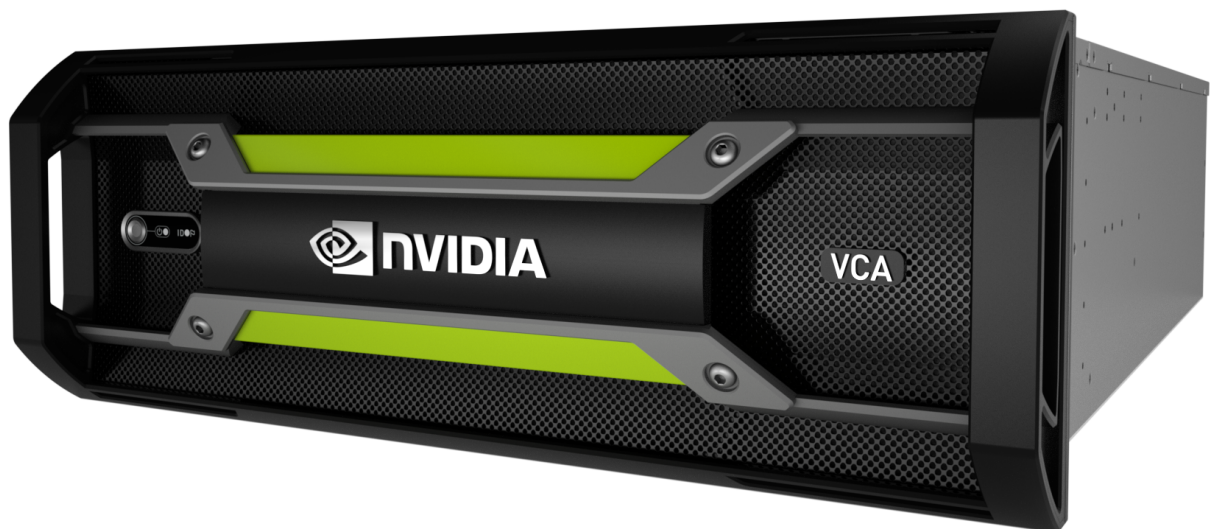


NVIDIA Quadro VCA Manager

User's and administrator's guide



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1 Introduction to VCA Manager

Purpose: VCA Manager is a pre-installed utility found on a Visual Computing Appliance (VCA). Use it to:

- 1 Reserve VCAs for your own use
- 2 Start an application on your reserved VCAs

To reserve your VCAs:

- 1 Open VCA Manager from a browser window.
- 2 Select the number of VCAs you want to reserve.
- 3 Select the software application you want to use.
- 4 Submit your request. The system reserves your VCAs for immediate use and starts the remote server.

At any time, you can change your VCA setup by releasing your current VCAs and reserving a different setup. Your VCAs are not automatically released when you log off so please remember to release them when you no longer need them.

Definitions:

- *Visual Computing Appliance (VCA)* is a network appliance with 10GigE and InfiniBand connections. A VCA harnesses the power of advanced NVIDIA GPUs to provide unparalleled computing performance.
- *VCA Pool* represents the available resources that you can reserve — VCAs and installed software.
- *VCA reservation* represents the VCAs and software you successfully reserve.

2 Connecting to VCA Manager

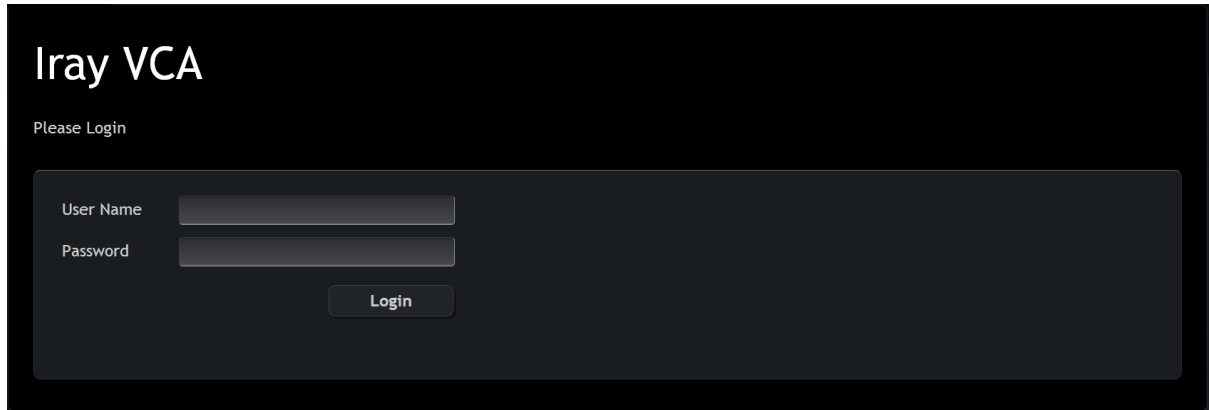
From your browser, enter the name or IP address of the VCA you want to connect to. The format is `https://[name or IP address of the VCA]`.

The VCA Manager login window is displayed if the connection is successful.

