vCloud Application Director
Troubleshooting

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VMware vCloud Application Director Troubleshooting

_vCloud Application Director Troubleshooting_ provides procedures for troubleshooting problems that might occur when you provision application deployments to a cloud environment.

**Intended Audience**

This information is intended for anyone who wants to troubleshoot problems such as common errors, deployment failures, update process failures, and LDAP errors in the product. This audience includes application infrastructure administrators and application deployers who work in collaboration with application architects and cloud administrators.
Collecting Logs to Troubleshoot Failures

vCloud Application Director creates virtual machine-specific logs and an overall deployment log to aid in troubleshooting.

You can use the log pages in the vCloud Application Director user interface to find and correct some problems on your own. If a technical support representative requests more logs, you can retrieve them from the file system of the vCloud Application Director virtual appliance or the virtual machines that were created as part of an application deployment.

This chapter includes the following topics:

- “Retrieve Logs from the User Interface,” on page 7
- “View Failed Virtual Machine Tasks,” on page 8
- “Collect Logs from the vCloud Application Director Appliance,” on page 8
- “Retrieve Logs for API Calls,” on page 8
- “Collect Log Files from Deployed Virtual Machines,” on page 9

Retrieve Logs from the User Interface

With vCloud Application Director, you can use the user interface to copy the action script logs.

Prerequisites

- Verify that you have access to the virtual machine where vCloud Application Director is installed and have the password for logging in with the darwin_user user account. This password was set during installation. See the Using VMware vCloud Application Director guide.
- Verify that you have credentials for logging in to the Linux-based virtual machine with root privileges or a Windows-based virtual machine with administrator privileges.

Procedure

1. On the vCloud Application Director title bar, click the drop-down menu and select **Deployments**.
2. Click the name of the deployment and expand the Execution Plan status window.
3. (Optional) If the node is clustered, click the **Expand Cluster** button.
4. On the failed node, click the **View Task Information** button.
5. From the drop-down menu, select **View Virtual Machine Logs** and copy all of the text in the log window.
What to do next
You can paste the log into a text file or email, or create a bug report to send it to a technical support engineer.

View Failed Virtual Machine Tasks
You can use the vCloud Application Director user interface to view and troubleshoot failed tasks on a specific virtual machine.

Prerequisites
- Verify that you have access to the virtual machine where vCloud Application Director is installed and have the password for logging in with the darwin_user user account. This password was set during installation. See the Using VMware vCloud Application Director guide.
- Verify that you have credentials for logging in to the Linux-based virtual machine with root privileges or a Windows-based virtual machine with administrator privileges.

Procedure
1. On the vCloud Application Director title bar, click the drop-down menu and select Deployments.
2. Click the name of the deployment and expand the VM Details status window.
3. Locate the virtual machine and click the icon in the Log column.

What to do next
You can copy and paste the virtual machine log file to a text file or email, or create a bug report to send the log file to a technical support engineer.

Collect Logs from the vCloud Application Director Appliance
You can access the catalina.out log file or the local host log file from the vCloud Application Director appliance.

Prerequisites
- Verify that you have credentials for logging in to the Linux-based virtual machine with root privileges or a Windows-based virtual machine with administrator privileges.

Procedure
1. Log in to the virtual machine.
2. Send catalina.out or localhost.${date}.log output from the /home/darwin/tcserver/darwin/logs directory.

What to do next
Send the logs to a technical support representative.

Retrieve Logs for API Calls
You can retrieve detailed logs for API calls made to the vCloud Director and Amazon EC2 back end from vCloud Application Director.

Prerequisites
- Verify that you have access to the virtual machine where vCloud Application Director is installed and have the password for logging in with the darwin_user user account. This password was set during installation. See the Using VMware vCloud Application Director guide.
Verify that you have credentials for logging in to the Linux-based virtual machine with root privileges or a Windows-based virtual machine with administrator privileges.

**Procedure**

1. Log in to vCloud Application Director.
2. Open the virtual machine and access the logback.xml file.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux-based virtual machine</td>
<td>Navigate to the /opt/vmware-appdirector/agent/log directory.</td>
</tr>
<tr>
<td>Windows-based virtual machine</td>
<td>Navigate to the /home/darwin/tcserver/darwin/webapps/darwin/WEB-INF/classes directory.</td>
</tr>
</tbody>
</table>

3. Locate the comment line <!-- Begin - Cloud Provider Config --> and navigate to the <logger> ... </logger> section.
4. Change the value attribute for the level tag to DEBUG or INFO.
5. Restart the vCloud Application Director server.
   
   ```bash
   sudo service vmware-darwin-tcserver restart
   ```

**What to do next**

Access the API call logs from the /home/darwin/tcserver/darwin/logs directory.

---

**Collect Log Files from Deployed Virtual Machines**

You can collect the log files of a virtual machine that was created as part of an application deployment from the directory where the temporary files are stored.

**Prerequisites**

- Verify that you have access to the virtual machine where vCloud Application Director is installed and have the password for logging in with the darwin_user user account. This password was set during installation. See the Using VMware vCloud Application Director guide.
- Verify that you have credentials for logging in to the Linux-based virtual machine with root privileges or a Windows-based virtual machine with administrator privileges.

**Procedure**

1. At the command line, locate the deployed virtual machine.
2. Copy all of the log files on the deployed virtual machine.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux-based virtual machine</td>
<td>Navigate to the /opt/vmware-appdirector/agent/log directory.</td>
</tr>
<tr>
<td>Windows-based virtual machine</td>
<td>Navigate to the \opt\vmware-appdirector\bootstrap.log and \windows\system32\darwin-agentDate.log files.</td>
</tr>
</tbody>
</table>

3. Open the directory where the temporary files are stored.
   This directory contains several log files relating to application components.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux-based virtual machine</td>
<td>Navigate to the /tmp/runid subdirectory and tar the subdirectory.</td>
</tr>
<tr>
<td>Windows-based virtual machine</td>
<td>Navigate to the \Users\darwin\AppData\Local\Temp subdirectory.</td>
</tr>
</tbody>
</table>
**What to do next**

Send the log files to a technical support representative.
Troubleshooting Common Errors During Deployment

If an application deployment fails, the deployment summary page shows a reason for the failure. For the most common errors, you can correct the problem and redeploy the application.


