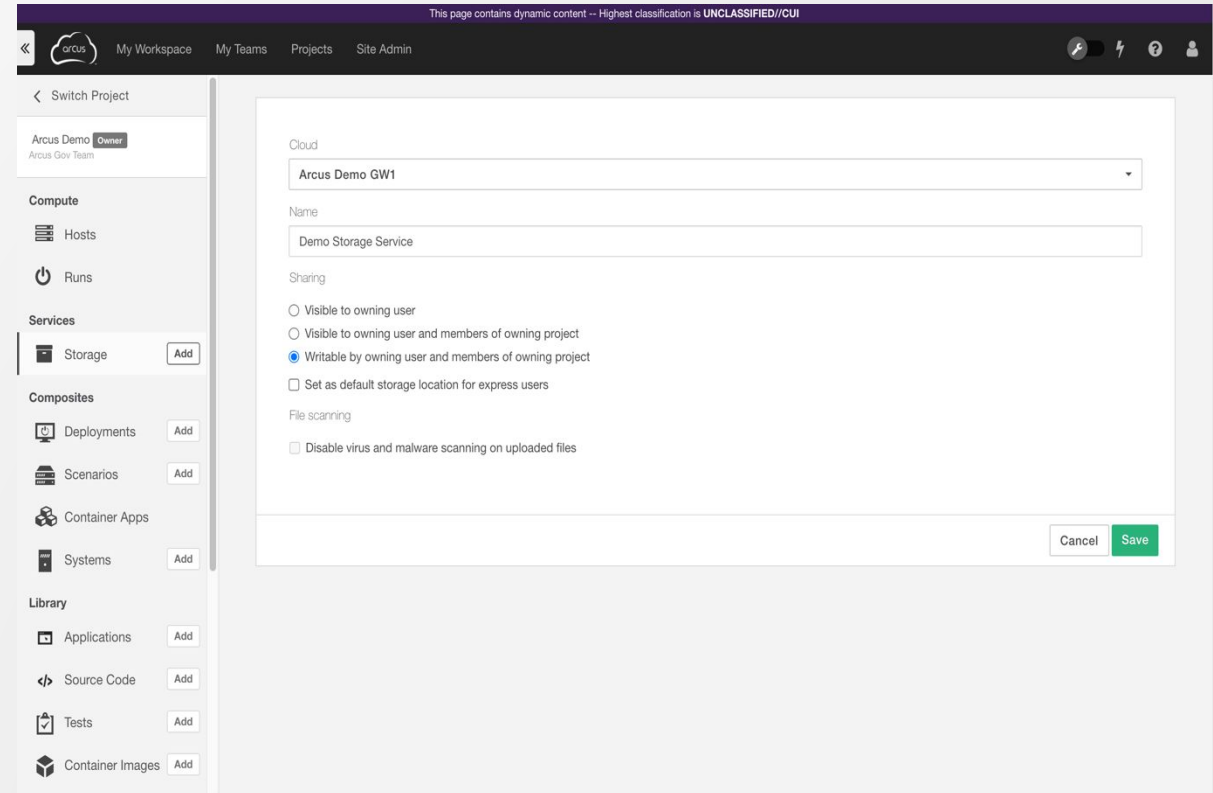


The screenshot displays the Arcus web interface for managing storage. At the top, a navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. A sidebar on the left lists various services: Compute (Hosts, Runs), Services (Storage), Composites (Deployments, Scenarios, Container Apps, Systems), and Library (Applications, Source Code, Tests, Container Images). The main content area shows the 'Demo Storage Service' for 'Arcus Demo GW1'. A central message prompts the user to 'Upload and publish a file to get started.' with a prominent green 'Upload Files' button. A small download icon is visible in the top right corner of the main content area.



Storage: Other Features

- Storage Service Buckets can be set up for Express Users
 - The bucket permissions will need to be set to **Writable**
 - The bucket permissions will need to be set as the **Default** for Express Users
- Data Storage Service Malware Scanning
 - By default, all uploaded files are scanned for malicious elements, viruses, and malware
 - Team Managers can disable this scanning as desired for testing or malware uploads

