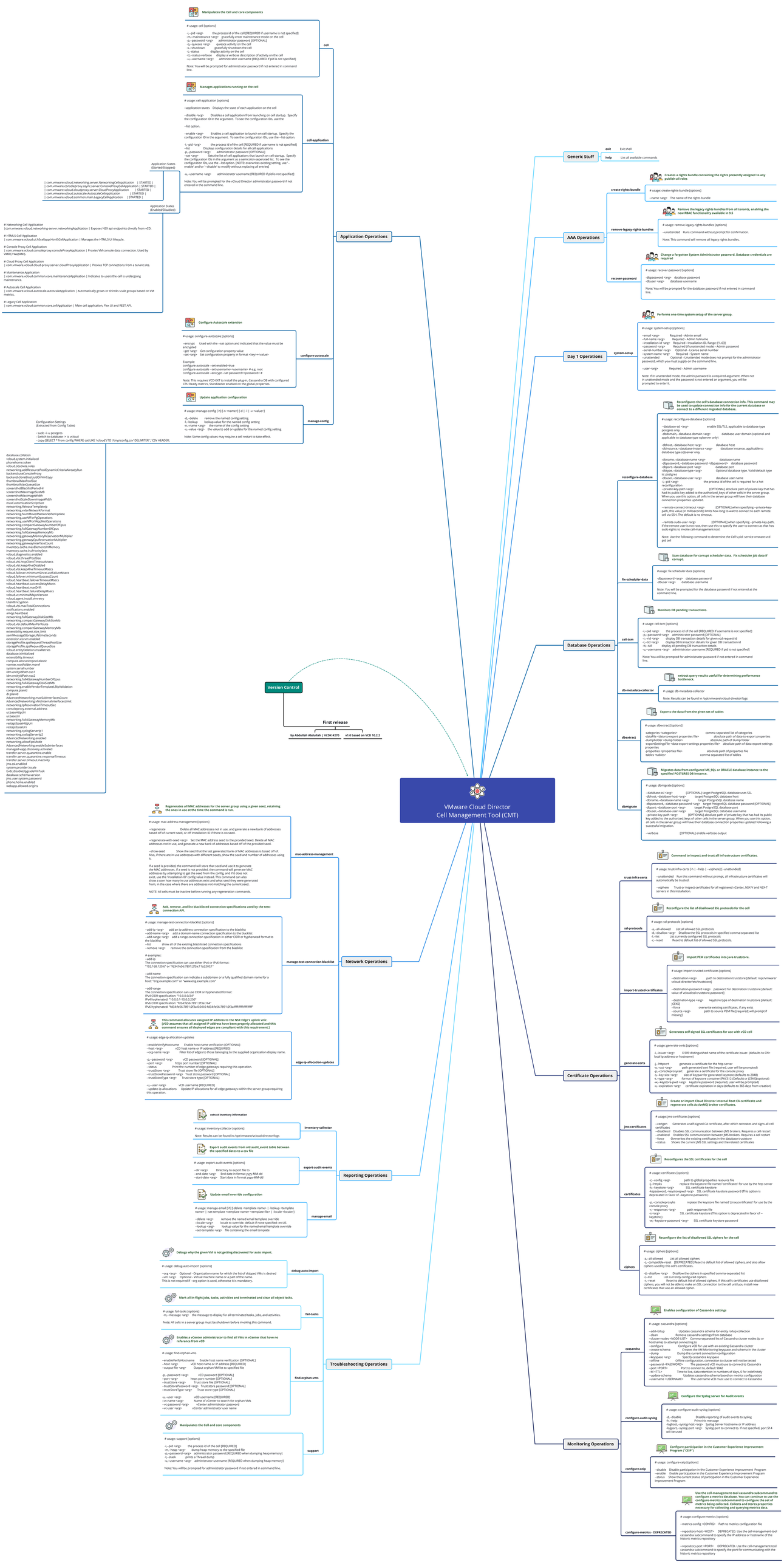
VMware Cloud Director
Cell Management Tool (CMT)
Version Control
First release
by Abdullah Abdullah | VCDX #270
v1.0 based on VCD 10.2.2
Generic Stuff
exit
Exit shell
help
List all available commands
AAA Operations
create-rights-bundle
Creates a rights bundle containing the rights presently assigned to any publish-all roles
usage: create-rights-bundle [options]
--name <arg> The name of the rights bundle
remove-legacy-rights-bundles
Remove the legacy rights bundles from all tenants, enabling the new RBAC functionality available in 9.5
usage: remove-legacy-rights-bundles [options]
--unattended Runs command without prompt for confirmation.