This chapter includes the following topics:

- “vCloud Application Director Agent Bootstrap Problems Cause Deployment Error,” on page 12
- “A Task in the Execution Plan Failed,” on page 13
- “Deployment Failed But Task Still Running,” on page 14
- “Deployment in Progress Indefinitely,” on page 14
- “Custom Task in Progress Indefinitely,” on page 15
- “Join Domain Custom Task Fails to Run,” on page 15
- “Deployment Fails with a Timeout Error,” on page 16
- “Error in the vCloud Director Cloud Environment,” on page 16
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- “Invalid Property Value Causes Deployment Error,” on page 20
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- “Deployment to the Amazon EC2 Environment Fails,” on page 22
vCloud Application Director Agent Bootstrap Problems Cause Deployment Error

vCloud Application Director agent bootstrap problems causes a deployment to fail.

Problem

One of the following error messages appears when you deploy or update an application to the cloud environment and the deployment or update process fails.

- **Run failed due to failure of task (node name, agent_bootstrap).**
- **Agent did not respond while running task agent_bootstrap on the node LoadBalancer. Please check the agent logs located at /opt/vmware-appdirector/agent/logs/ on the VM LoadBalancer.**
- **Agent did not respond while running task agent_bootstrap on the node.**

In the Event Viewer of the Windows-based virtual machine, another error message appears.

A timeout was reached (30000 milliseconds) while waiting for the VMware vCloud Application Director agent bootstrap service to connect.

- **During the deployment or update process, the error appears if the password in the template expired.**

  The VMware vCloud Application Director agent bootstrap service failed to start due to the following error:
  
  The service did not start due to a logon failure.

Solution

The deployment failed because of one of the following reasons.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent bootstrap script is not present on the virtual machine template. See the Using VMware vCloud Application Director guide.</td>
<td>View the vCloud Application Director agent logs.</td>
</tr>
<tr>
<td>vCloud Application Director does not limit the amount of memory that you can allocate for virtual machines during deployment. Insufficient memory allocation might disrupt the virtual machine operating system boot sequence.</td>
<td>Resolve the resource allocation problem.</td>
</tr>
<tr>
<td>The agent bootstrap service on the Windows-based virtual machine does not restart within the 30 seconds limit causing a time out error message.</td>
<td>For the VMware vCloud Application Director agent bootstrap service, set the Windows Recovery actions for the First failure, Second failure, and Subsequent failures to <strong>Restart the Service</strong>.</td>
</tr>
<tr>
<td>Cause</td>
<td>Solution</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>The darwin user password within the template has expired.</td>
<td>Update the darwin user password in the template. You can also create a password that does not expire.</td>
</tr>
<tr>
<td>Agent does not have network connectivity with the vCloud Application Director server and provisioned virtual machine.</td>
<td>Run network diagnostics to verify that you can ping the vCloud Application Director server from the virtual machine.</td>
</tr>
<tr>
<td>The NAT networking rules are not configured properly on the routed organization network in vCloud Director.</td>
<td>For the routed organization network, see the vCloud Director documentation to configure SNAT rules.</td>
</tr>
</tbody>
</table>
| On Linux operating systems, the vCloud Automation Center guest agent service did not start. | 1 Change directory to the vCloud Automation Center guest agent service cd/usr/share/gugent . ./rungugent.sh rpm -qa | grep dmidecode.  
2 Install the missing dmidecode package rpm -i dmidecode-2.11-2.e16.x86_64.rpm/dmidecode-2.11-2.e16.i686.rpm. |

## A Task in the Execution Plan Failed

During an application deployment, one of the tasks in the execution plan failed.

### Problem

When a task fails during deployment the following error message appears.

Run failed due to failure of task *(NodeName,TaskName)*.

### Cause

An execution plan task might fail for one of the following reasons.

- A property of type content is not set to a valid URL. The agent log displays the following message:

  Exception while running task *(node name)*, *(task name)*, message Cannot fetch content, url http://192.0.2.255:8443/darwin/api/file/download/123 is not accessible or invalid. cause IOException: Server returned HTTP response code: 500 for URL: http://192.0.2.255:8443/darwin/api/file/download/123 Run failed due to failure of task *(node name)*, *(task name)*

- A property name contains hyphens and other characters that are not valid for shell scripts.

- The repository URL is not set to the correct operating system version.

- Action scripts might need Java installed on the cloud template and Java is not installed in the cloud template.

### Solution

1. Expand the Execution Plan status window on the deployment summary page and identify the task that failed.

2. If the node is clustered, click the Expand Cluster button first.

3. Click the View Task Information button and select View Virtual Machine Logs from the drop-down menu.
4. If the task log does not indicate the failure, examine the agent logs in the deployed virtual machine.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux-based virtual machine</td>
<td>Navigate to the <code>/opt/vmware-appdirector/agent/log</code> directory.</td>
</tr>
<tr>
<td>Windows-based virtual machine</td>
<td>Navigate to the <code>\opt\vmware-appdirector\bootstrap.log</code> and <code>\windows\system32\darwin-agentDate.log</code> files.</td>
</tr>
</tbody>
</table>

**Deployment Failed But Task Still Running**

An application deployment has failed but a task is still running in the execution deployment summary.

**Problem**

Task is still running in a failed deployment. This problem does not generate an error message.

**Cause**

In some cases, one of the tasks in the application deployment is running. At the same time, another task fails to deploy. vCloud Application Director immediately marks the entire deployment as failed. The task that is in progress continues to run until it finishes or times out.