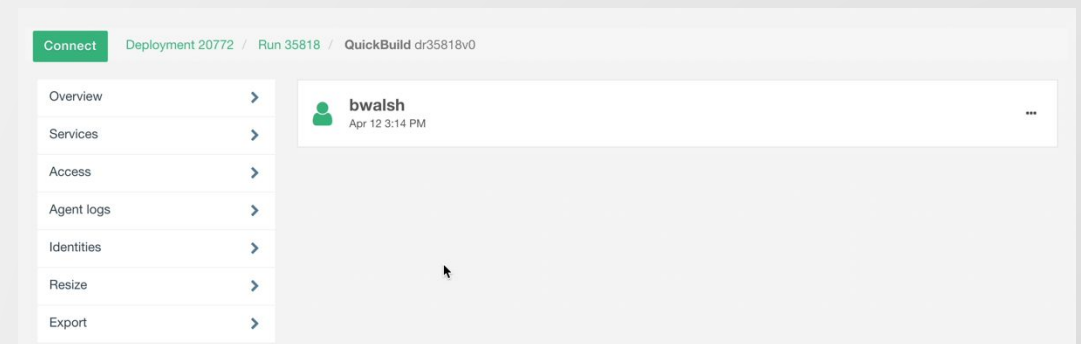
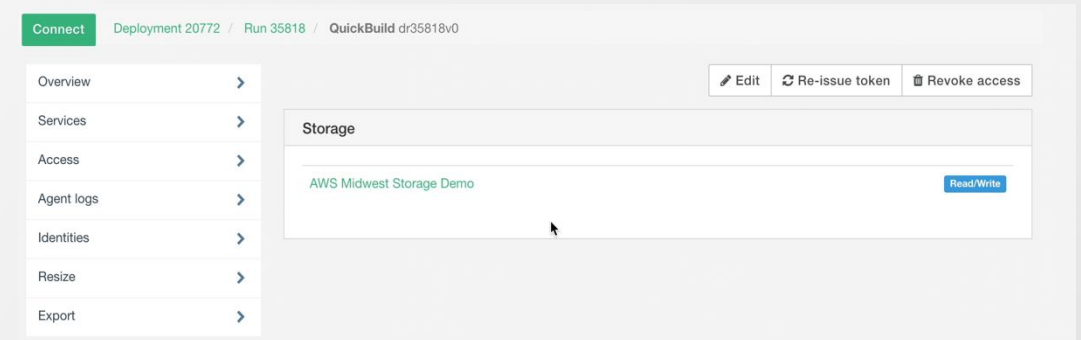


The screenshot displays the Arcus console interface for configuring a Storage Service bucket. The top navigation bar includes "My Workspace", "My Teams", "Projects", and "Site Admin". The main content area is titled "Switch Project" and shows the "Arcus Demo" project. The left sidebar lists various services: Compute (Hosts, Runs), Services (Storage), Composites (Deployments, Scenarios, Container Apps, Systems), and Library (Applications, Source Code, Tests, Container Images). The "Storage" service is selected, and the configuration form is visible. The form includes a "Cloud" dropdown menu set to "Arcus Demo GW1", a "Name" field containing "Demo Storage Service", and "Sharing" options. The "Writable by owning user and members of owning project" option is selected. There is also a "File scanning" section with a checkbox for "Disable virus and malware scanning on uploaded files". The form concludes with "Cancel" and "Save" buttons.



Storage: Credentials

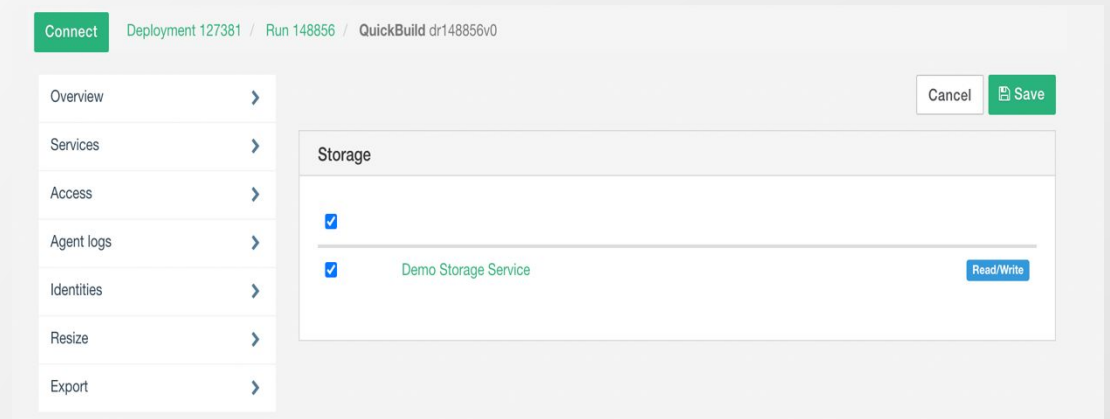
- Credentials (tokens) can be generated with Arcus to access storage services directly from a VM:
 - These credentials are unique to users and reflect their roles and permissions
 - How long these credentials last is determined by the cloud storage provider
- Adding a storage service to a virtual host and obtaining credentials creates an **Identity**.
- An Identity allows users to securely access the resources in a storage service from a specific virtual host
- If you are the owner of the Deployment Run or a manager, you can see and manage all of the identities associated with a given Deployment Run host.



Storage: Generating Credentials

■ Generating Credentials

- Launch a Deployment Run into a cloudspace that has an available storage service. If your deployment run has no storage service available, you can create one
- Select **Services** on the host options page and click the the desired service (or add a service if none exists)
- Check the box next to the storage service you intend to access
- Click **Save**, which will show the credentials
- Note: Depending on the cloudspace where the host is deployed from, the credentials generated will differ.



Storage: Using Credentials

- With these credentials you can...
 - List files in storage services
 - Download existing files from a storage service
 - Upload new files to a storage service
- You will need to add these credentials into a third-party application or service service, such as:
 - AWS CLI
 - Azure CLI
 - Jupyter Notebooks

```
__|_  __|_ )  
__| (  __| /  Amazon Linux 2 AMI  
__|\_  __|__|  
  
https://aws.amazon.com/amazon-linux-2/  
[bwalsh@ip-172-16-10-102 ~]$ aws configure  
AWS Access Key ID [None]: _____  
AWS Secret Access Key [None]: _____  
Default region name [None]: us-east-2  
Default output format [None]:  
[bwalsh@ip-172-16-10-102 ~]$
```

```
[bwalsh@ip-172-16-10-102 ~]$ aws s3 ls s3://aws-midwest-storage-demo-eelle7abcfa84cb  
2021-04-12 18:50:27 2193 IWITW.rtf  
2021-04-12 18:50:33 2789 QPGWMH.rtf  
[bwalsh@ip-172-16-10-102 ~]$ aws s3 cp s3://aws-midwest-storage-demo-eelle7abcfa84cb/IWITW.rtf IWITWdownload.rtf  
download: s3://aws-midwest-storage-demo-eelle7abcfa84cb/IWITW.rtf to ./IWITWdownload.rtf  
[bwalsh@ip-172-16-10-102 ~]$
```