3 Logging in to VCA Manager

3.1 VCA Manager Login window: Overview

The VCA Manager login window contains the following input fields and buttons:



VCA Manager Login window

- **User name:** Type your user name. User names are assigned by the administrator of VCA Manager.
- **Password:** Type your password. Your initial password is assigned by the administrator of VCA Manager. However, you can change your password at any time. A password can contain any combination of alphabetic, numeric, and special characters. The maximum length is 20 characters.
- **Login:** Click this button to submit your user information to the system for validation.

3.2 Logging in to VCA Manager: Procedure

To log in to VCA Manager, type your user name and password and click the Login button.

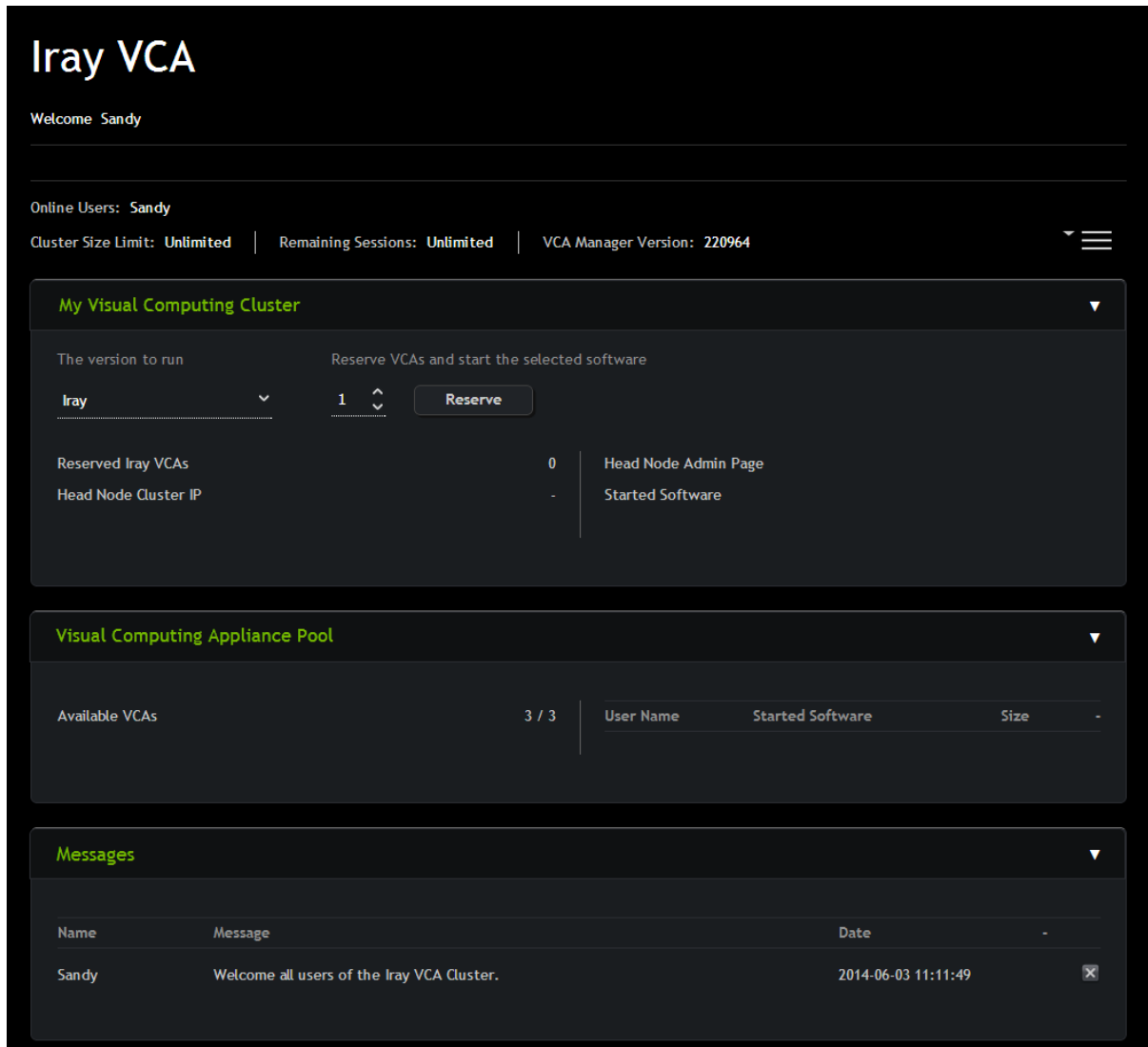
- If you log in successfully, the VCA Manager Overview window is displayed.
- If login fails, contact the administrator of VCA Manager.

4 Reserving VCAs

This chapter explains how to reserve VCAs, and a software application such as NVIDIA Iray, which is designed for efficient use of one or more VCAs.

4.1 VCA Manager Overview window: Overview

The following figure shows the VCA Manager Overview window:



Overview window

Immediately under the page title, a snapshot of the user's status is provided.