Note: This command will remove all legacy rights bundles.
recover-password
Change a forgotten System Administrator password. Database credentials are required
usage: recover-password [options]
-dbpassword <arg> database password
-dbuser <arg> database username
Note: You will be prompted for the database password if not entered in command line.
Day 1 Operations
system-setup
Performs one-time system setup of the server group.
usage: system-setup [options]
--email <arg> Required - Admin email
--full-name <arg> Required - Admin fullname
--installation-id <arg> Required - Installation ID. Range: [1..63]
--password <arg> Required if unattended mode - Admin password
--serial-number <arg> Optional - License serial number
--system-name <arg> Required - System name
--unattended Optional - Unattended mode does not prompt for the administrator password, which you must supply on the command line.
--user <arg> Required - Admin username
Note: If in unattended mode, the admin password is a required argument. When not in unattended mode and the password is not entered an argument, you will be prompted to enter it.
Database Operations
reconfigure-database
Reconfigures the cell's database connection info. This command may be used to update connection info for the current database or connect to a different migrated database.
usage: reconfigure-database [options]
--database-ssl <arg> enable SSL/TLS, applicable to database type postgres only
-dbdomain,--database-domain <arg> database user domain (optional and applicable to database type sqlserver only)
-dbhost,--database-host <arg> database host
-dbinstance,--database-instance <arg> database instance, applicable to database type sqlserver only
-dbname,--database-name <arg> database name
-dbpassword,--database-password <dbpassword> database password
-dbport,--database-port <arg> database port
-dbtype,--database-type <arg> Optional database type. Valid/default type is: postgres
-dbuser,--database-user <arg> database user name
-j,--pid <arg> the process id of the cell is required for a hot reconfiguration
--private-key-path <arg> [OPTIONAL] absolute path of private key that has had its public key added to the authorized_keys of other cells in the server group. When you use this option, all cells in the server group will have their database connection properties updated.
--remote-connect-timeout <arg> [OPTIONAL] when specifying --private-key-path, this value (in milliseconds) limits how long to wait to connect to each remote cell via SSH. The default is no timeout.
--remote-sudo-user <arg> [OPTIONAL] when specifying --private-key-path, if the remote user is not root, the user this to specify the user to connect as that has sudo rights to invoke cell-management-tool.
Note: Use the following command to determine the Cell's pid: service vmware-vcd pid cell
fix-scheduler-data
Scan database for corrupt scheduler data. Fix scheduler job data if corrupt.
#usage: fix-scheduler-data [options]
-dbpassword <arg> database password
-dbuser <arg> database username
Note: You will be prompted for the database password if not entered at the command line.
cell-txm
Monitors DB pending transactions.
usage: cell-txm [options]
-j,--pid <arg> the process id of the cell [REQUIRED if username is not specified]
-p,--password <arg> administrator password [OPTIONAL]
-r,--rid <arg> display DB transaction details for given xid request id
-t,--tid <arg> display DB transaction details for given DB transaction id
-x,--xid display all pending DB transaction details
-u,--username <arg> administrator username [REQUIRED if pid is not specified]
Note: You will be prompted for administrator password if not entered in command line.
db-metadata-collector
extract query results useful for determining performance bottleneck.
usage: db-metadata-collector
Note: Results can be found in /opt/vmware/vcloud-director/logs
dbextract
Exports the data from the given set of tables
usage: dbextract [options]
-categories <categories> comma separated list of categories
-dataFile <data-to-export.properties file> absolute path of data-to-export.properties
-dumpFolder <dump folder> absolute path of dump folder
-exportFile <data-export-settings.properties file> absolute path of data-export-settings.properties
-properties <properties file> absolute path of properties file
-tables <tables> comma separated list of tables
dbmigrate
Migrates data from configured MS_SQL or ORACLE database instance to the specified POSTGRES DB instance.