Backups

Backups in Arcus

- Arcus backs up its infrastructure, asset library, and local storage service on a regular hourly/daily/weekly rotation
- Arcus backups include additional offsite copies
- All backup data is encrypted in transit and at rest
- Arcus does not back up user VMs
- Teams can implement any number of approaches to backing up their data

- Recommended Approach:
 - Separate stateless (applications, installers, media) from state-ful (user generated content) data



What Needs to be Backed Up

▪ Stateless Data

- Encompasses the tools, applications and configurations
- Utilizes the principles of Infrastructure as Code
- Any system can be rebuilt from scratch in any connected cloud provider, at any time.
- Allows for rapid cold, warm, and/or hot replacement as necessary.
- The infrastructure as code designs are stored in the Arcus library.

▪ Stateful Data

- Includes the user generated data on the systems – models, data sets, code, etc.
- The data lives in several locations – on user workstations , on the servers in the environment, and/or on storage servers accessible to users.
- This data is smaller and far more manageable to backup



Recommended Approach

- **Stateful Data:**
 - Redeploy it!
 - Stateless Data is stored in Arcus library which is backed up as part of Arcus operations
- **State-ful Data:**
 - Classic back up using back up software, simple copies, database dumps, etc.
 - Utilize code repositories (e.g. GitLab) when appropriate
 - Implement back up infrastructure
 - Export from Arcus
- **Where**
 - Another VM within the cloudspace
 - Arcus Storage Service.
 - Users can mix & match compute cloud with storage cloud for offsite backups

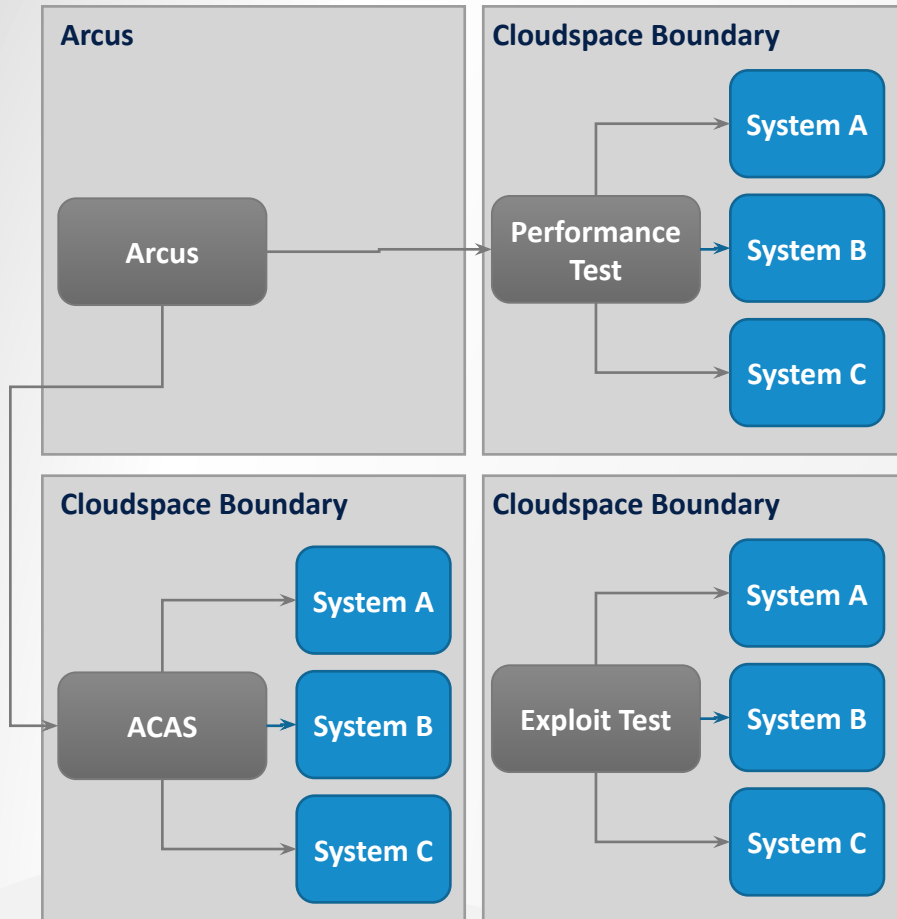




ElasticTest™

ETT: ElasticTest™

ElasticTest™



Benefits

- Built on-demand
- Tool is local so it can reach its target...
- ...but can also do WAN testing
- Less disruptive traffic
- Secure control over credentials used in evaluation
- Isolated activities
- Elastic resources
- Efficient use of license investment
- No management of system necessary
- No expertise required to execute but...
- Power users can still customize



