HP ALM Lab Management

Software Version: 12.01

Troubleshooting Guide

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Contents

Welcome to This Guide

Introduction

Welcome to the HP ALM Lab Management Troubleshooting Guide.

This guide provides information in troubleshooting problems related to working with ALM Lab Management.

Note: For detailed instructions regarding references to the HP ALM Lab Management user interface, see the HP ALM Lab Management Guide.

1 Troubleshooting HP ALM Lab Service

This chapter provides information for troubleshooting issues related to the HP ALM Lab Service.

HP ALM Lab Service Registration has failed

Problem Description

After sending a registration request to the server, you see the following error:

> Failed to register host.
>
> Cannot connect to server **Error! Hyperlink reference not valid.**.
>
> If your host uses a proxy server to connect to the internet, make sure you have configured
>
> the Lab Service agent to use the proxy server.

Explanation

This error is displayed when the testing host uses a proxy server to connect to the internet. Lab Service is trying to send a request directly through HTTP (instead of through the proxy), so the registration request fails.

Troubleshooting Steps

Configure the proxy server in the proxy tab located in the agent settings.

Problem Description

After registering your testing host, you receive the following error message:

> Failed to register host.
>
> ALM Lab Service version <version-number> is not compatible with ALM server version
>
> <version-number>.

Explanation

The ALM server to which you are connecting is not compatible with the ALM Lab Service agent version you currently have installed. You can find the HP ALM Lab Service version by right clicking the Lab Service tray icon and selecting **About**.

Troubleshooting Steps

Uninstall HP ALM Lab Service and install the correct version.

- Uninstall Lab Service using Windows Add/Remove Programs.

- Install Lab Service from **ALM Server Tools > HP ALM Lab Service**

Problem Description

After registering your testing host, you receive the following error:

> Host <hostname> does not exist in Lab Management. Make sure to use the name <hostname> when defining the testing host in the Lab Management Hosts module.

Explanation

This error occurs when a registration request is sent by a testing host that does not exist in the Lab Management **Hosts** grid.

Troubleshooting Steps

- Add the host to the grid in the Lab Management **Hosts** module.

- If the host was already added, make sure that the host name that appears in the **Details** tab is identical to the name configured in the Lab Service **Settings** page.

Problem Description

After registering your testing host, the host's **Status** field is still displayed as 'Unavailable'.

Explanation

The host is still not fully registered – it may still be in a **Pending** state.

Troubleshooting Steps

Make sure that the Lab Admin approved the registration request for this host.

Miscellaneous Lab Service Issues

Installation and Uninstallation

If you are uninstalling Lab Service in order to install a different version, you must restart your computer before installing the new version. If you try to install a new version without restarting, the installation may fail.

See below for more common issues related to Lab Service installation:

Problem Description

HP ALM Lab Service was installed, but the Lab Service agent icon does not appear in the Windows system tray.

Explanation

Lab Service may not have been opened.

Troubleshooting Steps

Start the Lab Service process:

- Find Lab Service in the Windows Startup folder:
    - Windows 7: **Start > All programs > Startup**
    - Windows XP: **Start > Programs > Startup**
- Select **HP ALM Lab Service**.
- The icon appears in the Windows system tray.

Problem Description

Agent Installation fails with the following error:

> An error occurred within the HP ALM Lab Service tray application.

Explanation

The user does not have write permission to the installation folder.

Troubleshooting Steps

Before installing the Agent, the user must be granted read/write permission to the installation folder.

Settings Page

Problem Description

You receive an error stating that the configuration file was modified outside of the application.

Troubleshooting Steps

Restart Lab Service. Right-click the icon in the taskbar and select **Exit**. See more about starting the Lab Service process above.

Auto Login

- The Auto Login feature is supported on Windows XP (32-bit), Windows 7 (32 and 64-bit), and Windows Server 2008 R2 (32 and 64-bit).

- If you have Auto Login enabled and you disconnect from the session, Lab Service will automatically log the user back in and finish the test. However, if you lock the screen, ALM is not able to run a test that requires the session user interface (such as QTP).

- Testing hosts often have a restriction on the number of users that can be concurrently logged in to the host. If the testing host has reached its limit, Lab Service is not able to log in with the configured user.

  Workaround: Log out one of the current users.

- If the user configured in Lab Service has no active session on the testing host, and there is another user currently logged in to the console of the testing host, Auto Login fails.

  Workaround: Log out the console user or create a remote session with the Lab Service user.

