Horizon Workspace Data Command Line Interface

Horizon Workspace 1.0

vmware®

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1 Horizon Data CLI Utility Overview

The VMware Horizon Workspace Data (Horizon Data) command line interface (CLI) tool lets you run system administration commands to manage users Horizon Data data stores. The Horizon Workspace Administrator Web Client interface is the main tool for maintaining the Horizon Workspace, but some Horizon Data functions can only be changed from the CLI utility.

Intended Audience

This information is written for experienced Windows or Linux system administrators who are familiar with virtual machine technology and know how to use commands in scripts.

General Tool Information

The Horizon Data CLI tool follows standard UNIX command-line conventions.

Follow these guidelines when using the commands:

- CLI commands are run as the zimbra user, that is **su - zimbra**.
- The actual CLI commands are case-sensitive. You must type them in lower case.
- Press **ENTER** after you type a command.
- Typing the CLI command and then - h displays the usage options for the command. Example: **zmprov - h** lists all the options available for the zmprov utility.
- Each operation is invoked through command-line options. Many have a long name and a short name. For example, these two commands are equivalent:

  zmprov modifyAccount joe@domain.com test123

  zmprov ma joe@domain.com test123

Syntax Conventions

When demonstrating the syntax of each tool, the following conventions indicate required, optional, and alternate values:

- {attribute} in curly brackets is required information.
- [attribute] in square brackets are optional arguments or information.
- {a|b|c} or [a|b|c] options separated by the pipe character | means “a” OR “b” OR “c”

- For attribute names that contain spaces, surround the name with double quotes.

Attribute File

The list of attributes that can be set and their descriptions is in the /opt/zimbra/bin directory on the data-va virtual machine.

To quickly see this list, as a zimbra user type

zmprov describe

Running CLIs

The CLI commands are run directly on the data-va virtual machine.

1. Log on to the vSphere Client and select the data-va.
2. Select the Console tab and click **Enter**.
3. To login, type

   root
4. Enter the password you set as the global root password on the configurator-va.
5. Switch users from root, type

   su - zimbra

CLI Commands

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The table below lists the CLI commands. The list of CLIs that can be used is located in the /opt/zimbra/bin directory on the data-va virtual machine.

List of CLI Commands for Horizon Data

CLI	Description
ldap	Start, stop, or find the status of Horizon Data LDAP
ldapsearch	Perform a search on the Data LDAP server
mysql	Enters interactive command-line MySQL session with the Horizon Data mysql
mysql.server	Start, stop the SQL instance for the data-va package
mysqladmin	Send admin commands to MySQL
zmcontrol	Start, stop, restart, status of the data-va virtual machine
zmdumpenv	General information about the data-va virtual machine environment is displayed
zmhostname	Find the hostname of the data-va virtual machine
zmlocalconfig	Used to set or get the local configuration of a data-va virtual machine
zmmailbox	Performs Horizon Data data store management tasks
zmmailboxdctl	Start, stop, reload, or find the status of the data-va virtual machine (mailboxd)
zmmboxmove	Used to move selected users' data store from one data-va virtual machine to another
zmmboxmovequery	Used to query ongoing data store moves on a server
zmpurgeoldmbox	Purges a data store from the old server after a data store move
zmmetadump	Support tool that dumps an item's metadata in a human-readable form

List of CLI Commands for Horizon Data

CLI	Description
zmmysqlstatus	Status of Horizon Data folder MySQL instance
zmprov	Performs all provisioning tasks in the Horizon Data LDAP, including modifying account and Class of Service attributes
zmpython	Ability to write Python scripts that access Horizon Data Java libraries. It sets the Horizon Data class path and starts the Jython interpreter.
zmsoap	SOAP calls can be made that can either modify the data-va settings, COS or account settings
zmthrdump	Initiate a thread dump and save the data to a file with a time stamp
zmvolume	Manage storage volumes on your data-va virtual machine

Using non-ASCII Characters in CLIs

If you use non-ASCII characters in the CLI, in order for the characters to display correctly, you must change this setting to the desired UTF-8 before running the CLI command. To change this, type

export LC_All=<UTF_locale>

Provisioning (zmprov)

The **zmprov** tool performs all provisioning tasks in Horizon Data LDAP, including modifying account and COS attributes.

