Actifio Resiliency Director CLI

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Preface

This guide provides step-by-step instructions on how to deploy and use the Actifio Resiliency Director CLI Commands to add, edit and delete the Actifio appliances, virtual management servers, application groups and so on. It assumes you have read *Getting Started with Actifio Copy Data Management* and have a grasp of the basic concepts associated with an Actifio appliance.

Your Actifio appliance's Documentation Library contains detailed, step-by-step, application-specific instructions on how to protect and access your data. Each guide is in PDF format and may be viewed, downloaded, and printed on demand. The following guides will be of particular interest:

- *Virtualizing and Protecting Copy Data with the Application Manager*

Actifio Appliances

Unless otherwise specified, all features and functions described in this document apply to both Actifio CDS and Actifio Sky appliances.

The Actifio Now Customer Portal

During the configuration and initialization of your Actifio appliance your Actifio representative provided you with a user name and password for the Actifio Now customer portal.

From the customer portal you can obtain detailed reports about your Actifio appliance as well as search the portal's knowledge base for answers to specific questions.

To log into the Actifio Now customer portal:

1. Go to: **https://now.actifio.com**

2. When prompted, enter the user name and password provided by your Actifio representative.

Actifio Support Centers

To contact an Actifio support representative, you can:

- Send email to: support@actifio.com

- Call:
  From anywhere: +1.315.261.7501
  US Toll-Free: +1.855.392.6810
  Australia: 0011 800-16165656
  Germany: 00 800-16165656
  New Zealand: 00 800-16165656
  UK: 0 800-0155019

1   Actifio Resiliency Director CLI Commands

The Actifio Resiliency Director Collector and Server command line interface (CLI) is another mode to perform few operations in addition to using graphical user interface (GUI). This chapter provides the details to execute CLI commands for Actifio Resiliency Director.

To execute CLI commands:

1. Log on to the Actifio Resiliency Director Collector via SSH client.

2. Enter the following commands:

    o   `<hostname># cd act/bin/`

    o   `<hostname># ls`

    o   `aemcli openssl rdinfo rdtask`

3. Execute the required CLI command.

Actifio Resiliency Director Collector and Server Commands

Following are the available CLI commands for the Actifio Resiliency Director Collector and Server:

resetuserpasswd

The **resetuserpasswd** command is used to reset the password for a specified user name.

Rights

NA

Syntax

```
$ rdtask resetuserpasswd -username <username> -password <password>
```

```
-username username
```

```
-password password
```

Parameter	Description
`-username`	Required. Specifies the user name for which you want to reset the password.
-password	Required. Specifies the password.

Description

Use this command to reset the specific user password.

Example

```
$ rdtask resetuserpasswd -username <admin> -password <password>
```

getproperty

The **getproperty** command returns the property value for the given property name.

Rights

NA

Syntax

`$ rdinfo getproperty -property <property>-property property`

Parameter	Description
-property	Required. Specifies the name of the property whose value needs to be fetched. This parameter cannot be null or blank. The property value for the given name will be executed in the provided mode. You can edit the following properties for the **getproperty** parameter: server-connection-thread externalScriptUploadPath login-audit suppressNicMacAddressConflictVerification server-connection-thread-interval-buffer externalScriptExecutionTimeoutInSeconds cds-failover-complete-retries-interval externalScriptMaxSizeInKB mail-sender-signature recovery-plan-executor-await-termination-timeout-seconds vm-polling-thread-sleep-time-in-millis max-sequence vm-polling-termination-timeout-in-millis nicMacAddressConflictVerificationRetries supported-cds-versions dashboardTimeInterval preDefineDelay cds-connection-retry-thread-sleep-time-in-millis cds-failover-complete-retries-interval cds-vendor-id-key mapVmToAllEsxHostDuringRecovery notifications-max-size; details-level-for-notification nicMacAddressConflictVerificationIntervalSeconds nicMacAddressConflictVerificationRetries dashboardTimeInterval fetchStateInterval concurrent_commands_per_appliance
-h	Optional. For reading the help file.