The Overview window itself is divided into three parts or panels:

- **My Visual Computing Cluster** where you reserve the VCAs and software application you want to use
- **Visual Computing Appliance Pool** which provides an overview of the VCA Pool
- **Messages** where important information about the VCA Pool and its use is posted

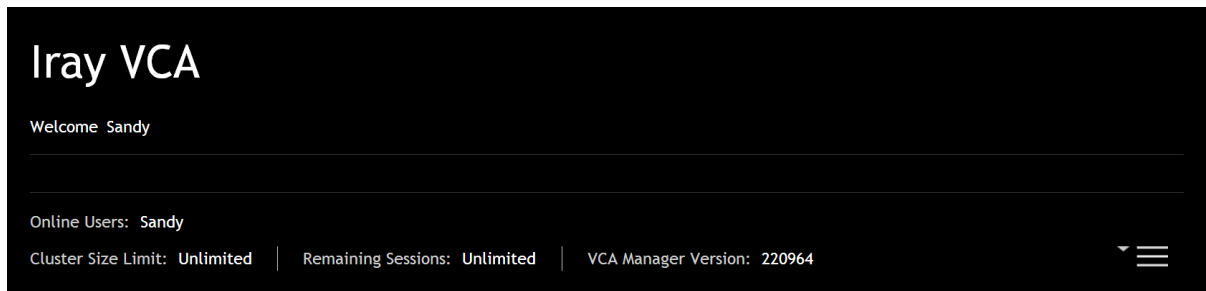
Note

To expand or collapse a panel, select its name or the icon to the far right of the title.

The following sections describe the contents of the Overview window in more detail.

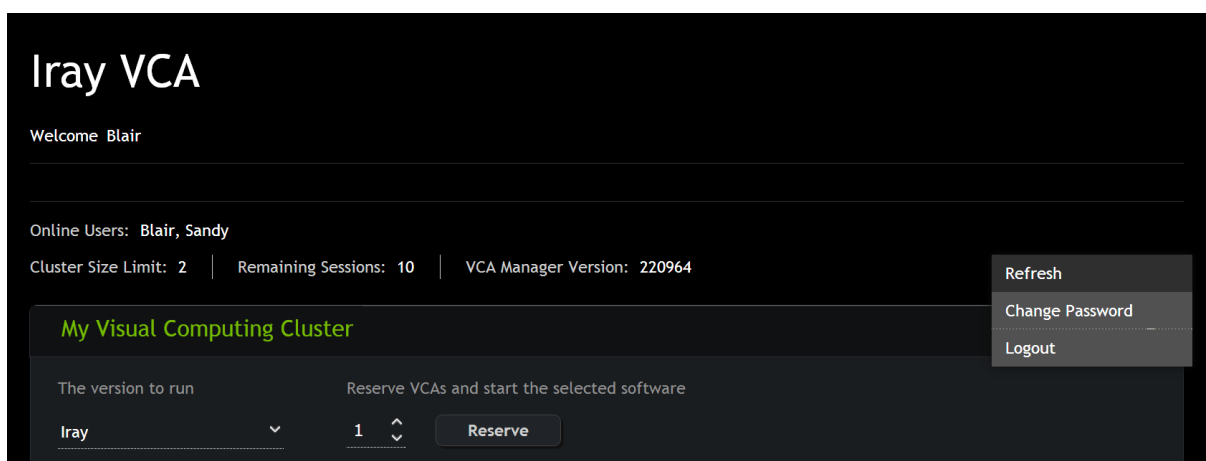
4.1.1 User status

Under the window title, important information about your usage of VCA Manager and any restrictions about using the VCA Pool are displayed:



Overview window: User status

- **Welcome:** The user name you used to log in
- *Message of the day:* Set by the administrator. This field may be left blank.
- **Online Users:** The names of all users currently logged in.
- **Cluster Size Limit:** The maximum number of VCAs that you can reserve.
- **Remaining Sessions:** The remaining number of reservations that you are allowed.
- *Logging out:* When you hover your mouse over the menu icon on the right, the menu is displayed. To logout, select the Logout command.



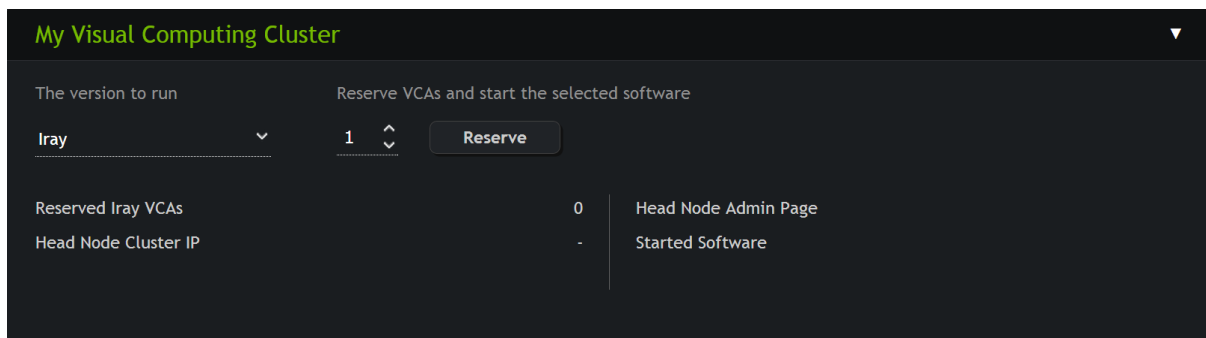
User menu

Note

- Logging out does not release your VCAs
- The other commands in the menu support tasks performed by administrators of VCA Manager

4.1.2 My Visual Computing Cluster

From this panel, you define a VCA reservation and submit it.