ETT: ElasticTest™ Enabled Tools

- **Tenable Nessus** – vulnerability assessment
- **MicroFocus Fortify*** – source code analysis
- **Sonarlint** – source code analysis
- **SmartBear SoapUI** – web service & application
- **CA LISA*** – web service & application
- **Worksoft Certify*** – web service, full application
- **Web Exploit Suite** – suite of penetration tools
- **Script**
 - bash
 - Powershell
- ElasticTest SDK used for developing new tools



ETT: Using Test Assets

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arcus My Workspace My Teams Projects Site Admin

Switch Project

Arcus Demo **Owner**
Arcus Gov Team

Compute

- Hosts
- Runs

Services

- Storage **Add**

Composites

- Deployments **Add**
- Scenarios **Add**
- Container Apps
- Systems **Add**

Library

- Applications **Add**
- Source Code **Add**
- Tests **Add**
- Container Images **Add**

Test type Certification Tags More filters Me Everyone

7 TEST ASSETS Sort by: Newest

NESSUS TEST Sample Nessus 6.4.3 Scan Updated 1 month ago

NESSUS TEST Fortify Single SCM Updated 11 months ago

NESSUS TEST HUG Site Credentialed Scan Updated 1 year ago

FORTIFY TEST Steves cool fortify test Updated 1 year ago

FORTIFY TEST Steves Fortify Updated 1 year ago

FORTIFY TEST Steves Fortify Scan Updated 1 year ago

FORTIFY TEST T Fortify Scan Updated 2 years ago

2) Add to Deployment Builder

1) Click Tests





Managing Teams

Teams: Team Management Interface

- Finding the Team Manager Interface

- Navigate to your Team landing page using the site logo on the top left of the page
- Use the main navigation bar on the left to click the settings cog at the very bottom of the bar (you may have to scroll down to see this)

- General

- Add or Remove other Team Managers
- Update Team POC info
- Enable/disable Virtual Host Snapshot
- Enable/disable Remote Desktop Client Access

- Account

- View Team resources (maximum capacity, current package, etc.)
- Enable/disable asset bundle downloads
- Enable/disable power management
- Enable/disable storage service scan bypass

The screenshot displays the Arcus Team Management Interface. At the top, a navigation bar includes the Arcus logo, 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. A secondary bar shows 'Switch Project' and 'Arcus Demo' (Owner). The left sidebar lists various system components: Compute (Hosts, Runs), Services (Storage, Add), Composites (Deployments, Scenarios, Add), Container Apps, Systems (Add), Library (Applications, Source Code, Tests, Add), Container Images (Add), App Bundles, and Manage (Projects, Add). The main content area is titled 'Account' and shows the 'Team Profile' for 'Arcus Gov Team'. It includes fields for 'Team Name', 'Team Managers' (StephenDulany, michael.loebi.eca, walsh), 'CONTACT PERSON' (Peter Walsh, peter.walsh@jackpinetech.com), 'VIRTUAL HOST SNAPSHOT' (Enabled), and 'REMOTE DESKTOP CLIENT ACCESS' (Enabled). A 'Remote Desktop Session Duration' of 120 minutes is set. A 'Save changes' button is at the bottom.



Teams: Power Management

■ Power Management

- Allows Team Managers to set a schedule used to automatically power off and power on deployed virtual systems for cost and energy savings
- If enabled at the Team level, Project Owners can set up Power Scheduling at the Project level

■ Power Scheduling Settings

- **Economy mode**: Runs hosts only during business hours
- **Cost saving**: Power off hosts overnight and on the weekend
- **Weekend shutdown**: Power off hosts over the weekend
- **Custom schedule**: Define custom rules for powering off hosts when they are not needed

■ Power Scheduling Override

- Power scheduling can be temporarily overridden on individual deployment runs by users with sufficient permissions

Automated Power Management Enabled
Enabling automated power management allows projects to define cost-saving rules for automatically powering off hosts during specified times of day.

Options

Run options
If selected, systems will be shutdown and deleted as soon as they are provisioned and any included tests are completed.

Automatically release deployment resources

Error handling
If selected, systems will remain available for debugging. The requester will have to manually release the deployment run to free its resources.

Retain the deployment on error

Deployment run lock
Locked deployment runs cannot be released or canceled while locked. This setting can be changed later.