**Solution**

1. Expand the Execution Plan status window on the deployment summary page.
2. Diagnose the cause of the long running task and fix the application blueprint.
   - If you do not do so, network connectivity problems might occur.
3. If the problem is intermittent, you can tear down the failed deployment from the cloud.
   - See the *Using VMware vCloud Application Director* guide.

**Deployment in Progress Indefinitely**

An application deployment is in progress indefinitely and does not show either a pass or fail deployment status.

**Problem**

Deployment is running indefinitely. This problem does not generate an error message.

**Cause**

Intermittent loss of connection with the Tomcat service, the server restarts during a deployment process, or the agent bootstrap fails.

**Note**  This problem does not occur for all connection failures. It happens based on the state of the deployment when the connection failure occurred.

**Solution**

1. Expand the Execution Plan status window on the deployment summary page.
2. Diagnose the cause of the long-running task and fix the application blueprint or network connectivity problems.
3. If the problem persists, cancel the deployment.
   - This action marks the deployment as failed without stopping provisioning so that you can interact with the application. See the *Using VMware vCloud Application Director* guide.
4 If the problem is intermittent, you can tear down the failed deployment from the cloud. See the *Using VMware vCloud Application Director* guide.

**Custom Task in Progress Indefinitely**

An application deployment with one or more custom tasks is in progress indefinitely and the vCloud Director deployment cannot be stopped from vCloud Application Director.

**Problem**

A custom task is running indefinitely and the deployment cannot be stopped. This problem does not generate an error message.

**Cause**

The deployment cannot be stopped because a custom task has an infinite loop or is running a long process.

**Solution**

1. In vCloud Director, stop the vApp corresponding to the deployment. You can also reclaim the cloud resources from the vCloud Director application, if you have the appropriate privileges and delete the vApp corresponding to the deployment.
2. In the Deployment Profile wizard, verify that the custom tasks have names and redeploy the application. See the *Using VV Mware vCloud Application Director* guide.
3. If the problem persists, cancel the deployment. This action marks the deployment as failed without stopping tasks so that you can interact with the application. See the *Using VMware vCloud Application Director* guide.

**Join Domain Custom Task Fails to Run**

The installation life cycle stage fails when you deploy an application on a Windows virtual machine configured to join a domain during deployment.

**Problem**

The Join Domain installation life cycle stage fails during deployment.

**Cause**

The domain name begins with darwin. This is also a known issue in the Microsoft SQL Server installation program.

**Solution**

- Rename the domain without using darwin as the prefix.
- Create or update a Windows template.
  - Name the bootstrap service account something other than darwin.
  - Configure the service to run as that account.
Deployment Fails with a Timeout Error

One or more custom tasks or action scripts run indefinitely and the deployment fails with a timeout error.

**Problem**
A custom task is running indefinitely and the deployment fails with a timeout error.

**Cause**
Processes prompting for user interaction might pause the custom task or action script.

**Solution**
- Close all of the processes that prompt for user interaction before running a custom task or action script.

Error in the vCloud Director Cloud Environment

An application deployment to the vCloud Director cloud environment fails and an error message appears.

**Problem**
An error occurred in the cloud: com.vmware.darwin.cal.api.exceptions.CALOperationException: createVapp: Unable to perform this action. Contact your cloud administrator.

**Cause**
The deployment failed because of one of the following reasons.
- The virtual machine template used for deployment is not correct.
- The virtual machines cannot be created in the cloud environment.
- The password in the virtual machines cannot be set.

**Solution**
- Follow the instructions for creating a vCloud Director custom virtual machine template in the UsingVMware vCloud Application Director guide. If you are using a predefined template, contact your vCloud Director administrator to verify that the template is correctly uploaded to the cloud.

Cloud Template EULA Not Accepted

The vCloud Director cloud templates do not require a EULA for application provisioning.

**Problem**
Error in vCloud: The EULA of the entity must be accepted for it to be instantiated.

**Cause**
The Create EULA option is enabled.

**Solution**
- In the vCloud Director user interface, disable the Create EULA check box, because cloud templates should not have EULAs.
Virtual Machines Cannot be Created in the vCloud Director Environment

New virtual machines for a vCloud Application Director application deployment cannot be created because the default virtual machine limit for the cloud environment is exceeded.

Problem

Error in vCloud: The operation was aborted because you would exceed your stored virtual machine quota. 1 new virtual machine would have been created, and you are already using 100 of a limit of 100.

Cause

The deployment error occurred because the cloud user exceeded the available virtual machine quota.

Solution

◆ Stop and delete unwanted virtual machines in vCloud Director.

Powered Off vCloud Director Virtual Machines Cause Provisioning Error

A deployment or update process fails because some virtual machines in the vCloud Director vApp are powered off.

Problem

An error occurred when provisioning the cloud: Not all VMs in deployment 'appd-xxx-3.0.0-admin-9-9a7bd588-daf4-44e4-98f9-7c862758507f' are on. 4 are powered off

Cause

Some of the virtual machines in the vApp might be powered off.

Solution

1. Log in to vCloud Director.
2. Locate the deployment in vCloud Director.
3. Power on all of the virtual machines in the vApp.
   See the vCloud Director documentation.

vCloud Director Windows Virtual Machine Login Problems

A randomly generated password replaced the administrator password when the Windows virtual machine instantiated.

Problem

Error in vCloud: The parameter is not supported in the current context: AdminPassword

Cause

The administrator password was replaced with a randomly generated password.

Solution

1. Log in vCloud Director.
2. Shut down the Windows virtual machine and open the properties.
3. Click the **Guest Customization** tab.
4. In the Password Reset section, deselect **Allow local administrator password**.
5. Click **OK** to save your changes.

**vCenter Server Instance Not Connected to vCloud Director**

Application deployment to vCloud Director fails because the vCenter Server instance is not connected to vCloud Director.

**Problem**

An error occurred in the cloud: createVapp: The operation failed because VirtualCenter “Darwin-vCenter-5.0” is not connected.

**Cause**

The vCenter Server instance is not connected to vCloud Director.

**Solution**

- Request your cloud administrator to connect the virtual center to the vCloud Director instance.