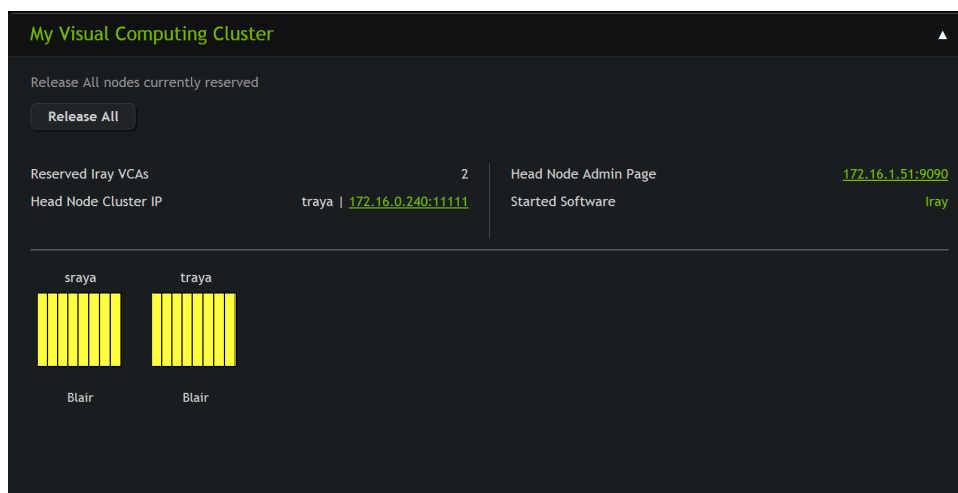
My Visual Computing Cluster panel: Before reserving VCAs

- Click the Reserve button to submit your request to the system.

Note

After you have successfully reserved your VCAs, a Release All button is displayed. To change your set up, you must release your VCAs and then submit a new reservation request.

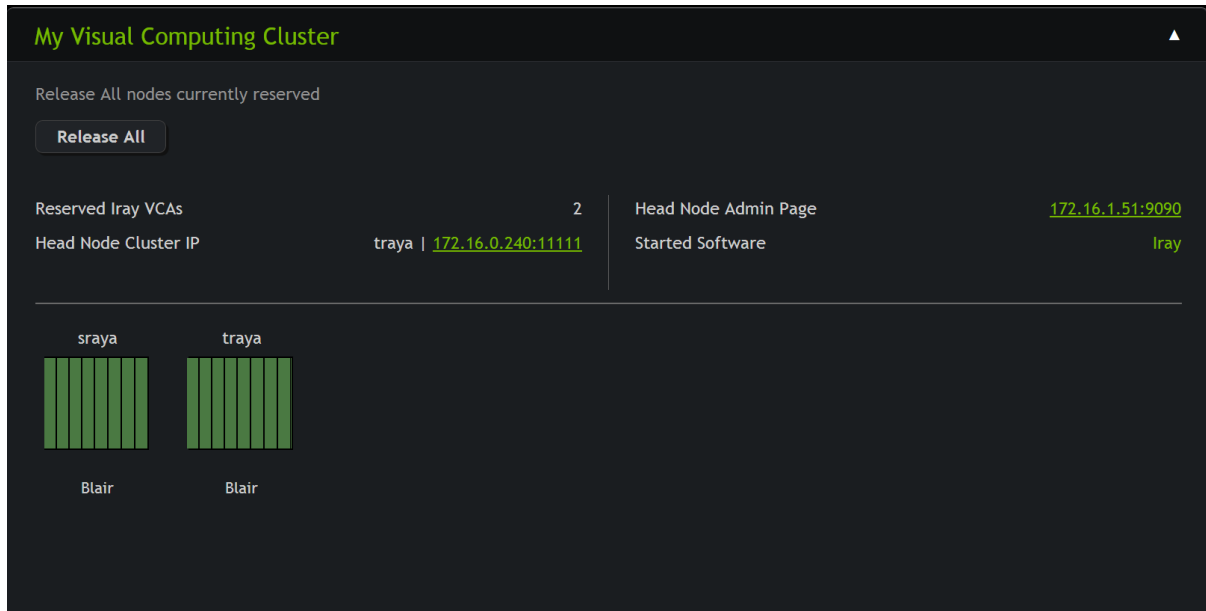
When reserved, the VCAs change from grey to yellow:



My Visual Computing Cluster panel: VCAs reserved

If you cannot see the VCAs you reserved, then expand the panel by selecting the title "My Visual Computing Cluster" or the expand/collapse icon to the right of the title.

Iray users only: After the process for starting Iray is completed, the VCAs change from yellow to green.