Off

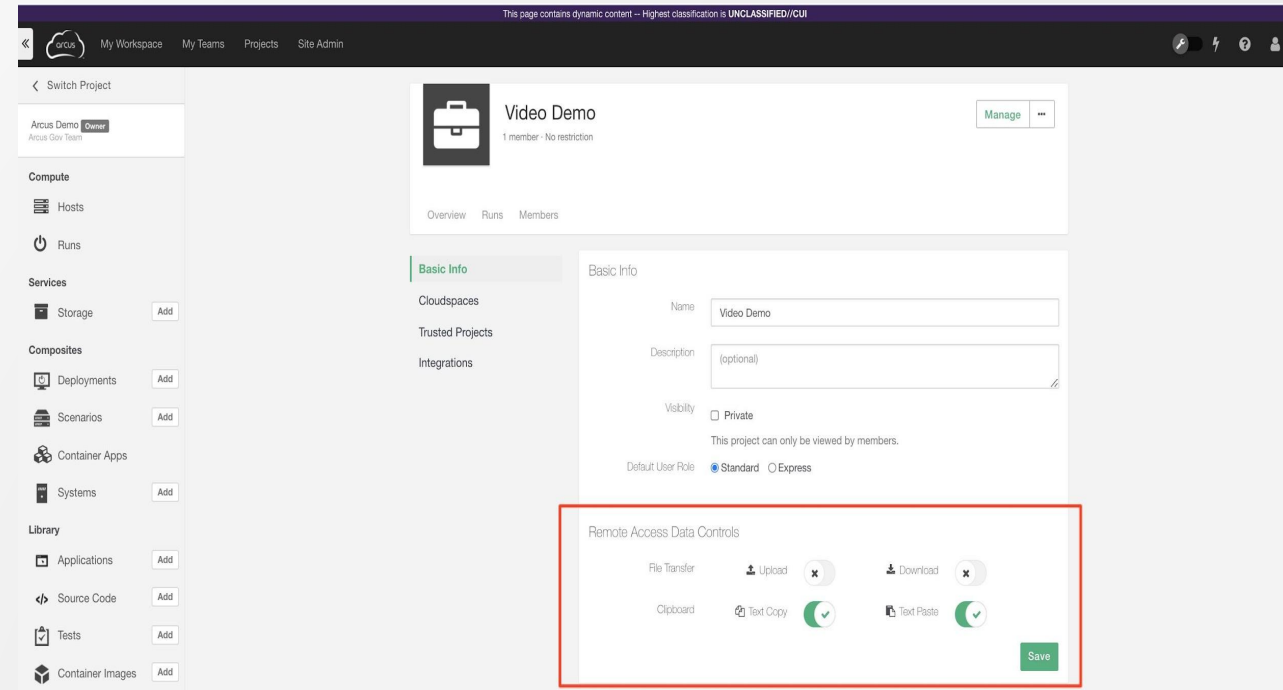
Automated Power Management
Automatically power off and power on deployed virtual systems for cost and energy savings.
No power schedule set for this run.
[Set one now?](#)

Cancel Next



Teams: Remote Access Controls

- Team Managers can restrict file transfer in RA sessions in projects they control.
- Controls exist for:
 - File upload
 - File download
 - Clipboard copy
 - Clipboard paste
- These controls protect proprietary files and allow for compliance with security policies
- Select the Project to be managed, click **Manage**, then toggle the desired control(s)
- Changes will take effect when the next remote access session is launched
 - (will not disrupt or change existing RA sessions)



The screenshot displays the Arcus Teams interface for managing a project named "Video Demo". The interface includes a navigation sidebar on the left with categories like Compute, Services, Composites, and Library. The main content area shows the "Basic Info" section for the project, with fields for Name, Description, and Visibility. Below this, the "Remote Access Data Controls" section is highlighted with a red box, showing four toggle controls: File Transfer (Upload and Download), and Clipboard (Text Copy and Text Paste). The Upload and Download toggles are currently turned off, while Text Copy and Text Paste are turned on. A "Save" button is located at the bottom right of the controls section.





Managing Projects

Projects: Management Interface

- Basic Info
 - Edit name, description
 - Set ITAR status
- Cloudspaces:
 - Connected resources
- Trusted Projects
 - Define which Projects users can shares Assets to
- Apps: Enable Slack integration

The screenshot displays the Arcus Projects Management Interface. At the top, a navigation bar includes 'My Workspace', 'My Teams', 'Projects', and 'Site Admin'. The main content area is titled 'Arcus Demo' and shows '20 members - No restriction'. A sidebar on the left lists various project components: Compute (Hosts, Runs), Services (Storage), Composites (Deployments, Scenarios), Container Apps (Systems), and Library (Applications, Source Code, Tests, Container Images, App Bundles). The 'Basic Info' section is active, showing fields for Name (Arcus Demo), Description (optional), and Visibility (Private). A 'Sharing Restrictions' section below contains a checkbox for 'ITAR restricted'. The interface is clean and modern, with a purple header and a light gray background.



Projects: Overview & Runs

- Project Dashboard
 - Activity
 - Resources used
 - Listing of all Runs
- Filters and search by:
 - Name
 - Status
 - Cloudspace
 - Duration
 - Request Date
 - User

The screenshot displays the Arcus project dashboard for 'Arcus Demo'. The interface includes a navigation sidebar on the left with categories like Compute, Services, Composites, Library, and Manage. The main content area shows a project overview with a 'Manage' button, tabs for Overview, Runs, and Members, and an activity graph. Below the graph, resource usage is summarized: CPU 16/Unlimited, Memory 34 GB/Unlimited, Storage 400 GB/Unlimited, and Hosts 4/Unlimited. A 'FILTERS' section shows 3 runs, with a table listing their status, name, and details.