The syntax is zmprov [cmd] [argument].

The syntax for modify can include the prefix “+” or “-” so that you can make changes to the attributes affected and do not need to reenter attributes that are not changing.

- Use + to add a new instance of the specified attribute name without changing any existing attributes.
- Use - to remove a particular instance of an attribute.

The following example would add the attribute **hzndataFileExRestricted** with the value “.zip” to user 1 and would not change the value of any other instances of that attribute.

```
zmprov ma user1 +hzndataFileExRestricted .zip
```

The attributes for tasks that can be used with zmprov are listed when you type zmprov -h.

Long Name	Short Name	Syntax, Example, and Notes
--help	-h	display usage
--file	-f	use file as input stream

Long Name	Short Name	Syntax, Example, and Notes
--server	-s	{host}[:{port}] server hostname and optional port
--ldap	-l	provision via LDAP instead of SOAP
--log property file	-L	log 4j property file, valid only with -l
--account {name}	-a	account name to auth as
--password {pass}	-p	password for account
--passfile {file}	-P	read password from file
--zadmin	-z	use admin name/password from localconfig for admin/password
--authtoken (authtoken)	-y	use auth token string (has to be in JSON format) from command line
--authtoken (authtoken file)	-Y	use auth token string (has to be in JSON format) from command line
--verbose	-v	verbose mode (dumps full exception stack trace)
--debug	-d/	debug mode (dumps SOAP messages)
--master	-m	use LDAP master. This only valid with -l
--replace	-r	allow replacement of safe-guarded multi-value attribute configured in localconfig key **zmprov_saveguarded_attrs**

The zmprov commands in the following table are divided into the tasks type.

Long Name	Short Name	Syntax, Example, and Notes
Data Store Account Provisioning Commands		
deleteAccount	da	Syntax:{name@domain|id|adminName} zmprov da joe@domain.com
getAccount	ga	Syntax:{name@domain|id|adminName} zmprov ga joe@domain.com
getAllAccounts	gaa	Syntax: [-v] [{domain}] zmprov -l gaa zmprov -l gaa -v domain.com
getAllAdminAccounts	gaaa	Syntax: gaaa zmprov gaaa
modifyAccount	ma	{name@domain|id|adminName} [attribute1 value1 etc] zmprov ma joe@domain.com hzndataAccountStatus maintenance

Long Name	Short Name	Syntax, Example, and Notes
renameAccount	ra	{name@domain|id} {newname@domain} zmprov ra joe@domain.com joe23@domain.com
setAccountCOS	sac	{name@domain|id|adminName} {cos-name|cos-id} zmprov sac joe@domain.com FieldTechnician
countAccount	cta	{domain|id} This lists each COS, the COS ID and the number of Data user assigned to each COS
COS Provisioning Commands		
copyCos	cpc	{src-cos-name|id} {dest-cos-name}
getCos	gc	{name|id} zmprov gc Executive
getAllCos	gac	[-v] zmprov gac -v
modifyCos	mc	{name|id} [attribute1 value1 etc]
renameCos	rc	{name|id} {newName} zmprov rc Executive Business
Config Provisioning Commands		
getAllConfig	gacf	[-v] All LDAP settings are displayed
getConfig	gcf	{name}
modifyConfig	mcf	attr1 value1 Modifies the Horizon Data LDAP settings
Data Store General Commands		
getMailboxInfo	**gmi**	{account}
getQuotaUsage	**gqu**	{server}
reIndexMailbox	**rim**	{name@domain|id} {start|status|cancel} [{reindex-by} {value1} [value2...]]