Description

Use this command to retrieve details of a required property.

Example

`$ rdinfo getproperty -property guest-process-status-chk-attempts 15`

---

setproperty

The **setproperty** command is used to set the property value for the given property name.

Rights

NA

Syntax

```
$ rdtask setproperty -property <property> -value <value>
-property property
-value value
```

Parameter	Description
-property	Required. Specifies the name of the property to be set, the value cannot be null or blank.
-value	Required. This is the value of the property to be set, the value cannot be null or blank.
-h	Optional. For reading the help file.

Description

Use this command to set the value of a required property.

Example

```
$ rdtask setproperty -property guest-process-status-chk-attempts 15
```

addcdsrole

The **addcdsrole** command allows the user to map additional CDS roles to an already created role.

Rights

NA

Syntax

```
$ rdtask addcdsrole [-cdsrole CDSROLEIDS] [-roleid ROLEIDS] [-h]
```

Parameter	Description
-cdsrole	Required. Specifies the CDS role IDs, multiple CDS role IDs must be separated with commas.
role_id	Required. Specifies the role object to modify using the ID

Description

Use this command to assign additional CDS roles to an existing role.

Example

```
$ rdtask addcdsrole -cdsrole 12, 14 -roleid 68610
```

addright

The **addright** command allows to add additional rights to an existing role.

Rights

NA

Syntax

```
$ rdtask addright [-right 12, 14] [-roleid 68610] [-h]
```

Parameter	Description
-right	Required. Specifies the right ids for the role, multiple ids must be separated with commas.
role_id	Required. Specifies the role object to modify using the ID

Description

Use this command to assign additional rights to an existing role.

Example

```
$ rdtask addright -right 12,14 -roleid 68610
```

chrole

The **chrole** command is used to change the attributes assigned to an existing role.

Rights

NA

Syntax

```
$ rdtask chrole [-description DESCRIPTION] [-name NAME] [-rights RIGHTIDS] [-cdsroles ROLEIDS]
[role_id | role_name] [-h]
```

Parameter	Description
-name	Optional. Specifies description for the role.
-description	Optional. Specifies a new name for the role, which needs to be unique.
-rights	Optional. Specifies the right ids for the role, multiple ids should be separated with commas
-cdsroles	Optional. Specifies the CDS role ids for the role, multiple ids must be separated with commas.

Parameter	Description
role_id	role_name	Required. Specifies the role object to modify, either by ID or by name.

Description

Use this command to change the attributes of an existing role.

Example

```
$ rdtask chrole -description -description "New description" "RD Run"
```

```
$ rdtask chrole -description "New description" 5152
```

lsrole

The **lsrole** command returns a concise list of roles, or a detailed view of a role.

Rights

NA

Syntax

```
$ rdinfo lsrole [-nohdr]   [object_id | object_name] [-delim DELIMITER] [-h]
```

Parameter	Description
-delim delimiter	Optional. Overrides the space-separated values. Valid input is a one-byte character. **Example:** If you enter -delim: on the command line, the colon character (:) separates all items of data in a concise view. In a detailed view, the data is separated from its header by the specified delimiter.
-nohdr	Optional. Suppresses the display of these headings. **Note:** If there is no data to be displayed, headings are not displayed.
object_id	object_name	Optional. Specifies the name or ID of an object. When you use this parameter, the detailed view of the specific object is returned. If you do not specify the object_id	object_name parameter, the concise view displays all objects matching the filtering requirements.

Description

Use this command to retrieve details of roles.

Example

```
$ rdinfo lsrole
 id description    name     rights           cdsroles
 1  description1  Manage   Appilance Manage   admin
 2  description3  View     Appliance View     basic
```

mkrole

The **mkrole** command creates a new role object.

Rights

NA

Syntax

```
$ rdtask mkrole [-description DESCRIPTION] [-name NAME] [-rights RIGHTIDS] [-cdsroles
ROLEIDS][-h]
```

Parameter	Description
-description	Required. Specifies the description for the role.
-name	Required. Specifies the name for the role, role name needs to be unique within CDS.
-rights	Required. Specifies the right ids for the role, multiple right ids should be separated with commas.
-cdsroles	Required. Specifies the CDS role ids for the role, multiple CDS role ids should be separated with commas.