2 Troubleshooting Lab Management Hosts

Host is Non-Operational

If the host has become Non-Operational, check the following:

- Look in the Hosts module (under Lab Resources), and locate the host in the grid. Switch to the **Event Log** tab in the bottom pane. Track the host's state by examining the *Host Non-Operational* events. Host status changes are denoted by *Change status on host* events.

- The Recovery service periodically attempts to recover a non-operational host. Look for events of type *Resource Recovery* to track them.

- The recovery mechanism tries to recover each host periodically once the host becomes non-operational. You can track the event log to check the cause of a recovery failure.

Below are some common issues related to hosts becoming Non-Operational:

Problem Description

Host has become Non-Operational with the following error:

> Host <host name> is about to become Non-Operational and be replaced…Lab Service failed to log in as <user name> to the testing host

Explanation

Lab Service attempted to use Auto Login to log into the testing host, but failed.

Troubleshooting Steps

- Verify the following:
    - The correct information for user, password, or domain is provided in the Lab Service **Settings** page.

- There is no other user currently running an active session on the testing host

- Make sure that the option '**Auto Login**' was selected for the Lab Service installation (by default it is not checked). If Lab Service was installed with Auto Login enabled, you need to enter your password and domain into the fields in the Settings page. If these fields are disabled, run the Lab Service installation MSI again, select **Modify**, and enable the Auto Login feature.

- Connect to the console screen of the testing host and make sure that the login screen is available. If this screen is blocked, Auto Login cannot log in to the machine.

- Testing hosts often have a restriction on the number of users who can be concurrently logged into the host. If the testing host has reached its limit, Lab Service is not be able to log in. Log out one of the current users.

Problem Description

HP ALM Lab Service failed to Auto Login to a certain host even though all the configuration settings are correct.

Troubleshooting Steps

Make sure that the host is using an OS that is supported by the Auto Login feature. See the Readme for System Requirement details.

Problem Description

Host has become Non-Operational with the following error:

> Host <host name> is about to become Non-Operational and be replaced. Reason: You do not have permissions to run tests on this machine. You can change this option in your testing tool's Options dialog box.

Troubleshooting Steps

- If this is a QTP/ UFT host, make sure that QTP is configured to enable remote execution. This option is set in **QTP Options > Run > Allow other HP Products to run tests and components**.

Problem Description

Host has become Non-Operational with the following error:

> Host <host name> is about to become Non-Operational and be replaced. Reason: ALM Lab service could not execute test <Testing Tool name> because: Testing Tool <Testing Tool name> is not installed on this machine.

Troubleshooting Steps

Check if the testing tool is installed properly on the host machine. If this host has more than one Purpose defined for it in Lab Management, make sure that all the testing tools in the list are installed on this host.

Problem Description

Host has become Non-Operational with the following error:

> Host <host name> is about to become Non-Operational. Reason: Host not polling for tasks

Explanation

The Lab Service agents installed on each functional host are polling the ALM server for tasks. If one of the Lab Service agents does not send a polling request to the ALM server for more than 5 minutes (15 minutes after a machine Reboot task) – then the server changes this host to Non-Operational.

Troubleshooting Steps

- Right click on the Lab Service tray icon, and check that the Lab Service agent on the host machine was started and is running.

- Make sure that the server URL in the Lab Service **Settings** page has the correct server URL.

- Restart Lab Service.

- After restarting Lab Service, use **Check Host** in the Lab Management Hosts module to check if the host is now communicating with the ALM server. If **Check Host** passed successfully, the server sends a recovery task for the host and the host's status returns to Operational. You can also manually change the host's status to Operational.

- If **Check Host** is still failing with a 'Host Not Polling' error, do the following:

  - Change the Log Level of the service to **Verbose** (in the Lab Service **Settings** page)

  - Check the Remote Service logs (log file location can be found in the **Settings** page) to make sure the agent is polling the server.

- If you encounter errors in the Remote Service log, and the agent is not polling the server even after performing the steps above, contact customer service.

Recover Host has failed

When a host becomes Non-Operational, the system tries to recover it by sending a recovery task to the host. The tasks performed by the recovery task are tailored to the purposes defined for the host. See the *HP ALM Lab Management Guide* for more details about the recovery tasks.

Below are some examples of common causes for recovery failures:

Problem Description

Event Log Action: Recover Host

Description:

> Host <host name> recover has failed. Reason: Finished with errors. Recover Host has passed successfully on purposes: Quick Test Professional, System Test, but has failed on purposes: VAPI-XP: Could not check host on purpose VAPI-XP. For more information about what caused the failure, select the host and click the Check Host action from the tool bar.