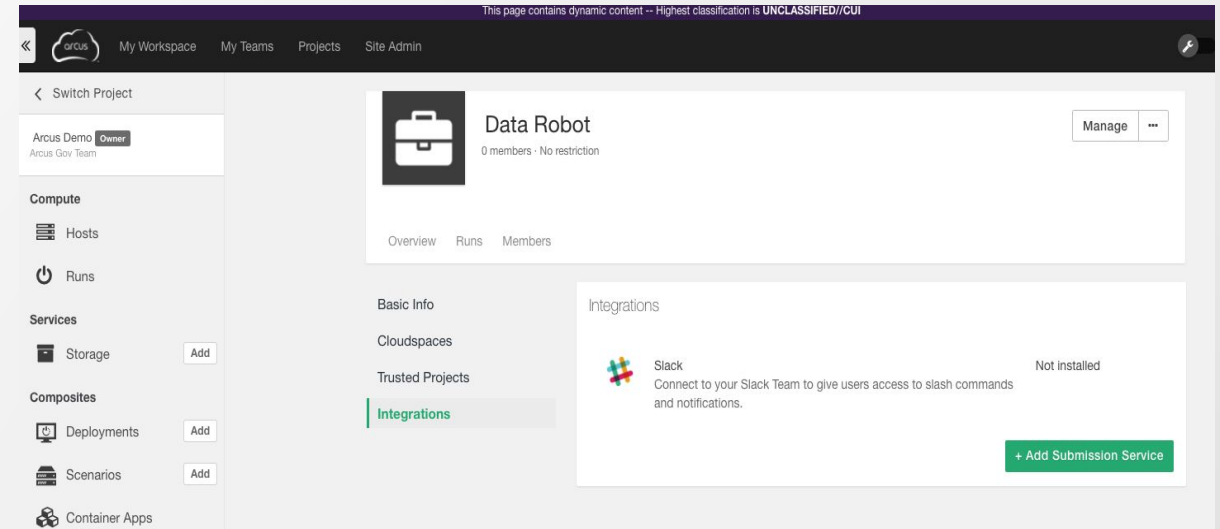
Filter	Value
CPU	16/Unlimited
Memory	34 GB/Unlimited
Storage	400 GB/Unlimited
Hosts	4/Unlimited

Run ID	Status	Hosts	Tests	Request Date
Run 146856 by bwalsh	Available	1	0	03:31:05
Run 146618 by StephenDulany	Available	1	0	0481:36:52
Run 145517 by StephenDulany	Available	2	0	050:12:54



Projects: Slack Integration

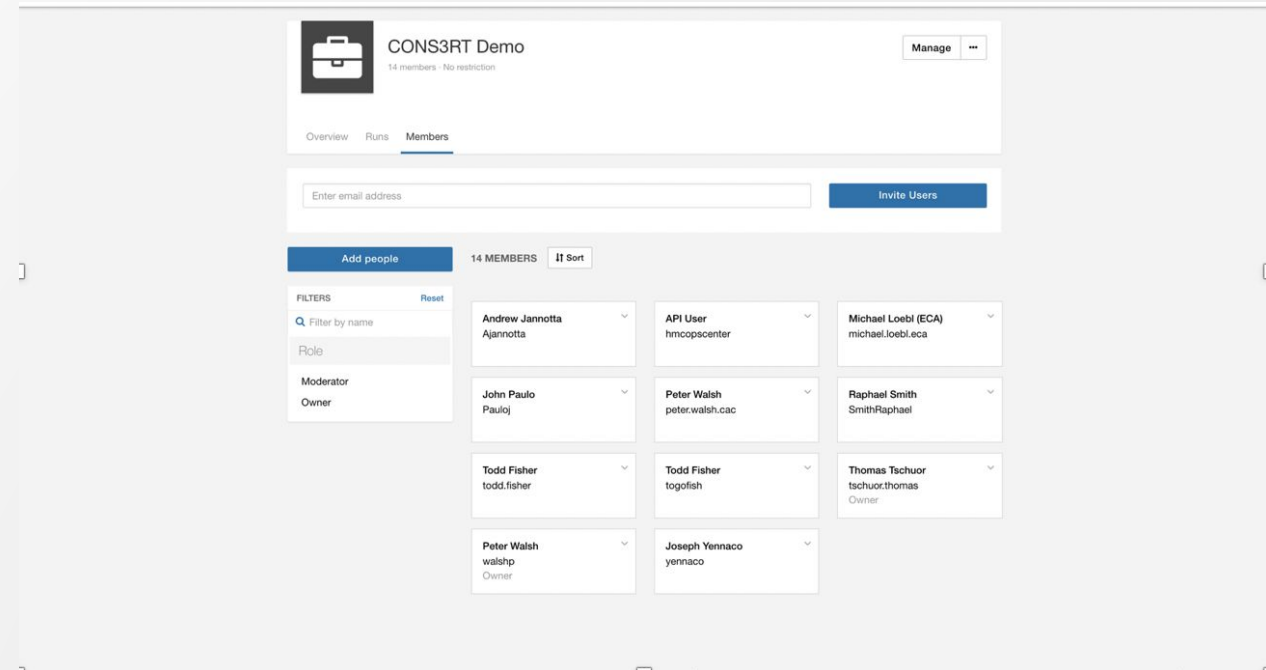
- If enabled by their Team Manager, Project Managers can connect their project to the Arcus Slack App
- Select the Project to be managed and click **Manage**
- Open the **Integrations** tab and select Slack
- Click **Connect to Slack** which will:
 - Authenticate your Slack team
 - Allow you to choose what Slack Channel your team would like notifications sent to
- Slack App Configuration currently consists of...
 - Integration Status
 - Notification Settings
 - Team Members