Description

Use this command to create a new role object.

Example

```
$ rdtask mkrole -name myrole -description desc -rights 12,13 -cdsroles 2
```

rmrole

The **rmrole** command is used to delete an existing role.

Rights

NA

Syntax

```
$ rdtask rmrole [role_id | role_name] [-h]
```

Parameter	Description
role_id | role_name	Required. Specifies the ID or name of the role to be removed.

Description

Use this command to delete an existing role.

Example

```
$ rdtask rmrole role1
```

uploadupdate

The **uploadupdate** command to copy the update GPG file to the directory where upgrade flow is expected.

Rights

NA

Syntax

`$ rdtask uploadupdate [-delim DELIMITER]`

Parameter	Description
-h	Optional. For reading this help file, you do not need to specify values for the other parameters when accessing help.

Description

Use this command to copy update on server at path `/act/pg/update/stage`. User must be an Admin or must have 'administrator' access roles.

Example

`$ rdtask uploadupdate /home/admin/upload/patch-RDx.y.z.gpg`

`patch-RD6.1.3.402`

removeupdate

The **removeupdates** command removes all the valid/invalid updates present on the Resiliency Director Server.

Rights

NA

Syntax

`$ rdtask removeupdates [-delim DELIMITER]`

Parameter	Description
-h	Optional. For reading the update file, you do not need to specify values for the other parameters when accessing help.

Description

Use this command to remove available updates on server at path */act/pg/update/stage and /act/pg/update/scratch*. User must be an admin or must have 'administrator' role.

Example

`$ rdtask removeupdates`

`patch-RD6.1.3.402`

configsystem

The **configsystem** command is used to set a new IP address for RD Collector or RD Server nodes.

Rights

NA

Syntax

```
$ rdtask configsystem -ipaddress <IPADDRESS> -gateway <GATEWAY> -subnetmask <SUBNETMASK> -
dnsserver <DNSSERVER> -hostname HOSTNAME
```

Parameter	Description
-ipaddress	Required. Specifies the new IP Address for the system (RD Collector / RD Server)
-gateway	Required. Specifies gateway for the system (RD Collector / RD Server).
-subnetmask	Required. Specifies subnet mask for the system (RD Collector / RD Server).
-dnsserver	Optional. Updates the name server for the system (RD Collector / RD Server).
-hostname	Optional. Updates the host name for the system (RD Collector / RD Server).

Description

Use this command to set a new IP address for the RD Collector or RD Server. Along with IP address, you can set hostname and DNS servers also. On execution of this command, the following message is displayed.

"*configsystem command is issued on appliance, current session will be disconnected after some time.Please use new IP address to login to the RD appliance*". You can login using a new IP address.

Example

```
$ rdtask configsystem -ipaddress 172.29.10.190 -gateway 172.29.10.100 -subnetmask
255.255.255.0-dnsserver 192.168.225.2 -hostname rdcollector

$ rdtask configsystem -ipaddress 172.29.10.190 -gateway 172.29.10.100 -subnetmask
255.255.255.0-dnsserver 192.168.225.2

$ rdtask configsystem -ipaddress 172.29.10.190 -gateway 172.29.10.100 -subnetmask
255.255.255.0
```

Note: The `configsystem` *command is used on appliance, current session will be disconnected after some time. Use new IP address to log on to RD appliance.*

getsysteminfo

The **getsysteminfo** command is used to fetch the network details of RD appliance.

Syntax

```
rdinfo getsysteminfo
```

Example

```
$ rdinfo getsysteminfo
NETMASK 255.255.255.0
GATEWAY 172.29.11.100
IPADDR 172.29.11.149
HOSTNAME rdS149
DNSSERVER 192.168.192.10,192.168.225.2
```

getsystemid

The **getsystemid** command is used to fetch the system id of RD appliance.This value may be required by Actifio Customer support to assist in resolving support case(s).