**vSphere DRS Fails to Move Virtual Machine**

An application deployment error occurs.

**Problem**

An error occurred in the cloud: sendPowerOn: Unable to perform this action. Contact your cloud administrator.

**Cause**

The vSphere Distributed Resource Scheduler failed to move a virtual machine from one ESX host to another.

**Solution**

- Contact your cloud administrator.

**Insufficient Resources in the Cloud Environment**

Deployment fails because of the lack of sufficient resources in the cloud environment.

**Problem**

You might see the following error messages.

- com.vmware.darwin.exceptions.CloudException:
  com.vmware.darwin.cal.api.exceptions.CALOperationException: Unable to compose vapp 'appd-xxx-1.0.8--admin-1028--0b37d0cf--1b8d--42a2--8212--a048e01bcb'

- An error occurred in the cloud:
  sendPowerOn: There are insufficient CPU or memory resources to complete the operation.

- Error in vCloud: There are insufficient IP addresses to complete the operation. You need to add IP addresses to the network that is associated with the object being created or deployed.
Cause
The deployment error occurs because of one of the following reasons.

- Insufficient resources, such as IP addresses or storage, in the cloud.
- The virtual machine in vCloud Director has exceeded the available CPU or memory.
- Insufficient IP addresses in the vCloud Director network.

Solution

- Designate sufficient IP addresses or storage.
  - a. Check the virtual machine logs or the vFabric tc Server log in the vCloud Application Director appliance for more detailed error messages from the cloud.
  - b. Assign additional IP addresses to the network where the application is being deployed.
  - c. For vCloud Director, check if the organization vDC has enough storage.
  - d. Delete unwanted deployments from vCloud Application Director to free some IP addresses and storage space.

- Allocate sufficient CPU or memory.
  - a. Reconfigure CPU or memory allocation in vCloud Director.
  - b. Delete unwanted virtual machines that are consuming the same pool of resources in vCloud Director.

Network Connection to the Cloud Timed Out
During an application deployment, the connection to the cloud environment times out, which causes the deployment to fail.

Problem
Timed out while connecting to the cloud

Cause
The DHCP server might have become unresponsive.

Solution

- Verify that the DHCP server is running properly.

Cannot Log In to the Cloud Provider
The vCloud Automation Center server timed out during the application deployment.

Problem
An error occurred in the cloud: Unable to login to cloud provider. Please verify the user credentials as well as other parameters you entered.

Cause
The vCloud Automation Center login credentials are incorrect.

Solution

- Use the correct vCloud Automation Center login credentials to access the cloud provider.
Action Scripts Running Beyond the Default Time Cause Errors

During an application deployment or an update process, a service is set to reboot so that the agent bootstrap can restart the virtual machine after an action script runs successfully. If the action script runs beyond the default deployment time, the deployment or update process fails.

**Problem**

Action scripts in the application that take more than 15 minutes to provision and reboot might cause the deployment or an update process to fail.

**Cause**

The task scheduler that pings the server times out after 15 minutes.

**Solution**

1. Use the SSH client to log in to the vCloud Application Director appliance as the user `darwin_user`.
2. Open a command prompt.
3. Switch user to root.
   
   ```
   sudo su -
   ```
4. Open the `/etc/init.d/vmware-darwin-tcserver` file.
5. In the CATALINA_OPTS section, change the java system nodetask.time out property to more than 15 minutes.
6. Restart the vCloud Application Director server.
   
   ```
   sudo service vmware-darwin-tcserver restart
   ```

Invalid Property Value Causes Deployment Error

A deployment error occurs.

**Problem**

Exception while running task (node name, task name), message Cannot fetch content, url https://192.0.2.255:8443/darwin/api/file/download/ is not a accessible or invalid. cause SunCertPathBuilderException: unable to find valid certification path to requested target

**Cause**

The URL value for the content property might not have a valid value assigned to it or the value is not accessible.

**Solution**

1. If the content property value is invalid, add a valid URL value.
2. If the content property value is inaccessible, make the value accessible.
3. Redeploy the application.
   
   See Using VMware vCloud Application Director guide.
**PowerShell Background Job Is Unresponsive**

Windows deployment running a PowerShell background job is unresponsive.

**Problem**
The PowerShell script that includes a `Start-Job` command for running jobs in the background is unresponsive.

**Cause**
The PowerShell script exits because the `Start-Job` command is not running the jobs in the background successfully.

**Solution**
- Use the `Start-process` command in the PowerShell script with the appropriate parameters to start the job in a separate process.

**Cannot Extract Files to the Windows System Directory**

The `C:\Windows\System32` Windows system directory does not allow files to be extracted to it and the application deployment is not marked as failed.

**Problem**
The Media application component does not extract files to the `C:\Windows\System32` directory for a Windows-based application deployment and the deployment is not marked as failed.

This problem does not generate an error message.

**Cause**
The `C:\Windows\System32` directory is a Windows protected directory that prohibits unauthorized file creation. The deployment is not marked as failed because the file extraction utility is not exiting with an error status.

**Solution**
1. Set full Administrator privileges for the Windows system directory to allow files to be extracted to the `C:\Windows\System32` folder.
2. Redeploy the Windows-based application.

See the *Using VMware vCloud Application Director* guide.

**Invalid Amazon EC2 Cloud Tunnel IP Address Causes Deployment Failure**

Deployment fails if the Amazon EC2 deployment environment has an invalid cloud tunnel IP address.

**Problem**
Application deployment to the Amazon EC2 environment fails.

**Cause**
The deployment error occurred because the cloud tunnel IP address in the deployment environment is inaccurate.

**Solution**
1. Verify that the IP address for the cloud tunnel is valid.
2 Verify that the Endpoint VM is correctly set up.

See the *Using VMware vCloud Application Director* guide.

## Deployment to the Amazon EC2 Environment Fails

Deployments to the Amazon EC2 environment from within a corporate network fail.