Long Name	Short Name	Syntax, Example, and Notes
RecalculateMailboxCounts	rmc	{name@domain|id} When the quota usage is out of sync with the data in the user's data store, use this command to immediately recalculate the quota usage ***Important:*** *Recalculating quota usage should be schedule to run in off peak hours and run on one data store at a time*
selectMailbox	**sm**	{account-name} [{zmmailbox commands}]
Search		
searchAccounts	sa	[-v] {ldap-query} [limit] [offset] [sortBy {attribute} [sortAscending 0|1] [domain {domain}]
Share Provisioning Commands		
getShareInfo	**gsi**	{owner-name|owner-id}
Miscellaneous Provisioning Commands		
countObjects	**cto**	{type} [-d {domain|id}]. countObjects can only be used with zmprov -l/--ldap
describe	**desc**	[[-v] [-ni] [{entry-type}]] | [-a {attribute-name}] Prints all attribute names (account, domain, COS, servers, etc.)
flushCache	**fc**	zmprov flushCache [account|cos] [name|id]. Use this command to make changes available immediately
getAccountLogger	**gal**	[-s /--server hostname] {name@domain | id}

Managing Virtual Users' Class of Service

A default external COS is assigned to external virtual accounts that are created when users outside of your organization accept an invitation to share Horizon Data folders. A virtual account is not provisioned in Horizon Workspace, but the virtual user can sign in and create a display name and set a password to view the shared items. The only folders they see in their Horizon Workspace are the folders that are shared with them.

This COS is not configurable from the Horizon Workspace administrator's Web client, but you can change defaults from the zmprov CLI.

To see the settings for the default external COS, type

zmprov gc defaultExternal

Description of some of the external default COS attributes that might need to be modified include:

- Host Pool. In an environment with multiple virtual Data nodes, the COS is used to assign a new Data account to a specific Data node. When a new virtual Data node is added, the defaultExternal COS is automatically updated to include the new Data node to the host pool. You can configure the defaultExternal COS to use a specific Data node. All virtual users are assigned to that node. This can be set up with the following attributes:
  - To add a data-va node to the host pool, type

    zmprov mc defaultExternal +hzndataHostPool <data-vaname.com|ID>
  - To remove a data-va node from the host pool, type

    zmprov mc defaultExternal -hzndataHostPool <data-vaname.com|ID>
  - To replace all data-va virtual machines in the host pool with a specific data-va, type

    zmprov mc defaultExternal hzndataHostPool <data-vaname.com|ID>
  - View which data-va nodes are in the host pool, type

    zmprov gc defaultExternal hznHostPool

Note: *If the defaultExternal COS has not been modified to add specific data-va machines to the host pool, this command does not return a value. The default is that all data-va machines are enabled in the host pool.*

- Virtual Account's quota. Quota does not need to be set for virtual user accounts. Virtual users work with files in folders that are shared with them by internal users. The internal user's quota is impacted when virtual users add or delete files in the shared folder.
- Types of files that virtual users cannot upload to Horizon Data. Each restricted extension must be prefixed with a dot (.). For example to exclude exe files, type as **.exe.**

  zmprov mc defaultExternal hzndataFileExtensionRestricted {.type}
- For Windows Preview to work in virtual account Horizon Data Files, the defaultExternal COS must be modified.

  zmprov mc defaultExternal hzndataConverterHints UseMsPDFConverter
- Password policies for virtual accounts. Virtual users must set a password based on the password settings you set up. The default minimum length for a password is 6 characters and the maximum is 64 characters. You can change these settings and add more complex password rules.
  - To change the length of a password

    zmprov mc defaultExternal hzndataPasswordMinLength <#>

  To require more complex passwords, set the following attributes
  - Minimum number of characters = hzdataPasswordMinNumericChars
  - Minimum number of lower case characters = hzndataPasswordMinLowerCaseChars
  - Minimum number of ASCII punctuation characters = hzndataPasswordMinPunctuationChars
  - Minimum number of upper case characters = hzndataPasswordMinUpperCaseChars

Changing Settings Per Account

Every Data account is assigned a COS. You can make changes to individual account settings. Settings you change on an account override the COS settings. When you change the COS associated with the account, the changes are not reflected for individual account that have COS overrides.

- Change an account's quota setting

  zmprov modifyAccount {name@domain} hzndataQuota {value}

  The quota value is set in bytes. A value of 0 means the account has an unlimited quota.

- Change the maximum file size that can be uploaded

  zmprov modifyAccount {name@domain} hzndataFileUploadMaxSize {value}

  This is set in bytes.

- Change when files that users delete from Horizon Data can no longer be recovered from the Horizon Data History page

  zmprov modifyAccount {name@domain} hzndataDumpsterUserVisibleAge {xd}

  Set the value as days.