Projects: Manage Members

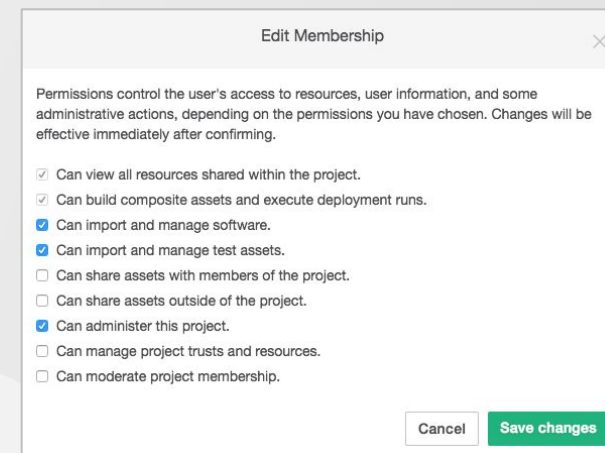
- Manage Membership:

- Add people* – add existing users
- Invite Users* – send email to enroll in site & join Project automatically



- Manage Access & Permissions:

- Click caret on user card
- Set the permissions for each member
- Remove user from Project



Projects: Manage Members (Express UI)

- Enabling the Express UI by default
 - As a Project Manager, use the toggle in Project Settings to set all new users as Express Users by default

- Role Management for existing users
 - Click caret on a user card from the Project User Management screen
 - Uncheck all but the first two greyed-out roles to set a user as an Express User

video-demo
1 member · No restriction

Manage ...

Overview Runs Members

Basic Info

Name video-demo

Description (optional)

Visibility Private

This project can only be viewed by members.

Default User Role Standard Express

Save

Edit Membership

Permissions control the user's access to resources, user information, and some administrative actions, depending on the permissions you have chosen. Changes will be effective immediately after confirming.

Can view all resources shared within the project.

Can build composite assets and execute deployment runs.





Support & Troubleshooting

Support

Support

- <https://arcus.mil/support>
- Submit a ticket through...
 - the *Support* link on the home page
 - the *Help* icon when signed in
- Help icon tickets provide more data on what the user was working on

Email

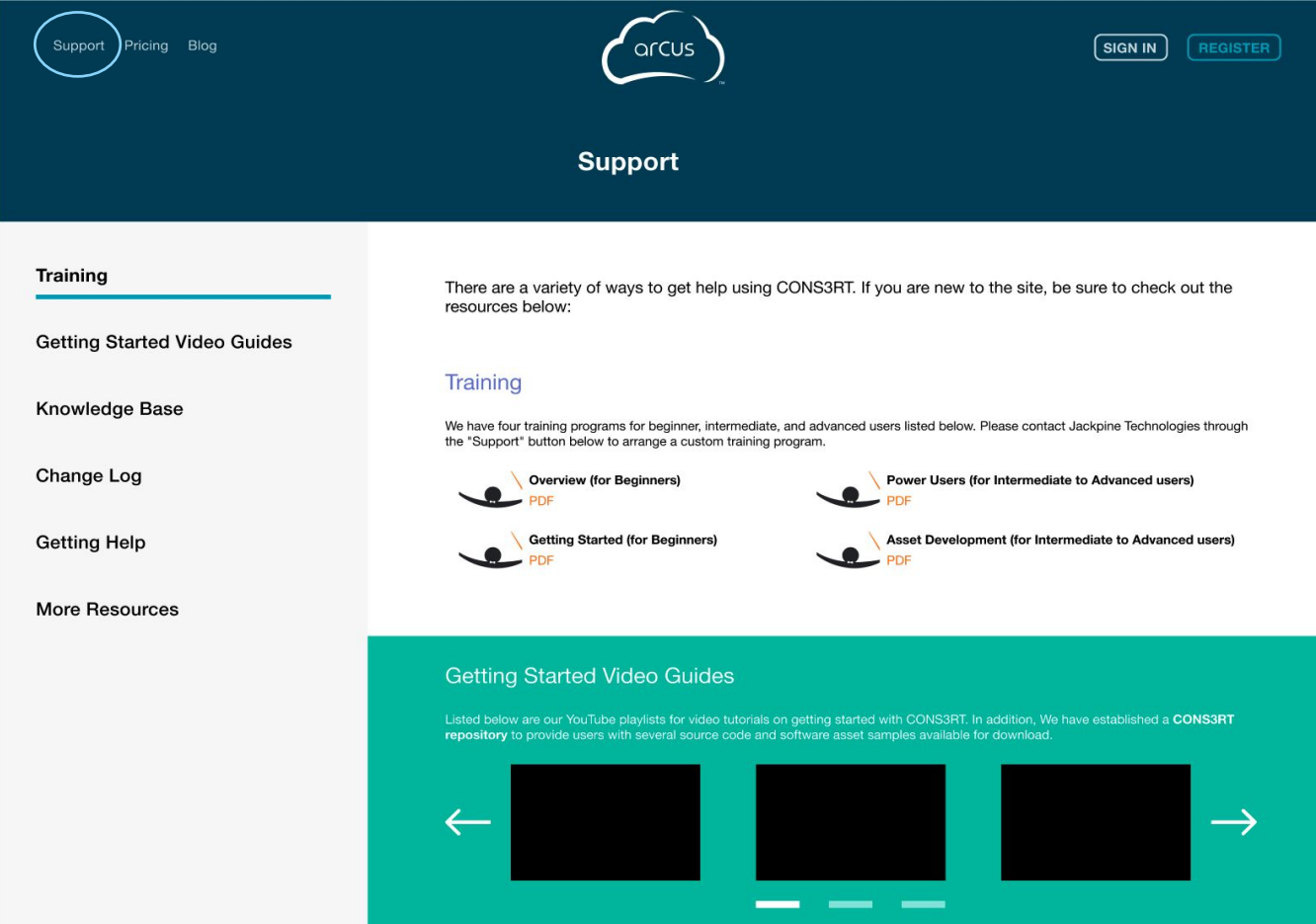
- support@arcus-cloud.io

Knowledge Base

- <https://arcus.mil/kb/>
- The Knowledge Base expands on all the topics covered in this training.