**Problem**

Application deployment to the Amazon EC2 environment fails.

**Cause**

The deployment fails because of one of the following reasons.

- A network problem might cause the cloud tunnel connection to be lost.
- The Endpoint VM is selected in the wrong VPC.
- Security group or internal IP address settings for the Endpoint VM are incorrect.

**Solution**

1. Reestablish the lost cloud tunnel network connection.
2. Assign the Endpoint VM to the correct VPC in the Amazon Region.
3. Determine whether the Endpoint VM has the correct security group or internal IP address settings.

See the *Using VMware vCloud Application Director* guide.

## Continuous Deployments to Amazon EC2 Causes Error

When you continuously deploy applications to the Amazon EC2 environment, you might exceed the default limits for the number of Amazon EC2 instances, Elastic IP addresses for an account, or API requests.

**Problem**

When you deploy several applications to Amazon EC2 continuously, the deployments fail and a *request limit exceeded* error appears. When you attempt to tear down the deployment, the process seems to be successful in vCloud Application Director, but the applications still exist in the Amazon EC2 environment.

**Cause**

You might have exceeded the allocated Elastic IP address limit, the number of Amazon EC2 instances, or the number of API requests allowed in an hour.

**Solution**

1. Open the AWS management console.
2. Release the Elastic IP addresses.
3. Remove the Amazon EC2 instances.
4. Contact Amazon support to request an increase in the instance, Elastic IP address, or API request limit.
jPetStore Deployment Fails

The jpetstore deployment fails with overridden properties.

Problem

The jpetstore deployment fails overriding the following properties:

- vFabric_tc_Server_v2.7.1 -> 8082
- vFabric_tc_Server_v2.7.1 -> instance_root_dir -> /opt/vmware/darwin/tcserver
- SQLFire -> multicast_port -> 12444

Cause

Deployment fails because tcserver fails to start in the deployment. However, the deployment fails during app component stage: jPetStoreApp-INSTALL instead of tcserver lifecycle stage.

Solution

1. For vFabric_tc_Server_v2.7.1 service, in the START script, replace ${tcserver_home}/${instance_name} with $instance_dir

2. Add a new instance_dir property in the jPetStore application component in the blueprint and set the value to self:vFabric_tc_Server_v2.7.1:instance_dir.

3. Edit the jPetStoreApp -> INSTALL script application component in the blueprint and replace cd $tcserver_home/instance1/lib with cd $instance_dir/lib.
Troubleshooting Common Errors During an Update Process

If an update process fails, the deployment summary page shows a reason for the failure. For the most common errors, you can use the recommended solutions and initiate another update process.

**Note** vCloud Application Director 5.2 does not support updating existing deployments in Amazon EC2.


This chapter includes the following topics:

- “Update Process Fails,” on page 25
- “Multiple Updates and Rollback Fails,” on page 26
- “Auto Cleanup Leads to Wait Time after Scaleout Failure,” on page 26
- “Rollback Option Is Misleading when an Update Failure Occurs,” on page 27
- “Incorrect Deprovisioning Does Not Throw a Warning Message and Subsequent Update Fails,” on page 27
- “Update Process to Modify Configuration Fails,” on page 28
- “Network Connection to the vCloud Application Director Server Timed Out,” on page 28
- “Changes in Application Component of External Service Do Not Appear in the Update Profile,” on page 29
- “Update Configuration CLI Command Fails,” on page 29
- “Application Deployment Not Found,” on page 29
- “RabbitMQ Server Connection Problems Causes Update Error,” on page 30

**Update Process Fails**

You might attempt to initiate an update process that previously failed.

**Problem**

An error occurred when provisioning the cloud: Virtual Machine 'vmName_2_' already exists

The error appears on the Deployments page when you select a failed deployment and try to initiate an update process.

**Cause**

A previously failed deployment exists in the cloud environment.
Solution

- Locate the vApp in vCloud Director and delete the failed virtual machine.

**Multiple Updates and Rollback Fails**

Multiple updates and rollback fails without notification.

**Problem**

When you deploy an application and create update profiles to update a property, after multiple updates and rollback the action fails with the error

Disk space not available to download content.

**Cause**

Disk space is insufficient and it is consumed during content download.

**Solution**

Manually delete the backup files.

- If you use the `appd_functions.sh` and `appd_functions.ps1` AppDirectory scripts for content files backup and restore, a backup is created.

<table>
<thead>
<tr>
<th>Virtual Machine Type</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux</td>
<td><code>/opt/vmware-appdirector/agent/backups</code> or any user defined folder</td>
</tr>
<tr>
<td>Windows</td>
<td><code>C:/opt/vmware-appdirector/agent/backups</code> or any user defined folder</td>
</tr>
</tbody>
</table>

AppDirector does not clean up these backup files automatically. You must manually remove them when the disk is out of space. After you remove the backup files from the backup location, rollback is skipped during rollback of the update and the failure does not occur.

**Auto Cleanup Leads to Wait Time after Scaleout Failure**

After a scaleout failure, automatic cleanup of virtual machines leads to a wait time.

**Problem**

When the `VM_CLEANUP_AFTER_UPDATE_FAILURE` value is set to true, and the scaleout operation fails, deprovisioning of virtual machines is done to ensure cleanup before the next scaleout update. During deprovisioning, if you query for the state of deployment, it might result in a failed task and the DEPLOYMENT_WITH_ISSUES state appears even as the update process continues. When this state appears, you must wait for sometime for deprovisioning to complete before trying another update process.

If you start another update process, the Cannot create update because update is still in progress error appears.

**Cause**

You might be trying to schedule an update operation while the previous task has failed and the backend cleanup is still in progress.

**Solution**

- When you see the Cannot create update because update is still in progress error, retry the update operation with a delay of at least 120 seconds.

- If you do not want to encounter this error and delay the update process, turn off the cleanup flag using CLI or REST API commands:
update--global-prop --name VM_CLEAN_UP_AFTER_UPDATE_FAILURE --value false

After you turn off the flag, you must delete the new virtual machines manually.