- To see a user's Horizon Data account's configuration

  zmprov ga name@domain.com

- To see which data-va virtual machine a data store is provisioned on

  zmprov ga name@domain.com hzndataHost

- To list data stores for all users in a domain (domain.com)

  zmprov -l gaa domain.com

- To list data store for all users and their configurations

  zmprov -l gaa -v domain.com

Changing SMTP Server Settings

SMTP authentication allows authorized mail clients from external networks to relay messages through the MTA. The SMTP server hostname and port number is configured when Horizon Workspace is installed.

To see the current SMTP server settings on the data-va, type

zmprov gacf | grep Mta

To change a setting, type

zmprov mcf <attribute> <value>

For example, to change the SMTP host name, type

zmprov mcf hzndataMtaHostname new.smtp.domain.com

Other Types of zmprov Commands

The following are general types of zmprov commands.

- To query if a value is set for a multi-valued attribute

  zmprov gs server.com attribute=value

  For example, to find out if the ldap service is enabled
  zmprov gs example.com hzndataServiceEnabled=ldap

- To flush the cache to make changes to an account or COS available immediately

  zmprov flushCache [account|cos|server] [name|id]

- Each account's Horizon Data module has an index file associated with it. This index file is required to retrieve search results from the data store. To detect corrupted indexes, run **zmprov verifyIndex** as a sanity check against the specified data store index.

  zmprov verifyIndex <user@example.com>

  Diagnostic information is written to **stdout**. If problems are detected, a failure status is returned.

  VerifyIndex locks the index while running, and checks every byte in the index. Therefore, it is not recommended to run this on a regular basis. The zmprov verifyIndex command should be used only when you need to make a diagnosis.

  If VerifyIndex reports that the index is corrupted, you can repair the index by running **reIndexMailbox (rim).**

  zmprov rim <user@example.com> start

Start/Stop/Restart Service on the Data-va (zmcontrol)

This command is run to start, to stop, or to restart the Horizon Data services.

Syntax

zmcontrol [-v -h] command [args]

Description

Long Name	Short Name	Description
	-v	Displays ZCS software version.
	-h	Displays the usage options for this command.
	-H	Host name (localhost).
Command in...		
maintenance		Toggle maintenance mode.
restart		Restarts all services and manager on this host.
shutdown		Shutdown all services and manager on this host. When the manager is shutdown, you cannot query that status.
start		Startup manager and all services on this host.

Long Name	Short Name	Description
startup		Startup manager and all services on this host.
status		Returns services information for the named host.
stop		Stop all services but leaves the manager running.

Move Accounts from One Data-va to Another (zmmboxmove)

The CLI command **zmmboxmove** is used to move an account's data store from one data-va virtual machine to another. The destination data-va manages the overall move process. The move runs in the background and the account remains in active mode until most of the data has been moved. The account is locked briefly to move the last data and then returned to active mode.

Data stores can be moved between data-va virtual machines that share the same Data LDAP server. All the files are copied to the new data-va and the Data LDAP is updated. After the account's data store is moved to a new data-va, a copy still remains on the older data-va, but the status of this Data account is closed. You should check to see that all the data store content was moved successfully before purging the old data store.

Syntax

zmmboxmove -a <email> --from <servername> --to <dest> [--sync]

Description

Long Name	Short Name	Description
--account	-a	<arg> Email address of account to move
--help	-h	Displays the usage options for this command
--from	-f	<arg> Data-va hostname. Data-va where the --account data store is located
--to	-t	<arg> Destination data-va
--sync	-sync	Run synchronously.

Check a Mailbox Move Status (zmmboxmovequery)

The CLI command, **zmmboxmovequery,** is used to query ongoing data store moves on a data-va, both move-ins and move-outs.

Syntax

zmmboxmovequery -a <account email> [-s <server to query>]

Purge the Old Mailbox After a Move (zmpurgeoldmbox)

The CLI command, **zmpurgeoldmbox**, purges the data store from the older data-va after a data store move.