usage: dbmigrate [options]
--database-ssl <arg> [OPTIONAL] target PostgreSQL database uses SSL
-dbhost,--database-host <arg> target PostgreSQL database host
-dbname,--database-name <arg> target PostgreSQL database name
-dbpassword,--database-password <dbpassword> target PostgreSQL database password [OPTIONAL]
-dbport,--database-port <arg> target PostgreSQL database port
-dbuser,--database-user <arg> target PostgreSQL database username
--private-key-path <arg> [OPTIONAL] absolute path of private key that has had its public key added to the authorized_keys of other cells in the server group. When you use this option, all cells in the server group will have their database connection properties updated following a successful migration.
--verbose [OPTIONAL] enable verbose output
Certificate Operations
trust-infra-certs
Command to inspect and trust all infrastructure certificates.
usage: trust-infra-certs [-h | --help] [--vsphere] [--unattended]
--unattended Run this command without prompt, all infrastructure certificates will automatically be trusted.
--vsphere Trust or inspect certificates for all registered vCenter, NSX-V and NSX-T servers in this installation.
ssl-protocols
Reconfigure the list of disallowed SSL protocols for the cell
usage: ssl-protocols [options]
-a,--all-allowed List all allowed SSL protocols
-d,--disallow <arg> Disallow the SSL protocols in specified comma-separated list
-l,--list List currently configured SSL protocols
-r,--reset Reset to default list of allowed SSL protocols.
import-trusted-certificates
Import PEM certificates into Java truststore.
usage: import-trusted-certificates [options]
--destination <arg> path to destination truststore [default: /opt/vmware/vcloud-director/etc/truststore]
--destination-password <arg> password for destination truststore [default: value of vcloud.ssl.truststore.password]
--destination-type <arg> keystore type of destination truststore [default: pkcs12]
-force overwrite existing certificates, if any exist
--source <arg> path to source PEM file [required, will prompt if missing]
generate-certs
Generates self-signed SSL certificates for use with vCD cell
usage: generate-certs [options]
-i,--issuer <arg> X.509 distinguished name of the certificate issuer. (defaults to CN=local ip address or hostname)
-j,--httpcert generate a certificate for the http server
-k,--key-pass <arg> password for private key file (user will be prompted)
-p,--consoleproxycert generate a certificate for the console proxy
-s,--key-size <arg> size of keypair for generated keystore (defaults to 2048)
-t,--type <arg> format of keystore container (PKCS12 (Default) or JCEKS(optional)
-w,--keystore-pwd <arg> keystore password (required, user will be prompted)
-v,--expiration <arg> certificate expiration in days (defaults to 365 days from creation)
jms-certificates
Create or import Cloud Director Internal Root CA certificate and regenerate cells ActiveMQ broker certificates.
usage: jms-certificates [options]
--certgen Generates a self-signed CA certificate, after which recreates and signs all cell certificates
--disabled Disables SSL communication between JMS brokers. Requires a cell restart
--enabled Enables SSL communication between JMS brokers. Requires a cell restart
-force Overwrites the existing certificates in the database truststore
--status Shows the current JMS SSL settings and the related certificates
certificates
Reconfigures the SSL certificates for the cell
usage: certificates [options]
-c,--config <arg> path to global.properties resource file
-j,--httpks replace the keystore file named 'certificates' for use by the http server
-k,--keystore <arg> SSL certificate keystore
-kspassword,--keystorepwd <arg> SSL certificate keystore password (This option is deprecated in favor of --keystore-password.)
-p,--consoleproxyks replace the keystore file named 'proxycertificates' for use by the console proxy
-r,--responses <arg> path responses file
-s <arg> SSL certificate keystore (This option is deprecated in favor of --keystore.)