Rights

NA

Syntax

```
rdinfo getsystemid
```

Example

```
$ rdinfo getsystemid
324543
```

configntpserver

The **configntpserver** command is used to set the NTP server for RD Collector or RD Server nodes.

Syntax

```
$ rdtask configntpserver [-ipaddress IPADDRESS] [-h]
```

Description

Parameter	Description
-ipaddress	Required. Specifies the NTP server of the node.

Use this command to set the NTP server of either RD Collector or RD Server node.

Example

```
$ rdtask configntpserver -ipaddress 172.29.11.179
$ rdtask configntpserver -ipaddress 172.29.11.179,172.29.11.130
```

shutdownserver

The **shutdownserver** command is used to shutdown RD appliance.

Syntax

`$ rdtask shutdownserver [-delay <now> <+h>] [-h]`

Parameter	Description
-delay now	Optional. Time delay can be provided when the shutdown process has to be started. • **now**: Shutdown will be triggered immediately • **+n**: Shutdown will be triggered after n number of minutes
-h	Optional: For reading the help file. You do not need to specify values for the other parameter when accessing this help.

Description

Use this command to shutdown RD appliance back to Ready To Run state.

Example

`$ rdtask shutdownserver`

Default delay time will be considered as zero, and RD appliance will be shutdown immediately.

installtrustedcertificate

The **installtrustedcertificate** command installs/replaces a SSL server certificate on the Actifio Resiliency Director. The certificate and key files need to be in **"/home/admin/upload"** directory**.** To upload them, use "scp" command from a system that has the needed certificate and key files. Example: 'scp newcert.pem admin@10.10.10.10:/home/admin/upload/'. This also restarts the web services, resulting in all GUI sessions being reset.

Syntax

`$ rdtask -- -- installtrustedcertificate -- ----------------->`

`-certfile -- cert_file -- -- -keyfile -- key_file ------->< `

Parameter	Description
-certfile certfile	Required. Specifies filename of the certificate(s). The certificate(s) must be in PEM format. All certificates that build up the trust chain need to be concatenated together in this file. Typically, they include one SSL certificate, an intermediate CA certificate and a root CA certificate. If any of the certificates is missing, the command fails.
-keyfile keyfile	Required. Specifies the filename of the private key. The key should be in raw format (not encrypted).

Description

Use this command to installs/replaces a SSL server certificate on the Actifio Resiliency Director.

Example

`$ rdtask installtrustedcertificate -certfile cert.pem -keyfile keyfile`

Actifio Resiliency Director Server Commands

Following are the available CLI commands for the Actifio Resiliency Director Server only:

lsrecoveryplan

The **lsrecoveryplan** command fetches all the recovery plans. You can view the result in the JSON format.

Rights

NA

Syntax

`$ rdinfo lsrecoveryplan -delim`

Parameter	Description
-delim	Optional. Specifies the recovery plan name that needs to be executed.

Description

Use this command to fetch the recovery plans on the Actifio Resiliency Director Server.

Example

`$ rdinfo lsrecoveryplan`

`$ rdinfo lsrecoveryplan -delim`

executerecoveryplan

The **executerecoveryplan** command executes the specified recovery plan.

Rights

NA

Syntax

`$ rdtask executerecoveryplan -name <recovery plan name> -mode <execution mode>`

`-name recoveryPlanName`

`-mode executionMode`

Parameter	Description
-name	Required. Specifies the name of the recovery plan.
-mode	Specifies the execution mode, the execution mode value should be either Test or Actual.

Description

Use this command to execute the recovery plan. You can view the message in the .txt format.

Example

```
$ rdtask executerecoveryplan -name recoveryPlanName1 -mode Test
```

> **Note:** *Recovery plans are executed based on the core pool size property value. If number of recovery plan are more than the core-pool size, then in the first batch recovery plans equal to the core pool size value will be executed first, and as threads will be executed, remaining recovery plans will be executed in sequence so that recovery plans being executed will never exceed the pool size limit.*

Example:

If user has defined more than 10 recovery plans, and VM pool is 5, then in the first batch 5 recovery plan threads will be executed, remaining recovery plans will be executed in sequence until all recovery plans as defined by the user is completed.

resetrecoveryplan

The **resetrecoveryplan** command resets the specified recovery plan. You can view the message in the text format.