My Visual Computing Cluster panel: VCAs ready

When your reservation is successful, the following fields display information about your VCAs:

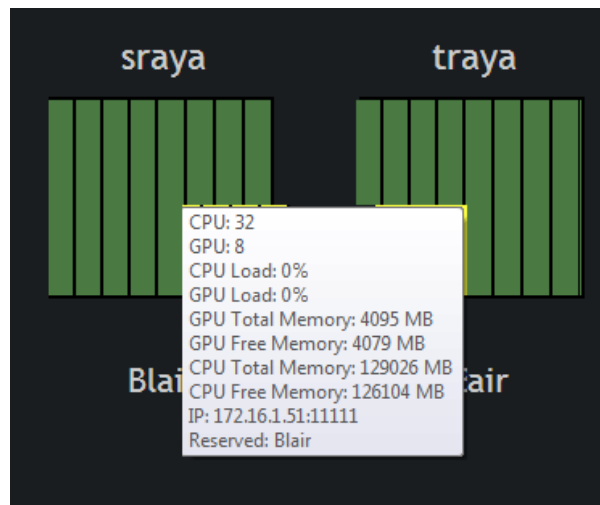
- **Reserved:** The number of VCAs you reserved.
- **Head Node Cluster IP:** The IP address that you copy and paste into your client application.
- **Head Node Admin Page:** The IP address for the console, which provides detailed technical information about your VCAs. This information is intended for debugging, which is not covered in this document.
- **Started Software:** The application that you started, if any.

Note

If you have not reserved any VCAs or you have released your VCAs, default values are set to zero or null.

Below these fields, boxes which represent all the VCAs you reserved are displayed. One box represents one VCA. Above each box is the unique name of the VCA. Underneath is your user name.

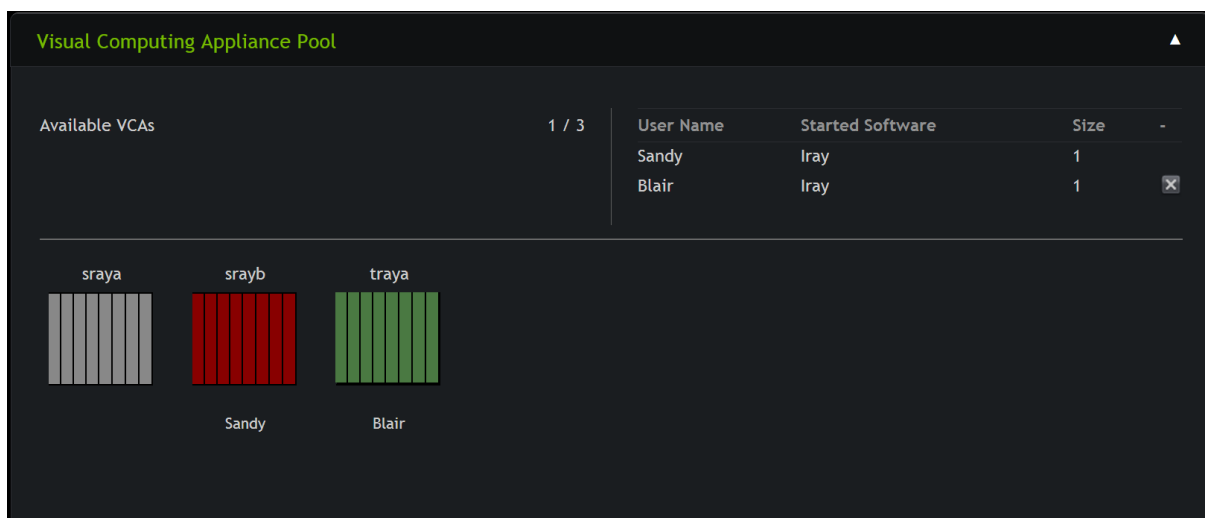
When you hover over a VCA, system activity information about the VCA is displayed. You can use this information to check whether or not a VCA is operating correctly.



My Visual Computing Cluster panel: System activity for a VCA

4.1.3 Visual Computing Appliance Pool

This panel displays information about the VCA Pool: which VCAs are free and which are reserved and by whom.



Visual Computing Appliance Pool panel

The following information is displayed:

- **Available VCAs:** The number of VCAs that are currently free / The total number of VCAs in the pool
- **List of all VCA users:** A list all users that have reserved VCAs, the number of VCAs reserved by each person, and the software they are running. To release your VCAs, click the X to the right of the Size column. You cannot release the VCAs of other users unless you have administrator's privileges.

Below these fields, boxes which represent all VCAs in the pool are displayed. One box represents one VCA. Above each box is the unique name of the VCA. If a VCA is reserved, the user name is displayed underneath.

VCAs are color coded:

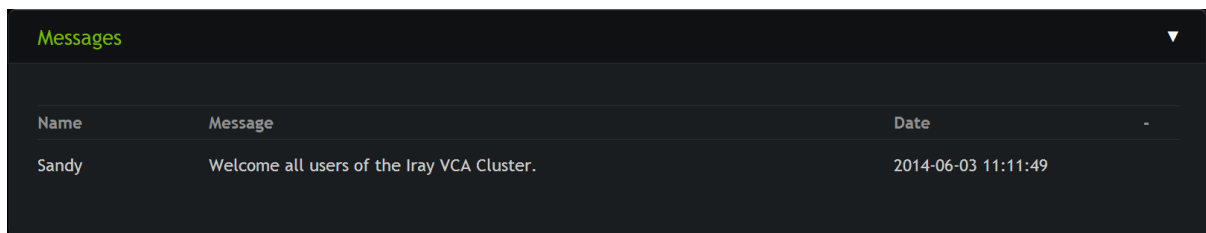
- *Grey*: Unreserved
- *Green*: This color is reserved for Iray users. *Status*: OK. The process for starting Iray is completed; the VCA is reserved for you and running correctly.
- *Yellow*: Reserved by you. *Status*: OK. For Iray users, yellow indicates that Iray is still starting or that the VCA needs attention.
- *Red*: Reserved by others.