-w,--keystore-password <arg> SSL certificate keystore password
ciphers
Reconfigure the list of disallowed SSL ciphers for the cell
usage: ciphers [options]
-a,--all-allowed List all allowed ciphers
-c,--compatible-reset [DEPRECATED] Reset to default list of allowed ciphers, and also allow ciphers used by this cell's certificates.
-d,--disallow <arg> Disallow the ciphers in specified comma-separated list
-l,--list List currently configured ciphers
-r,--reset Reset to default list of allowed ciphers. If this cell's certificates use disallowed ciphers, you will not be able to make an SSL connection to the cell until you install new certificates that use an allowed cipher.
Monitoring Operations
cassandra
Enables configuration of Cassandra settings
usage: cassandra [options]
--add-rollup Updates cassandra schema for entity rollup collection
--clean Remove cassandra settings from database
--cluster-nodes <NODE-LIST> Comma-separated list of Cassandra cluster nodes (ip or hostname) to attempt connecting to
--configure Configure vCD for use with an existing Cassandra cluster
--create-schema Creates the VM Monitoring keyspace and schema in the cluster
--dump Dump the current connection configuration
--offline-config <arg> Offline configuration
--offline Offline configuration, connection to cluster will not be tested
--password <PASSWORD> The password vCD must use to connect to Cassandra
--port <PORT> Port to connect to, default 9042
--ttl <TTL> Time to live, data retention in numbers of days, 0 for indefinitely
--update-schema Updates cassandra schema based on metrics configuration
--username <USERNAME> The username vCD must use to connect to Cassandra
configure-audit-syslog
Configure the Syslog server for Audit events
usage: configure-audit-syslog [options]
-d,--disable Disable reporting of audit events to syslog
-h, --help Print this message
-loghost,--syslog-host <arg> Syslog Server hostname or IP address
-logport,--syslog-port <arg> Syslog port to connect to. If not specified, port 514 will be used
configure-ceip
Configure participation in the Customer Experience Improvement Program ("CEIP")
usage: configure-ceip [options]
--disable Disable participation in the Customer Experience Improvement Program
--enable Enable participation in the Customer Experience Improvement Program
--status Show the current status of participation in the Customer Experience Improvement Program
configure-metrics - DEPRECATED
Use the cell-management-tool cassandra subcommand to configure a metrics database. You can continue to use the configure-metrics subcommand to configure the set of metrics being collected. Collects and stores properties necessary for collecting and querying metrics data.
usage: configure-metrics [options]
--metrics-config <CONFIG> Path to metrics configuration file
--repository-host <HOST> DEPRECATED. Use the cell-management-tool cassandra subcommand to specify the IP address or hostname of the historic metrics repository
--repository-port <PORT> DEPRECATED. Use the cell-management-tool cassandra subcommand to specify the port for communicating with the historic metrics repository
Network Operations
mac-address-management
Regenerates all MAC addresses for the server group using a given seed, retaining the ones in use at the time the command is run.
usage: mac-address-management [options]
--regenerate Delete all MAC addresses not in use, and generate a new bank of addresses based off of current seed, or off Installation ID if there is no seed.
--regenerate-with-seed <arg> Set the MAC address seed to the provided seed. Delete all MAC addresses not in use, and generate a new bank of addresses based off of the provided seed.
--show-seed Show the seed that the last generated bank of MAC addresses is based off of. Also, if there are in use addresses with different seeds, show the seed and number of addresses using it.
If a seed is provided, the command will store that seed and use it to generate the MAC addresses. If a seed is not provided, the command will generate MAC addresses by attempting to get the seed from the config, and if it does not exist, use the 'Installation ID' config value instead. This command can also show a user how many in use addresses exist and what seed they were generated from, in the case where there are addresses not matching the current seed.