For example, if a new virtual machine, appserver_3, was created in a scaleout update that failed, you
must manually search for appserver_3 in the cloud provider virtual machines list and delete it.

Rollback OptionIs Misleading whenan Update FailureOccurs

When an update failure occurs, the rollback option is misleading.

Problem

When an update failure occurs, the rollback option in the operations menu is misleading.

Cause

The update fails because of policy violation. Nothing changes because of policy violation and you do not
need to rollback.

Solution

- Make the policy non-critical and try the update process again.

Incorrect Deprovisioning Does Not Throw a Warning Message and
Subsequent Update Fails

A warning message for manual deletion of virtual machines does not appear after a ScaleIn failure.

Problem

A warning message to delete the virtual machines manually does not appear after a ScaleIn deprovisioning
fails completely. The ScaleIn operation is marked successful in the first update. However, the
deprovisioning is not complete and subsequent updates will fail with the error

An error occurred when running flow: Cannot find vm <VM name e.g. 'CentOS63_32bit_v1.0.3'> in
the NodeRepresentation list.

The following warning message is added to the Application Director logs:

WARNING: Could not deprovision some virtual machines in ScaleIn operation. Please delete them
from the cloud provider side using appropriate tools or APIs. Host Names of machines to be
deleted is mentioned below: 1. <Host Name of VM e.g. appser-2IQQ48A6>

Cause

Application Director cannot recognise if the deletion of virtual machines was successful or not.

Solution

1 Identify the virtual machines to manually delete.
   - The virtual machine names to be deleted are in the warning message that is saved in the
     Application Director log file.
   - The virtual machine names are also in the error messages available in the subsequent updates.
2. Delete the virtual machine from the cloud provider backend by using cloud provider tools.
   a. From the CLI, set the value of the following flag to False:

```
UPDATE_RETRY_VM_DEPROVISIONING_AFTER_FAILURE_FLAG
```

Setting this flag to False marks the ScaleIn deployment failed when one or more virtual machines
are not deleted and lists the following error message:

```
An error occurred in the cloud: <Error message text>. VM Deprovisioning of the scaled in
deployment node failed.
Initiate another scale in update, clear the update and teardown script content, and
deploy the update.
```

Retry the ScaleIn operation after you change the scripts as listed in the error message and after
Application Director retries the deletion of virtual machines. After you successfully delete the virtual
machine, subsequent updates will work.

**Update Process to Modify Configuration Fails**

An update process to modify configuration fails and an error message appears.

**Problem**

On the deployment summary page, the following error appears.

```
A value must be provided for property 'PropertyName' of component 'PropertyName'
because the previous update task was unsuccessful in the update wizard.
```

**Cause**

The update process failed because of the following reasons.

- You might be attempting to initiate an update process to modify configuration on a previously failed
  update by resetting the failed property, such as port number, and trying to proceed.

- You might be trying to initiate an update process to modify configuration by changing a property that
  has a dependent property. The task on the changed component succeeds, but the task on the dependent
  component fails. When you initiate another update process to modify configuration, the dependent
  property is highlighted as failed as you try to proceed with the update process.

**Solution**

- Add new values to all of the failed properties.
  If you do not want to change the properties, modify the action script to ignore the failed properties.

- Add new value to the property of the failed update.
  If you do not want to change the properties, modify the action script to ignore the failed properties.

**Network Connection to the vCloud Application Director Server Timed Out**

When you initiate an update process on a failed update deployment, the connection to the
vCloud Application Director server times out, which causes the update process to fail.

**Problem**

```
Error communicating with the server. Please contact the administrator
```

The error appears when you update a failed deployment on the Deployments page and the network
connection times out.
Cause
The vCloud Application Director server times out during the update process.

Solution
- Reestablish the network connection with the vCloud Application Director server.

Changes in Application Component of External Service Do Not Appear in the Update Profile
Modifications in an application component of an external service is not available in the update profile review.

Problem
If you have an application component in an external service in the blueprint, updates to this application component during the update is not available on the review page of the update wizard.

Cause
The user interface was not designed to display the updates.

Solution
- Ignore the unavailability in the review page and proceed. The changes to the updates are available in the Execution Plan page.

Update Configuration CLI Command Fails
An update process using the CLI command to modify a configuration generates an error message. The appliance license edition version does not support the update process.

Problem
The update configuration CLI command fails and a No properties are specified for this update. error appears.

Cause
The vCloud Application Director appliance is running a license edition that does not support updating the configuration of a deployed application.

Solution
1. Create a vCloud Application Director appliance.
   See Using VMware vCloud Application Director.
2. Deploy an application successfully.
3. Use the update configuration CLI command to modify configurations of existing services or application components in a deployed application.

Application Deployment Not Found
You cannot update an application deployment that does not exist in the cloud environment.

Problem
The deployment no longer exists on the cloud
The error message appears when you click a deployed application from the Deployments page.
**Cause**

The application deployment might have been deleted from the cloud.

**Solution**

1. In the supported cloud environment, verify whether the deployment is deleted.
   
   If it is deleted, you cannot initiate an update process.
2. Successfully deploy another application.
3. Initiate an update process to scale or modify the configuration of the deployment.

**RabbitMQ Server Connection Problems Causes Update Error**

If the RabbitMQ server is not available, an update process for a deployed application fails with an error message.

**Problem**

Could not connect to messaging server

**Cause**

vCloud Application Director is not able to connect to the RabbitMQ server.

**Solution**

1. Log in as a root user.
2. At the command prompt, type `service rabbitmq-server status` to verify that the RabbitMQ server is running.
3. Troubleshoot any RabbitMQ server connection problems.
Troubleshooting
vCloud Application Director Errors

Known vCloud Application Director troubleshooting information can assist you in solving common problems.