Syntax

zmmboxmove -a <email@address> --from <servername> --to <servername>

Description

Long Name	Short Name	Description
--account	-a	<arg> Email address of account to purge
--help	-h	Displays the usage options for this command
--server	-s	<arg> Data-va hostname. Old server where the account existed

Procedure

1. Go to the destination data-va and log in as the root user.
2. Change to the zimbra user, type

   su - zimbra
3. Move a Data account to a new data-va, type

   zmmboxmove -a useraccount --from <src> --to <dest> [sync]

   When the account move is complete, you receive a success or failure notification.
4. After the account move is complete, reboot each Horizon Workspace Gateway VA and flush the cache.
   a. On the gateway-va to restart memcached, as root type

      /etc/rc.d/memcached restart
   b. Flush memcached without stopping

      wget -O - --quiet http://<GatewayIP:port>/flush
5. Before purging the old account, make sure that the user can sign in and see all their files and folders.
6. Purge the account on the old data-va virtual machine. Type

   zmpurgeoldmbox -a <email> -s <server_to_purge>

Data-va Local Configuration Options (zmlocalconfig)

This command is used to set or get the local configuration for a data-va virtual machine. Use zmlocalconfig -i to see a list of supported properties that can be configured by an administrator.

Syntax

zmlocalconfig [options]

To see the local config type zmlocalconfig

Description

Long Name	Short Name	Description
--config	-c	<arg> File in which the configuration is stored
--default	-d	Show default values for keys listed in [args]
--edit	-e	Edit the configuration file, change keys and values specified. The [args] is in the key=value form.
--force	-f	Edit the keys whose change is known to be potentially dangerous
--help	-h	Shows the help for the usage options for this tool
--info	-i	Shows the list of supported properties.
--format	-m	<arg> Shows the values in one of these formats: plain (default), xml, shell, nokey.
--changed	-n	Shows the values for only those keys listed in the [args] that have been changed from their defaults
--path	-p	Shows which configuration file will be used
--quiet	-q	Suppress logging
--random	-r	This option is used with the edit option. Specified key is set to a random password string.
--show	-s	Forces the display of the password strings
--unset	-u	Remove a configuration key. If this is a key with compiled-in defaults, set its value to the empty string.
--expand	-x	Expand values

- If Microsoft Preview is enabled for Data Preview, you must set the URL on each data-va to point to the Microsoft Preview server.

  zmlocalconfig -e ms_convertr_url=(http://xx.xx.xx.xx|url)

Data Store Account Management (zmmailbox)

The **zmmailbox** tool is used for data store account management. The command can help administrators debug issues with an account. It is useful in getting a list of folders, checking rights, searching the files, etc.

You can invoke the zmmailbox command from within the zmprov command. You enter **selectMailbox** within zmprov to access the zmmailbox command connected to that

specified account. You can then enter zmmailbox commands until you type **exit**. Exit returns you to zmprov.

Syntax

zmmailbox [args] [cmd] [cmd-args ...]

Description

Long Name	Short Name	Syntax, Example, and Notes
--help	-h	display usage
--file	-f	use file as input stream
--url	-u	http[s]://{host}[:{port}] server hostname and optional port. Must use admin port with -z/-a
--account {name}	-a	account name to authorize as
--zadmin	-z	use zimbra admin name/password from localconfig for admin/password
--authtoken (authtoken)	-y	use authtoken string (has to be in JSON format) from command line
--authtoken (authtoken file)	-Y	use authtoken string (has be in JSON format) from command line
--mailbox {name}	-m	data store to open. Can be used as both authenticated and targeted unless other options are specified.
--auth {name}		account name to authorize as. Defaults to --data store unless --admin-priv is used
--admin-priv	-A	execute requests with admin privilege
--timeout	-t	timeout (in seconds)
--verbose	-v	verbose mode (dumps full exception stack trace)
--debug	-d	debug mode (dumps SOAP messages)

Specific CLI tools are available for the different components of a data store. Usage is described in the CLI help for the following.

zmmailbox help commands	help on all commands
zmmailbox help folder	help on folder-related commands
zmmailbox help item	help on item-related commands
zmmailbox help misc	help on miscellaneous commands
zmmailbox help right	help on right commands
zmmailbox help search	help on search-related commands

Examples

- To find the data store size for an account

zmmailbox -z-m user@example.com gms

- Use --admin-priv with selected zmmailbox command

  zmmailbox -z mbox> sm --admin-priv foo@domain.com

Metadata Dump (zmmetadump)

This command is a support tool that dumps the contents of an item's metadata in a human readable form.