NOTE: All cells must be inactive before running any regeneration commands.
nsx-t-blocklist-connection
Add, remove, and list blacklisted connection specifications used by the test-connection API.
usage: manage-test-connection-blacklist [options]
--add-ip <arg> add an ip-address connection specification to the blacklist
--add-name <arg> add a domain-name connection specification to the blacklist
--add-range <arg> add a range connection specification in either CIDR or hyphenated format to the blacklist
--list show all of the existing blacklisted connection specifications
--remove <arg> remove the connection specification from the blacklist
examples:
--add-ip
The connection specification can use either IPv4 or IPv6 format:
'192.168.120.6' or 'fd34:9e56:7891:2f3a:1a2:0:0:1'
--add-name
The connection-specification can indicate a subdomain or a fully qualified domain name for a host: "eng.example.com" or "www.eng.example.com"
--add-range
The connection-specification can use CIDR or hyphenated format:
IPv4 CIDR specification: '10.0.0.0/24'
IPv6 CIDR example: 'fd34:9e56:7891::/64'
IPv4 CIDR network mom: 'fd34:9e56:7891:2f3a::/64'
IPv4 hyphenated: 'fd34:9e56:7891:2f3a:0:0:0:0-fd34:9e56:7891:2f3a:ffff:ffff:ffff:ffff'
edge-ip-allocation-updates
This command allocates assigned IP address to the NSX Edge's uplink vnic. [VCD assumes that all assigned IP address have been properly allocated and this command ensures all deployed edges are compliant with this requirement.]
usage: edge-ip-allocation-updates
--enablereflpmtuname Enable host name verification [OPTIONAL]
--host <arg> vCD host name or IP address [REQUIRED]
--org-name <arg> Filter list of edges to those belonging to the supplied organization display name.
-p,--password <arg> vCD password [OPTIONAL]
--port <arg> https port number [OPTIONAL]
--status Print the number of edge gateways requiring this operation.
--trustStore <arg> Trust store file [OPTIONAL]
--trustStorePassword <arg> Trust store password [OPTIONAL]
--trustStoreType <arg> Trust store type [OPTIONAL]
-u,--user <arg> vCD username [REQUIRED]
--update-ip-allocations Update IP allocations for all edge gateways within the server group requiring this operation.
Reporting Operations
inventory-collector
extract inventory information
usage: inventory-collector [options]
Note: Results can be found in /opt/vmware/vcloud-director/logs
export-audit-events
Export audit events from old audit_event table between the specified dates to a csv file
usage: export-audit-events [options]
--dir <arg> Directory to export file to
--end-date <arg> End date in format yyyy-MM-dd
--start-date <arg> Start date in format yyyy-MM-dd
manage-email
Update email override configuration
usage: manage-email [-h] (-delete <template name> | -lookup <template name> | -set <template name> <template file> | -locale <locale>)
-delete <arg> remove the named email template override
-locale <arg> locale to override. default if none specified: en-US
-lookup <arg> lookup value for the named email template override
-set <template <arg> file containing the email template
Troubleshooting Operations
debug-auto-import
Debugs why the given VM is not getting discovered for auto import.
usage: debug-auto-import [options]
--org <arg> Optional - Organization name for which the list of skipped VMs is desired
--vm <arg> Optional - Virtual machine name or a part of the name.
This is not required if --org option is used, otherwise it is mandatory.
fail-tasks
Mark all in-flight jobs, tasks, activities and terminated and clear all object locks.
usage: fail-tasks [options]
-m, --message <arg> the message to display for all terminated tasks, jobs, and activities.
Note: All cells in a server group must be shutdown before invoking this command.
find-orphan-vms
Enables a vCenter administrator to find all VMs in vCenter that have no reference from vCD
usage: find-orphan-vms
--enablevlerlyhtnname Enable host name verification [OPTIONAL]
--host <arg> vCD host name or IP address [REQUIRED]
--output <arg> Output orphan VM list to specified file
-p,--password <arg> vCD password [OPTIONAL]
--port <arg> https port number [OPTIONAL]
--trustStore <arg> Trust store file [OPTIONAL]
--trustStorePassword <arg> Trust store password [OPTIONAL]
--trustStoreType <arg> Trust store type [OPTIONAL]
-u,--user <arg> vCD username [REQUIRED]
--vc <arg> Name of vCenter to search for orphan VMs
--vc-password <arg> vCenter administrator password
--vc-user <arg> vCenter administrator user name
support
Manipulates the Cell and core components
usage: support [options]
-j,--pid <arg> the process id of the cell [REQUIRED]
-o,--heap <arg> dump heap memory to the specified file
-p,--password <arg> administrator password [REQUIRED when dumping heap memory]
-t,--stack prints a Thread dump
-u,--username <arg> administrator username [REQUIRED when dumping heap memory]
Note: You will be prompted for administrator password if not entered in command line.