Note

If the visual representation of the VCAs is hidden, expand the panel by selecting the title "Visual Computing Appliance Pool" or the expand/collapse icon to the right of the title.

4.1.4 Messages

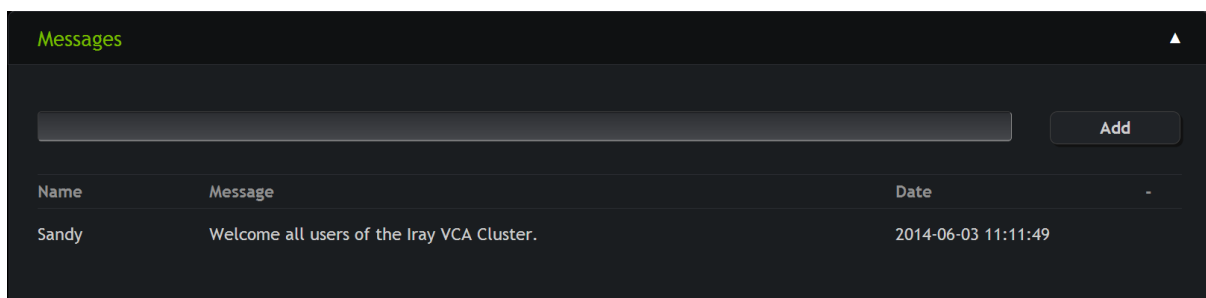
A list of important messages is displayed together with the user who posted the message and the date it was posted.



Name	Message	Date
Sandy	Welcome all users of the Iray VCA Cluster.	2014-06-03 11:11:49

Message panel

An input field is provided to add new messages.



Name	Message	Date
Sandy	Welcome all users of the Iray VCA Cluster.	2014-06-03 11:11:49

Add message field

Use the message board, for example, to post information about the operation of the VCAs, or scheduled maintenance, or announcements of upcoming events for which you need to pre-reserve VCAs.

Note

If the input field for adding a message is not displayed, then expand the panel by selecting the title "Messages" or the expand/collapse icon to the right of the title.

4.2 VCA Manager Overview window: Procedures

4.2.1 Reserving VCAs

To reserve one or more VCAs:

- 1 From the "My Visual Computing Cluster" panel on the VCA Manager Overview window, select the application you want to use from the drop-down list on the left.
Select None, if you plan to access the VCAs from an application that is not on the list or you want to access VCAs using a command line prompt.
- 2 Use the spin button to specify the number of VCAs that you want to reserve.
- 3 Click the Reserve button to submit your request.

If your request is successful, information about your VCAs is displayed in the fields listed in the "My Visual Computing Cluster" panel.

4.2.2 Releasing VCAs

There are two ways to release your VCAs:

- 1 From the "My Visual Computing Cluster" panel of the VCA Manager Overview window, click the Release All button. If your request is successful, the fields describing the VCAs you released are set to their original values.
- 2 From the "GPU Network" panel, look for your name in the table on the right and click the X.

Note

- Logging out from VCA Manager does not release your VCAs.
- Administrators can release VCAs reserved by others. This may be necessary, for example, when users of currently reserved VCAs cannot be contacted and their VCAs are urgently required for another task.

4.2.3 Adding and deleting a message

To add a message to the message board:

- From the "Messages" panel on the VCA Manager Overview window, type your message and click the Add button to submit it. When successful, your message is added to the list of messages below.

To delete a message you added to the message board:

- Click the **X** to the right of the date.

Note

Administrators can delete any message on the message board.

4.2.4 Refreshing the VCA connection

Use the Refresh command to refresh the VCA Manager web page.

- Open the menu and select Refresh. When the connection is refreshed the color of the boxes representing the VCAs temporarily change to yellow to indicate the refresh process is active.

4.2.5 Changing your password

To change your password:

- 1 Open the menu and select Change Password.
- 2 In the Old Password field, type the password you used to log in.
- 3 In the New Password and the Confirm New Password fields, type your new password and click the Submit button.

Note

A password can contain any combination of alphabetic, numeric, and special characters. The maximum length is 20 characters.

4.2.6 Logging out

To logout:

- Open the menu and select Logout.