This chapter includes the following topics:

- “New Cloud Provider Registration Fails with an Authentication Error,” on page 31
- “Application Director Token Change Not Detected,” on page 32
- “Number of Additional Disks in Disk Layout Is Incorrect,” on page 32
- “Error Importing Marketplace with Special Characters,” on page 33
- “Appliance Stops Responding with OutOfMemory Error,” on page 33
- “Error Messages You Can Safely Ignore,” on page 33
- “Blank vCloud Application Director Web Interface,” on page 34
- “CentOS Logical Template Error,” on page 34
- “Sample Clustered DotShoppingCart Application Not Loading,” on page 35
- “Security Certificate Error with REST Client,” on page 35
- “Application Version Cannot be Saved,” on page 35
- “CLI Session Status Error,” on page 36
- “LDAP Server Connectivity Problems,” on page 36
- “LDAP Login Fails When Using Port 389,” on page 37
- “Unknown LDAP Server Error,” on page 37
- “PowerShell Script Does Not Run,” on page 37
- “VMRC Plug-In References Incorrect Plug-In to Download,” on page 38

New Cloud Provider Registration Fails with an Authentication Error

For some users, when they register a new vCloud Director, vCloud Automation Center, or Amazon EC2 cloud provider, a peer authentication error appears.

Problem
Could not connect to the cloud provider at HostName: An error occurred with the cloud provider: peer not authenticated
Cause

The certificate of the cloud provider is signed by a certificate authority that is not in the openssl trusted list of the vCloud Application Director server.

Solution

1. Use the administrator credentials to connect to the cloud provider.
2. Export and save the certificate file of the vCloud Director, vCloud Automation Center, or Amazon EC2 server from a supported Web browser.
   - If you are using the Firefox browser, save the top-level certificate authority and all of the intermediary certificate authorities.
3. Import the certificate to the vCloud Application Director appliance.
   - Verify that the certificate is not expired.
4. From the command prompt, log in as root and add the certificate file to the vCloud Application Director appliance trusted list.
   ```sh
ektool -importcert -trustcacerts -alias UniqueAlias -file CertFilePath.crt -storepass "" -keystore /home/darwin/keystore/appd.truststore
```
5. For Amazon EC2, open the `/etc/init.d/vmware-darwin-tcserver` file and append the `CATALINA_OPTS: -Djavax.net.ssl.trustStore=PathTo/appd.truststore` command.
6. Restart the vCloud Application Director server.
   ```sh
   sudo service vmware-darwin-tcserver restart
   ```

Application Director Token Change Not Detected

The system property for application token value change is not detected by the interface during VMware Solution Exchange.

Problem

When the system property VSX_APP_TOKEN value for Application Director is modified, the interface does not detect the change and continues to use the earlier defined value.

Cause

The token value change is not detected because it is read-only at startup.

Solution

- Restart the tc Server to view the modified value of the Application Director token.

Number of Additional Disks in Disk Layouts Incorrect in

The number of additional disks defined in the disk layout is incorrect in vCAC if more than one disk is in the virtual machine blueprint.

Problem

After you define additional disks in the blueprint node and provision a virtual machine on that node, the actual number of disks attached to the new virtual machine is incorrect.

Cause

The linked-clone type for the vCAC blueprint does not support multiple disks in the disk layout.
Solution

- Set the clone type for the vCAC blueprint to full clone. This mode supports multiple disks in the disk layout.

Error Importing Marketplace with Special Characters

When you import Marketplace, the **Import as New** option throws an error when the suffix contains special characters.

Problem

When you import a blueprint from Marketplace, you might see the error **Marketplace invalid parameter** when you specify special characters in the suffix field for the **Import as New** option and proceed to the next step.

Cause

The client does not support special characters in the naming convention.

Solution

- Use only alphanumeric values to suffix the **Import as New** option. The underscore character is appended to the suffix as a separator by default.

Appliance Stops Responding with OutOfMemory Error

The appliance virtual machine stops responding when you try to run commands in the CLI.

Problem

An **OutOfMemory** error appears when you try to run commands in the CLI in the appliance virtual machine. The appliance virtual machine stops responding in such a situation.

Cause

The appliance virtual machine stops responding because multiple instances of darwin CLI are running in the appliance virtual machine.

Solution

- Run the darwin CLI from outside of the appliance virtual machine.

Error Messages You Can Safely Ignore

You can safely ignore some error messages that appear in the vCloud Application Director user interface without negative effects.

Problem

You might see the following error message.

/usr/lib/python2.4/site-packages/Cheetah/Compiler.py:1508:

```
UserWarning: You don't have the C version of NameMapper installed! I'm disabling Cheetah's useStackFrames option as it is slow with the Python version of NameMapper. You should get a copy of Cheetah with the compiled C version of NameMapper. warnings.warn( 
```

Cause

After you deploy the Clustered Dukes Bank application, an error message mistakenly appears in the JBoss install and configure log file.
**Solution**

You can safely ignore the error message.

**Blank vCloud Application Director Web Interface**

Typing the vCloud Application Director Web interface URL without HTTPS renders a blank page in the Web browser.

**Problem**

The vCloud Application Director Web Interface appears as a blank page in the Web browser.

**Cause**

The 8443 port is expecting to connect through HTTPS. The port does not respond to an HTTP request, which is the default protocol of the Web browser.

**Solution**

- Change HTTP to HTTPS in the URL.

**CentOS Logical Template Error**

For CentOS logical templates, guest customization does not successfully finish, which causes a failure in the agent bootstrap script and the overall deployment fails.

**Problem**

Agent did not respond while running task agent_bootstrap on the node CentOS_x32_5.6. Please check agent logs.

**Cause**

The guest customization failed because of one of the several reasons.

- Having more than five NICs on a node in a CentOS virtual machine might cause the problem.
- The network used for the application deployment does not have connectivity to the vCloud Application Director appliance.
- VMware Tools is not installed in the vCloud Director template.
- The vCloud Application Director agent bootstrap service or JRE is not installed properly.

**Solution**

- Reduce the number of NICs for an individual node on the CentOS virtual machines.
  