Application Operations
cell
Manipulates the Cell and core components
usage: cell [options]
-j,--pid <arg> the process id of the cell [REQUIRED if username is not specified]
-m,--maintenance <arg> gracefully enter maintenance mode on the cell
-p,--password <arg> administrator password [OPTIONAL]
-q,--quiesce <arg> quiesce activity on the cell
-s,--shutdown gracefully shutdown the cell
-st,--status display activity on the cell
-u,--username <arg> administrator username [REQUIRED if pid is not specified]
Note: You will be prompted for administrator password if not entered in command line.
cell-application
Manages applications running on the cell
usage: cell-application [options]
--application-states Displays the state of each application on the cell
--disable <arg> Disables a cell application from launching on cell startup. Specify the configuration ID in the argument. To see the configuration IDs, use the --list option.
--enable <arg> Enables a cell application to launch on cell startup. Specify the configuration ID in the argument. To see the configuration IDs, use the --list option.
-j,--pid <arg> the process id of the cell [REQUIRED if username is not specified]
--list Displays configuration details for all cell applications
-p,--password <arg> administrator password [OPTIONAL]
--set <arg> Sets the list of cell applications that launch on cell startup. Specify the configuration IDs in the argument as a semicolon-separated list. To see the configuration IDs, use the --list option. [NOTE: overwrites existing setting, use '+ enable' and/or '–disable' to modify without replacing all entries]
-u,--username <arg> administrator username [REQUIRED if pid is not specified]
Note: You will be prompted for the vCloud Director administrator password if not entered in the command line.
Application States (Started/Stopped)
com.vmware.vcloud.networking.server.NetworkingCellApplication	STARTED
com.vmware.consoleproxy.async.server.ConsoleProxyCellApplication	STARTED
com.vmware.vcloud.cloudproxy.server.CloudProxyApplication	STARTED
com.vmware.vcloud.autoscale.AutoscaleCellApplication	STARTED
com.vmware.vcloud.common.main.LegacyCellApplication	STARTED
Application States (Enabled/Disabled)
Networking Cell Application
| com.vmware.vcloud.networking.server.networkingApplication | Exposes NSX api endpoints directly from vCD.
HTML5 Cell Application
| com.vmware.vcloud.ui.h5eallapp.Html5CellApplication | Manages the HTML5 UI lifecycle.
Console Proxy Cell Application
| com.vmware.vcloud.consoleproxy.consoleProxyApplication | Proxies VM console data connection. Used by VMRC/ WebMKS.
Cloud Proxy Cell Application
| com.vmware.vcloud.cloud-proxy.server.cloudProxyApplication | Proxies TCP connections from a tenant site.
Maintenance Application
| com.vmware.vcloud.common.core.maintenanceApplication | Indicates to users the cell is undergoing maintenance
Autoscale Cell Application
| com.vmware.vcloud.autoscale.autoscaleApplication | Automatically grows or shrinks scale groups based on VM metrics.
Legacy Cell Application
| com.vmware.vcloud.common.core.cellApplication | Main cell application, Flex UI and REST API.
configure-autoscale
Configure Autoscale extension
usage: configure-autoscale [options]
--encrypt Used with the --set option and indicated that the value must be encrypted
-get <arg> Get configuration property value
-set <arg> Set configuration property in format <key>=<value>
Example:
configure-autoscale --set enabled=true
configure-autoscale --set username=<username> # e.g. root
configure-autoscale --encrypt --set password=<password> #
Note: This requires VCD-EXT to install the plug-in, Cassandra DB with configured CPU Ready metrics, StatsFeeder enabled on the global properties.
manage-config
Update application configuration
usage: manage-config [-h] [-n <name>] [-d | -l | -v <value>]
-d,--delete remove the named config setting
-l,--lookup lookup value for the named config setting
-n,--name <arg> the name of the config setting
-v,--value <arg> the value to add or update for the named config setting
Note: Some config values may require a cell restart to take effect.