Rights

NA

Syntax

```
$ rdtask resetrecoveryplan -name <recovery plan name>
```
```
-name recoveryPlanName
```

Parameter	Description
-name	Required. Specifies the recovery plan name that needs to be reset.

Description

Use this command to reset the recovery plan. You can view the message in the.txt format.

Example

```
$ rdtask resetrecoveryplan -name recoveryPlanName1
```

Editing CLI Properties

You can edit the following CLI properties through act-props.xml file.

Properties	Default Value	Description
log-level	INFO	Log level. (Requires server restart if changed)
session-timeout-minutes	60	Session timeout for RD login. (Used by Actifio code base)
ip-reachable-timeout-milliseconds	3000	This value is used in the method that checks if a host (CDS or Hyper-visor) is reachable or not.
login-audit	enabled	This key/value represents the login audit.
recovery-plan-executor-core-pool-size	10	Properties to configure recovery plan executor.
recovery-plan-executor-maximum-pool-size	20	Properties to configure recovery plan executor.
recovery-plan-executor-keep-alive-seconds	5	Properties to configure recovery plan executor.
recovery-plan-executor-await-termination-timeout-seconds	5	Properties to configure recovery plan executor.
server-connection-thread	ENABLE	This property will allow to run a thread to connect Hyper-visor server after given interval to make session alive.
server-connection-thread-interval	600	This property defines server timeout (in seconds) for hyper-visor. If this property is not set before server-connection-thread"" property, value will be reset to disable.
server-connection-thread-interval-buffer	60	This property defines buffer time (in seconds) for establishing connection with hypervisor. If this property is not set before "server-connection-thread" property, value will be reset to disable
recovery-plan-vm-creation-check-retries	5	This property is used to specify the number of retries for checking if a VM is created on the vCenter server during the fail-over operation.
recovery-plan-vm-creation-check-retries-interval	20	This property is used to specify the number of seconds for waiting time between the retries made to check the VM creation on the vCenter server during fail-over operation.
execute-script-attempts	5	This property is used to specify the number of retry attempts that should be done if script execution is failed.

Properties	Default Value	Description
execute-script-attempt-delay	120000	This property is used to specify delay in milliseconds.
guest-process-status-chk-attempts	15	This property is used to specify the number of attempts that should be done to check status of the process running on the guest OS.
ip-configuration-attempts	10	This property is used to specify the number of retry attempts that should be done if IP Configuration file failed to download.
ip-configuration-attempt-delay	120000	This property is used to specify the time delay in milliseconds.
vm-polling-termination-timeout-in-millis	2000	This property is used in the VMPollingExecutor for awaiting termination.
vm-polling-thread-sleep-time-in-millis	5000	This property is used to sleep the VM polling thread.
cds-connection-retry-thread-sleep-time-in-millis	5000	This property is used to sleep the CDS connection retry thread.
script-guest-file-path-windows	win-vm-ipconfig.bat	This property provides the keys for the guest manager used by VIJAVA. Used for VM configuration during recovery.
output-guest-file-path-windows	output_	This property provides the keys for the guest manager used by VIJAVA. Used for VM configuration during recovery.
static-ip-script-guest-file-path	/tmp/vm-ipconfig.sh	This property provides the keys for the guest manager used by VIJAVA. Used for VM configuration during recovery.
cds-failover-complete-retries-interval	20	This property is used to specify the number of seconds to wait between the retries made to check fail-over task complete on CDS.
list-all-portgroup-key	true	This property is used to decide if all port groups should be displayed, or only list of port groups on cluster/ individual ESX host should be displayed.
cds-failover-complete-retries	10	This property is used to specify the number of retries used to check whether fail-over task completed on CDS.
mail-sender-signature	Resiliency Director Server Admin	This property provides email sender signature for sending email notification.
vm-task-executor-core-pool-size	10	This property is used to configure VMparallel recovery executor.