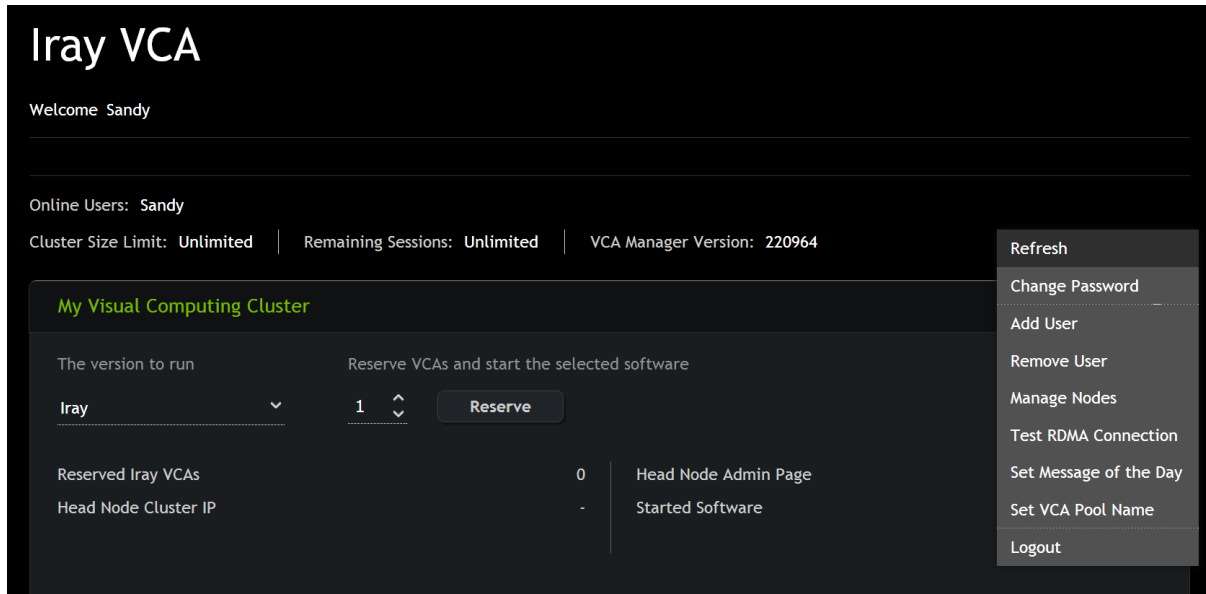
Note

Logging out does not release your VCAs. To release your VCAs, go to the "My Visual Computing Cluster" panel in the Overview window and click the Release All button.

5 Managing the VCA Pool and user access

This chapter is intended for administrators of VCA Manager. It describes how to add and remove users, add and remove VCAs, and measure network performance.

To perform the tasks described in this chapter, select the appropriate item from the menu near the top right of the Overview window.

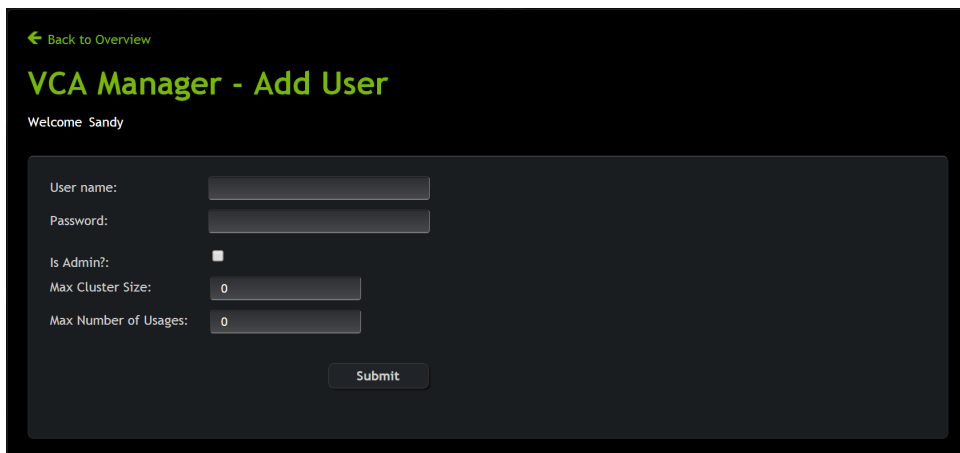


Administrator's menu

Menu items pertaining to administrator tasks (Add User ... Set Cluster Name) are only visible to users with administrator privileges.

5.1 Adding a user

The Add User window is used by an administrator to add a user, reset their password, or change their user privileges.



Add User window

Note

- Use the "Adding a user" procedure to reset a password.
- If you overwrite an existing user, no warning message is displayed.

To add a user:

- 1 Open the menu and select Add User.
- 2 Add a new user, reset the password, or modify the user privileges:
 - **User name:** Type the user name. A user name can contain any combination of alphabetic, numeric, and special characters. The maximum length is 128 characters.
 - **Password:** Type the user password. A password can contain any combination of alphabetic, numeric, and special characters. The maximum length is 20 characters.
 - **Is Admin:** Click the checkbox if the user will have administrator rights.
 - **Max Cluster Size:** If the user can reserve only a subset of the VCA Pool, specify the maximum permissible size.

Note

Leaving the default value as 0 does not set a limit.

- **Max Number of Usages:** If the user is limited to a set number of reservations, specify the number.

Note

Leaving the default value as 0 does not set a limit.

- 3 Click the Submit button.

5.2 Removing a user

The Remove User window is used by an administrator to disable user access to the VCA cluster.

To remove a user:

- 1 Open the menu and select Remove User.
- 2 Deselect the checkbox beside the user name to remove the user from the access list.
- 3 Click the Submit button.