Configuration Settings
(Extracted from Config Table)
- \sudo -i -u postgres
- Switch to database -> \c vcloud
- copy (SELECT * from config WHERE cat LIKE 'vcloud') TO '/tmp/config.csv' DELIMITER ',' CSV HEADER;
database.collation
vcloud.system.initialized
phonehome.token
vcloud.obsolete.roles
networking.addResourcePoolDynamicCriteriaAlreadyRun
backend.useConsoleProxy
backend.cloneBlockListOnVmCopy
vcloud.vmMetrics.maxAge
thumbnailMaxQueueSize
screenshotBlackListPeriodHr
screenshotMaximageSizeMB
screenshotMaximageWidth
screenshotScaleDownImageWidth
maxCustomizationScriptSize
networking.ReleaseTemplate
networking.vcaVNetworkFormat
networking.maxVcaVNetworksPerUpdate
networking.useHPIlorfgOperations
networking.useHPIorfgAgentOperations
networking.compactGatewayNumberOfCpus
networking.fullGatewayNumberOfCpus
networking.fullGatewayMemoryMb
networking.gatewayMemoryReservationMultiplier
networking.gatewayMemoryOverheadMultiplier
networking.gatewayInterfaceCount
inventory.cache.maxElementsInMemory
inventory.cache.hsPoolSize
vcloud.diagnostics.enabled
vcloud.vlsi.threadPoolSize
vcloud.vlsi.httpClientTimeoutMsecs
vcloud.vlsi.keepAliveMsecs
vcloud.vlsi.keepAliveTimeoutMsecs
vcloud.failover.minimumSinceLastFailureMsecs
vcloud.failover.minimumSuccessCount
vcloud.heartbeat.failoverTimeoutMsecs
vcloud.heartbeat.successDelayMsecs
vcloud.heartbeat.maxDrift
vcloud.heartbeat.failureDelayMsecs
vcloud.vc.minimumApiVersion
vcloud.agent.install.winversy
UseEtlEncryption
vcloud.vlsi.maxTotalConnections
notifications.enabled
amqp.heartbeat
networking.fullGatewayDiskSizeMb
networking.compactGatewayDiskSizeMb
vcloud.vlsi.defaultMaxPerRoute
networking.compactGatewayMemoryMb
extensibility.request.size_limit
samlMessageStorageLifetimeSeconds
extension.esxvm.enabled
storageProfile.syncRequestThreadPoolSize
storageProfile.syncRequestQueueSize
vcloud.entityDisplayNameRetries
database.sizeBalanced
extensibility.timeout
compute.allocationpool.elastic
vcenter.rootfolder.moref
system.serialnumber
idm.entityIDPath.sso2
idm.entityIDPath.sso1
networking.fullGatewayNumberOfCpus
networking.fullGatewayDiskSizeMb
networking.enableVendorTemplateLibIpIsolation
compute.plandd
dr.plandd
AdvancedNetworking.maxSubInterfaceCount
AdvancedNetworking.vNicInternalInterfacesLimit
networking.ipReservationTimeoutSec
consoleproxy.external.address
ui.baseHttpUrl
ui.baseUrl
networking.fullAGGatewayMemoryMb
restapi.baseHttpUrl
restapi.baseUrl
networking.syslogServerp1
networking.syslogServerIp2
AdvancedNetworking.enabled
networking.allowFipsMode
AdvancedNetworking.enableSubInterfaces
managed-vapp.discovery.activated
transfer.server.quarantine.enable
transfer.server.quarantine.responseTimeout
transfer.server.timeout.inactivity
jms.ssl.enabled
system.provider.locale
Evdc.disableUpgradeVmTask
database.schema.version
jms.user.system.password
phone.home.enabled
webapp.allowed.origins