  See [Using VMware vCloud Application Director](#) guide.
- Check the application deployment network and infrastructure settings.
- Install VMware Tools in your vCloud Director template.
- Verify that the agent bootstrap service or JRE is installed properly on the vCloud Director template, vCloud Automation Center blueprint, or Amazon EC2 AMI.
Sample Clustered DotShoppingCart Application Not Loading

When you use vCloud Automation Center to deploy a Clustered DotShoppingCart application, the application does not load but the deployment status is successful.

Problem

The Clustered DotShoppingCart application does not load in the Web browser.

Cause

The Asp.net v4.0 IIS Application Pool is not available in the vCloud Automation Center Windows template.

Solution

1. Install the Asp.net v4.0 IIS Application Pool in the Windows template.
2. Deploy the Clustered DotShoppingCart application from vCloud Application Director.
3. Open the Clustered DotShoppingCart application in a Web browser.

Security Certificate Error with RESTClient

A browser-based REST client does not work when connecting to vCloud Application Director.

Problem

When you open a REST client in a browser and configure the header for a valid vCloud Application Director user and browse a vCloud Application Director URL, the client provides no response. No further information or error message is displayed.

Cause

Browser-based REST clients fail silently when the server certificate is not trusted.

Solution

- The browser must trust the vCloud Application Director certificate before the browser-based REST client communicates with the vCloud Application Director servers. Add the certificate to the browser truststore in advance to allow the browser-based REST clients to connect to the vCloud Application Director server. Confirm that the browser can trust the server certificate before you use the vCloud Application Director user interface or REST interface in a browser. Adding a certificate to a browser is different for different browsers. In general, go to a server URL, for example a log in URL. During the certificate warning you can add the certificate to a browser trust store temporarily or permanently.

Application Version Cannot be Saved

An application version cannot be saved if an application architect is updating the blueprint or a deployer is deploying the application in one session and another application architect is attempting to update and save the same application blueprint in a different session.

Problem

An error message appears when an application architect tries to modify and save an application blueprint.

Could not save Application version because another session has modified it.
Cause
While an application architect is saving an application blueprint or a deployer is deploying an application, if another application architect attempts to access the same blueprint, the error message appears in the browser of the second application architect.

Solution
- Click Refresh to reload the application blueprint.

    NOTE: Refreshing the application blueprint might cause you to lose the current changes made to the blueprint.

CLI Session Status Error
When you type the CLI session status command, it shows that you are logged in. However, you receive an error when you use the CLI.

Problem
Your session has expired or been invalidated, please login again.

Cause
The CLI session has timed out.

Solution
1. Log out of the CLI session.
2. Log in to resume.

LDAP Server Connectivity Problems
When you interact with the LDAP directory to verify the existence of a user name, you might experience some connectivity problems with the LDAP server.

Problem
You might see the following LDAP error messages.
- Retrieval of user information from the LDAP server failed. Error messages follow: [ERROR]
  Incorrect result size: expected 1, actual 2
- Retrieval of user information from the LDAP server failed. Error messages follow: [ERROR]
  Root DNs must be the same when using multiple URLs

Cause
The following possible causes correspond to the error messages.
- When you run the command to check the existence of a user name in the LDAP directory to confirm server connectivity, you might not have specified the User Search Base DN.
- When you run the command to check the existence of a user name in the LDAP directory to confirm server connectivity, you might have added a space in the Server Base DN.

Solution
- Specify the User Search Base DN in the LDAP command.
  In the sample command, `test-named-ldap-config --configname test-slave.test.com --name user1 user1` specifies a valid LDAP user within the User Search Base DN.
- Remove the space in the Server Base DN.
LDAP Login Fails When Using Port 389
You cannot log in to the user interface with LDAP user using vCloud Application Director port 389.

**Problem**
Setting the LDAP configuration to port 389 results in bad credentials. The test-named-ldap-config command runs successfully, however logging in to the user interface results in bad credentials.

**Cause**
Port 389 is used for requesting information from the Domain Controller. LDAP requests sent to port 389 can be used to search objects only within the global catalog’s home domain. Port 3268 is used for queries that are specifically targeted for the global catalog. LDAP requests sent to port 3268 can be used to search objects globally. vCloud Application Director LDAP implementation is set to use the global catalog.

**Solution**
- Change the LDAP configuration to use port 3268. This results in successful log in to the user interface.

Unknown LDAP Server Error
In some cases, the LDAP configuration might have problems such as an invalid LDAP configuration name, which triggers an error message.

**Problem**
An unknown error has occurred: 500 Internal Server Error

**Cause**
The LDAP server error occurred because one of the following reasons.
- The LDAP configuration name might include a period. For example, in ldap.test.com, the period in the configuration name is not supported.
- Duplicate LDAP user or group names might exist among different users or groups.
- The LDAP user or group name has the same UID in two different LDAP configurations.

**Solution**
- Rename the LDAP configuration without periods.
- Log in to the LDAP server and check whether the group name or user name are unique.
- Determine whether your LDAP configuration is created correctly.

See Using VMware vCloud Application Director guide.

PowerShell Script Does Not Run
When you run a batch file using a PowerShell script in vCloud Application Director, the script might not run but the task completes successfully.

**Problem**
The PowerShell script in vCloud Application Director is not running.

**Cause**
The PowerShell script might need an expression to run successfully.
Solution

◆ Add an invoke-expression expression to the PowerShell script.

For example, to start and stop a Windows vFabric tc Server, type `invoke-expression $service_stop` and `invoke-expression $service_start` expressions to the script.

VMRC Plug-In References Incorrect Plug-In to Download

vCloud Director VMRC plug-in references incorrect plug-in to download.

Problem

For vCloud Director 5.5, the VMRC plug-in is updated to a new plug-in. The older plug-in is referenced in the VMRC plug-in dialog box to download the plug-in. The dialog

Cause

The correct plug-in to download is not referenced in the dialog box. The VMRC plug-in is not installed for this version of cloud.

Solution

◆ Download and install the plug-in from .
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