5.3 Temporarily disabling VCAs in the pool

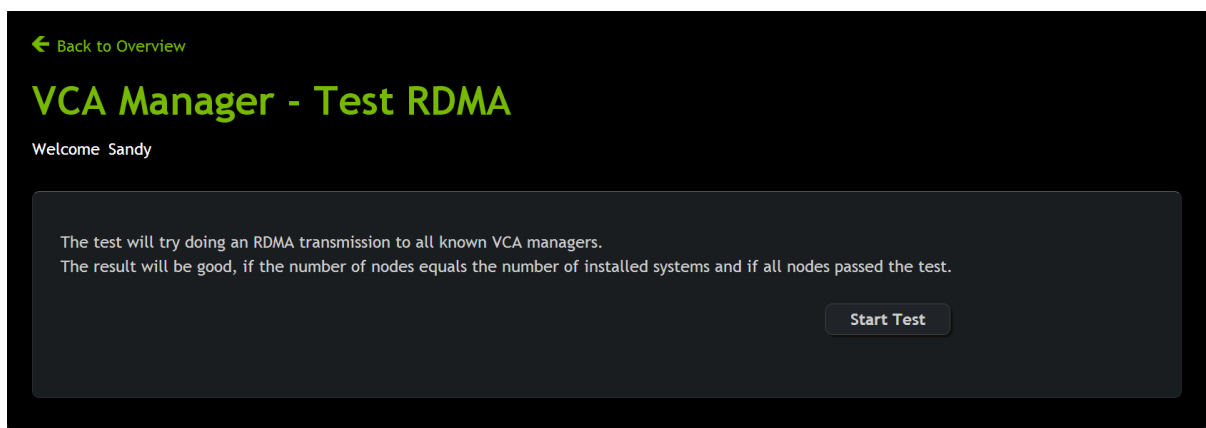
The Manage Nodes window is used by an administrator to temporarily disable VCAs in the pool, for example, when a VCA develops a problem which cannot be solved immediately and may require direct physical access. By excluding problematic VCAs, operation of the pool can continue undisturbed.

To temporarily disable VCAs in the pool:

- 1 Open the menu and select Manage Nodes. The Manage Nodes window displays a list of Active Nodes and Excluded Nodes.
- 2 To exclude an active node, click the X in the Action column.
- 3 To activate an excluded node, click the X in the Action column.
- 4 Click the Submit button.

5.4 Testing Remote Direct Memory Access (RDMA) connections and performance

The Test RDMA window is used by an administrator to test remote direct memory access connections and performance.



Test RDMA window

To test RDMA connections and performance:

- 1 Open the menu and select Test RDMA connection. The Test RDMA window is displayed.
- 2 Click the Start Test button. After the test is completed a message is displayed. The message states how many nodes were tested, how many passed the test, and the throughput.

Note

- 1 Check that the number of tested nodes matches the number of nodes in the pool. If not, alert your administrator.
- 2 Reasonable throughput is approximately 20,000 to 30,000 megabits per second (Mbps).

5.5 Setting the message of the day

The Set MOTD window is used by an administrator to display an important message under the Welcome field near the top of the page.

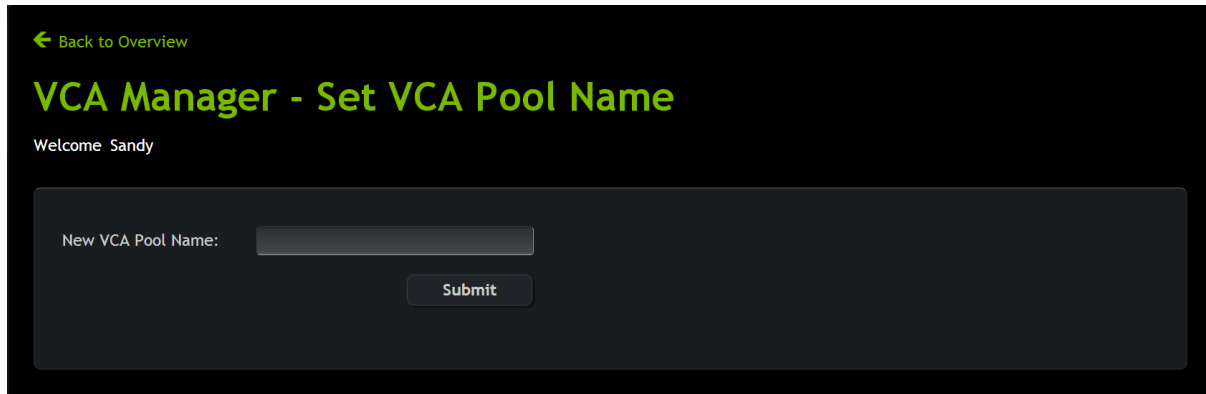
To set the message of the day:

- 1 Open the menu and select Set MOTD.
- 2 In the New message field, type your message and click the Submit button.

To delete a message, submit an empty text field.

5.6 Setting the VCA Pool name

The Set VCA Pool Name window is used by an administrator to change the name of the VCA Pool. This name is displayed at the top of the Overview window.



Set Cluster Name window

To set the VCA Pool name:

- 1 Open the menu and select Set Cluster Name.
- 2 In the New Cluster Name field, type a new name and click the Submit button.

6 Warranty and support

See the following documents:

- NVIDIA VCA software end user license agreement:
<http://www.nvidia.com/vca/eula>
- NVIDIA limited hardware warranty — VCA:
<http://www.nvidia.com/vca/hw-warranty>