Github Sample Assets

- <https://github.com/cons3rt>

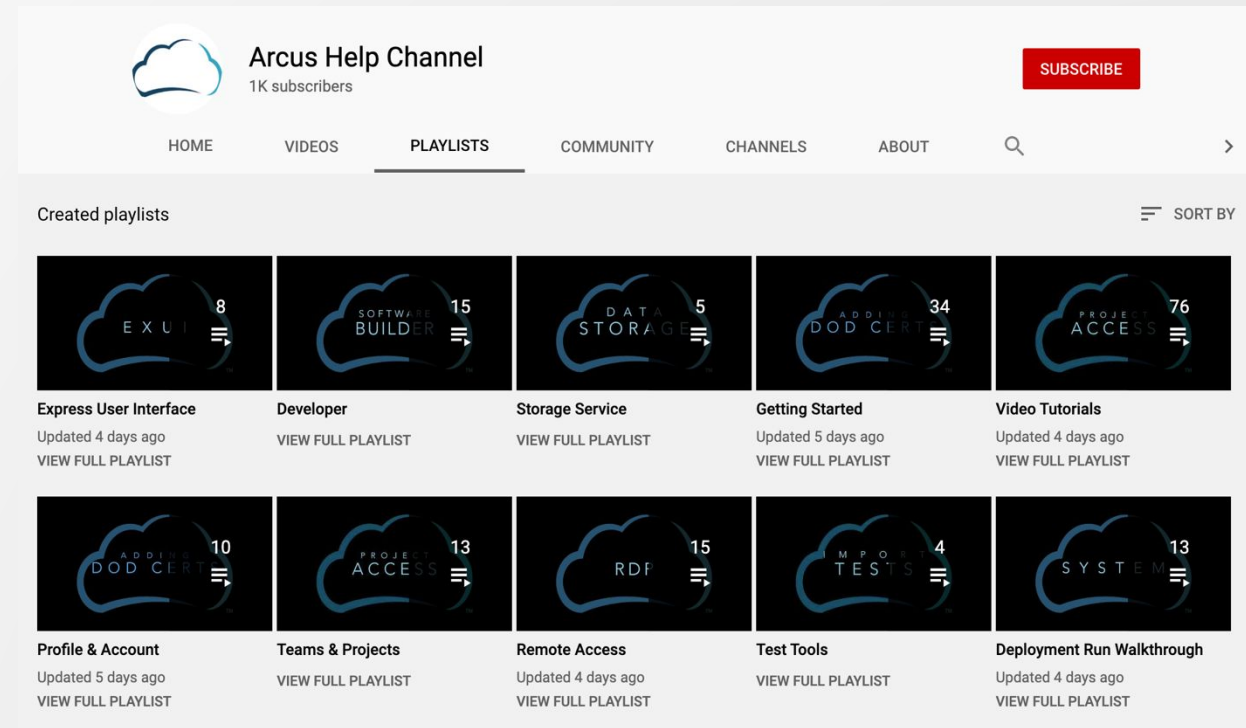


The screenshot shows the Arcus Support page. The header is dark blue with the Arcus logo and navigation links for Support, Pricing, and Blog. There are buttons for SIGN IN and REGISTER. The main content area is white with a dark blue sidebar on the left containing links for Training, Getting Started Video Guides, Knowledge Base, Change Log, Getting Help, and More Resources. The main content area has a heading 'Support' and a paragraph explaining that there are various ways to get help using CONS3RT. Below this, there is a 'Training' section with four PDF links: Overview (for Beginners), Power Users (for Intermediate to Advanced users), Getting Started (for Beginners), and Asset Development (for Intermediate to Advanced users). At the bottom, there is a teal section for 'Getting Started Video Guides' with a list of YouTube playlists and a repository link, and three video thumbnails.



Video Tutorials

- If you would like to see **Arcus** in action, feel free to check out the video tutorials:
 - On the Arcus Help Channel at <https://www.youtube.com/c/arcushelpchannel>
 - Embedded in the articles on our [Help Site](#)
- If you have any suggestions for future videos, let us know by submitting a ticket



The screenshot shows the YouTube channel page for 'Arcus Help Channel', which has 1K subscribers. The 'PLAYLISTS' tab is selected, displaying a grid of 10 video playlists. Each playlist card includes a thumbnail with a cloud icon and text, the number of videos in the playlist, the playlist title, the last update time, and a 'VIEW FULL PLAYLIST' link.

Playlist Title	Number of Videos	Last Updated
Express User Interface	8	Updated 4 days ago
Developer	15	Updated 4 days ago
Storage Service	5	Updated 4 days ago
Getting Started	34	Updated 5 days ago
Video Tutorials	76	Updated 4 days ago
Profile & Account	10	Updated 5 days ago
Teams & Projects	13	Updated 4 days ago
Remote Access	15	Updated 4 days ago
Test Tools	4	Updated 4 days ago
Deployment Run Walkthrough	13	Updated 4 days ago





Thank you!



arcus

TM