Properties	Default Value	Description
vm-task-executor-maximum-pool-size	20	This property is used to configure VMparallel recovery executor.
vm-task-executor-keep-alive-seconds	5	This property is used to configure VMparallel recovery executor.
vm-task-executor-await-termination-timeout-seconds	5	This property is used to configure VMparallel recovery executor.
preDefineDelay	0,10,20,30,40,50	The property value is used on UI as default values to add delay for startup between two sequences.
externalScriptExecutionTimeoutInSeconds	120	This property is used to provide timeout value in seconds for external script execution. If execution of a script is not finished in this given time, RD will throw an exception.
externalScriptMaxSizeInKB	1024	This property allows you to provide the maximum size in KBs of external script which can uploaded on server
remote-script-read-output-delay	1	This property allows you to provide the delay value in seconds to delay the read start time for the output of script execution on remote host. After this specified period of time RD will start reading from the output stream.
remote-script-read-output-retries	5	This property is the number of retries RD should make to read the output of script execution from remote host. It is used with the delay property.
dashboardTimeInterval	50000	The property is used to refresh the dashboard page data periodically with the given time interval. The time is in ms.
fetchStateInterval	10000	The property is used to refresh recovery plan status data periodically with the given time interval. The time is in ms.
get-event-info-check-retries	5	This property is used for polling VM status using VIJAVA.
get-event-info-check-retries-interval	10	This property is used for polling VM status using VIJAVA.
get-task-info-check-retries	5	This property is used for polling VM status using VIJAVA.
get-task-info-check-retries-interval	10	This property is used for polling VM status using VIJAVA.
maximum-dns-entries-allowed	10	Maximum number of DNS entries allowed by RD to be configured on VMs.

Properties	Default Value	Description
suppressNicMacAddressConflictVerification	false	This property is use for checking MAC address conflict if RD clones the MAC address from collector site.
nicMacAddressConflictVerificationIntervalSeconds	5	This property is used to specify the number of seconds to wait between the retries made to check for MAC address conflict event occur on vCenter.
nicMacAddressConflictVerificationRetries	15	This property is used to specify the number of retries made to check for MAC address conflict event occur on vCenter.
notifications-max-size	1048576	This property is used to specify the maximum number of characters that we can have in the notification message showed on recovery plan invalidation.
details-level-for-notification	appgroup,sequence,vmaddordelete,vmproperty	This property is used to specify the level of details to be displayed in notification message for recovery plan invalidation.
max-sequence	9999	This property is used to specify the maximum sequence number that can be created using UI.
mapVmToAllEsxHostDuringRecovery	TRUE	This property is used to map the VM to all ESX host at time of recovery.
Rd-server-description-on-collector	RD Server	This property is used at collector side to describe RD server.
Vm-nic-detail-file-fetch-attempt-delay	20000	This property is used at time of fetching VM NIC details.
win-temp-location	C:\\Windows\\Temp\\	This property is used to specify the temp location on guest Windows VM. This location is use to upload scripts (eg. IP assignment script).
resource-pool-poller-await-termination-timeout-in-millis	30000	This property is used in the ResourcePoolPollingExecutor for awaiting executor termination. If property is not or no value is specified then default value 30000 is used.
resource-pool-polling-thread-sleep-time-in-millis	30000	This property is used to sleep the resource pool polling thread. If property value is not present, or no value specified then default value 30000 is used.

Properties	Default Value	Description
concurrent_commands_per_appliance	10	This property is used to set the number of concurrent connections to an Actifio CDS/Sky appliance. *Note: To set concurrent_commands_per_appliance more than 10, you need to set the property of the thread pool size property vm-task-executor-core-pool-size more than 10.* *Note: This also depends on the following properties: maxondemandslots on Actifio CDS/Sky Appliance/ vm-task-executor-core-pool-size on RD node.* Contact Actifio support for more information.