Syntax

zmmetadump -m <mailbox id/email> -i <item id>

or zmmetadump -f <file containing encoded metadata>

SOAP Format (zmsoap)

Prints mail, account, and admin information in the SOAP format.

Syntax

zmsoap [options] <path1 [<path2>...]

Description

Long Name	Short Name	Description
--help	-h	Prints usage information
--mailbox	-m	<name> Displays data store account name. Account requests are sent to this account. This attribute is also used for authentication if -a and -z are not specified
--target		<name> Displays the target account name to which the requests are sent. Used only for non-admin sessions
--admin name	-a	<name> Displays the admin account name to authenticate as
--zadmin	-z	Displays the admin name and password to authenticate as
--password	-p	<pass> Displays account password
--passfile	-P	<path> Reads password from a file
--element	-e	<path> Displays the root element path. If specified, all path arguments that do not start with a slash (/) are relative to this element
--type	-t	<type> Displays the SOAP request type. Can either be mail, account, or admin

Long Name	Short Name	Description
--url	-u	<http[s]://...> Displays the server hostname and optional port value
--verbose	-v	Prints the SOAP request and other status information
path		<[path...]> Displays the element or attribute path and value. Roughly follows the XPath syntax as: [/]element1[/element2][/@attr][=value]

Thread Dump (zmthrdump)

This command invokes a thread dump in the data-va virtual machine process and prints the output file. It also gives the option of saving the thread dump to a file and inserts a time stamp on the logfile.

Syntax

zmthrdump [-h] [-i] [-t <timeout seconds>] [-p <pid file>] [-f <file>] [-o <out-file>]

Description

Short Name	Description
-h	Displays help messages.
-i	Appends the time stamp to the LOGFILE before invoking SIGQUIT.
-p	Returns the PID to send SIGQUIT. The default value can be found in zmmailboxd_java.pid.
-f	Specifies the LOGFILE to save the thread dump output in. The default value is zmmailbox.out.
-o	Specifies the output file of the thread dump. The default value is stdout.
-t	Specifies the timeout value (in seconds) to exit if the process becomes unresponsive. The default value is 30 seconds.

Manage Data Store Storage Volumes (zmvolume)

When the data-va virtual machine is set up, one current index volume and one current files volume are configured.

Index Volumes

Each account is assigned to a permanent directory on the current index volume. As volumes become full, you can create a new current index volume for new accounts. Index volumes not marked “current” are still actively in use for the accounts assigned to them. Any index volume that is referenced by an account cannot be deleted.

Files Volumes

When new files are added to an account, the files are saved in the current files volume. When the volume is full, you can configure a new current files volume. The current files volume receives all new files. A current volume cannot be deleted and file volumes that have files referencing the volume cannot be deleted.

This command can be used to manage storage volumes from the CLI.

Syntax

zmvolume {-a|-d|-l|-e|-dc|-sc} [options]

Description

Long Name	Short Name	Description
--add	-a	Adds a volume
--compress	-c	<arg> Compress BLOBs; “true” or “false”
--compressionThreshold	-ct	Compression threshold; default 4KB
--delete	-d	Deletes a volume
--displayCurrent	-dc	Displays the current volume
--edit	-e	Edits a volume
--help	-h	Shows the help for the usage options for this tool.
--id	-id	<arg> Volume ID
--list	-l	Lists volumes
--name	-n	<arg> Volume name
--path	-p	<arg> Root path
--server	-s	<arg> Data server hostname. Default is localhost.
--setCurrent	-sc	Sets the current volume
--type	-t	<arg> Volume type (primaryMessage, secondaryMessage, or index)
--turnOffSecondary	-ts	Turns off the current secondary message volume

- Add a volume

  zmvolume -a -t primaryMessage -n <name> -p <path>

  Type can be primaryMessage, secondaryMessage, or index

- List a volume

  zmvolume -l

- Delete a volume

  zmvolume -d -id <id>

- Edit a volume

  zmvolume -e -id <id>