Explanation

This is an example for recovery failure due to one of the purposes of this host. In this case, the host was assigned 3 purposes: 'Quick Test Professional', 'System Test' and 'VAPI-XP'. According to the error, it seems that there was a failure with checking the VAPI-XP testing tool.

Troubleshooting Steps

In case of such failure the following steps should be performed:

- Run Check Host to get more details about the failure cause.

- Resolve the issue according to the Check Host details. Then make sure Check Host now passes successfully on all purposes.

- You can manually change the host status to Operational, or wait for the system to send a recovery task for the host.

Problem Description

Event Log Action: Recover Host

Description:

> Host <host name> recover has failed. Reason: Finished with errors. Recover Host has failed on all purposes: Lab Service failed to log in as <user name> to the testing host. The user is currently not logged in or not active, and the console is being used by Administrator.

Explanation

The recovery task requires a user logged in to the host.

Troubleshooting Steps

- Make sure that there is a user logged in and Active to the host.

- If the Lab Service is installed with Auto Login feature enabled, make sure that the user logged in to the machine is the same user defined in the Lab Service Settings page.

Problem Description

The following error appears in the **Event Log**:

> Host <host name> recover has failed. Reason: Failure Timeout: Task with ID <id> has failed to finish during the expected time. The task is marked as failed.

Explanation

This error implies that the recovery task was not handled by the Lab Service agent on the host, and failed due to timeout. This usually happens when the Lab Service is stopped and is therefore not polling the server for tasks.

Troubleshooting Steps

See more about restarting Lab Service on page 15.

Problem Description

When I execute a test or check a host operation using Lab Management, I get the following error:

> Failed to initialize communication with service -
>
> HP.ALM.Lab.Agent.WCF.Common.Exceptions.ServiceUnavailableException: The Service IBaseWCFService is down, the client can't connect to it. --->
>
> System.ServiceModel.EndpointNotFoundException: There was no endpoint listening at net.pipe://localhost/COMTestingToolAdapter/IWCFTestingToolService/1IBaseWCFService that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details. ---> System.IO.PipeException: The pipe endpoint
>
> 'net.pipe://localhost/COMTestingToolAdapter/IWCFTestingToolService/1IBaseWCFService' could not be found on your local machine.

Explanation

This error can occur if the user does not have *Create global objects* rights in the Local Security Policy control panel (**Control Panels > Administrative Tools > Local Security Policy > Local Policies > User Rights Assignment**).

The Lab service is executed in the system session and the testing tool is executed in the interactive session.

Services which run in the system session can run even when no user is logged in to the machine. This enables the service to communicate with ALM all the time.

By having constant communication with the host machine and the ALM server, Lab can automatically allocate a host for executing a test, log in to the configured user, and execute the test in an interactive session.

Executing the service as a simple application (on an interactive user) would require that the hosts be in a logged in state all the time. If the host were to log out or a screen saver were to start working on the host machine, the application would stop working and Lab Management would not be able to use the host.

It is therefore necessary to execute the Lab service in the system session.

Troubleshooting Steps

Set the *Create global objects* right to enable communication between the two sessions.

3 Troubleshooting Cloud Accounts

This chapter provides information for troubleshooting issues related to cloud accounts creation and validation failures.

Problem Description

Cloud Account creation fails with the following error:

> Cloud Account authentication failed
>
> Technical details:
>
> Account validation failed due to connection failure. Contact your system administrator to verify your cloud network settings. Or refer to the cloud settings section in the HP ALM Lab Management Guide

Explanation

Account validation can fail due to certain causes.

Troubleshooting Steps

Verify the following:

- Your account credentials. During account creation the account credentials are validated, and if they are not correct the validation fails.

- Whether the organization uses a proxy server for communication with an outside network. If this is the case, define it on Cloud Network Settings. In **LAB_PROJECT > Cloud Network Settings**, configure **Proxy Server**, **User Name** (optional) and **Password**.

- Whether the cloud provider is HP Cloud. HP Cloud Identity Service uses port **35357** (which is required for authentication with HPCS). When working with HP Cloud, ensure that the proxy defined in Cloud Network Settings can forward outgoing http requests to this port.

- Whether the Certificate Authority (CA) for the certificate being used to create the Cloud Account has been added to the ALM Java certificate truststore. For more information, see HP KB article: *http://support.openview.hp.com/selfsolve/document/KM00891595*

Problem Description

Which specific Performance Center settings are required for defining security group rules?

Explanation

When defining security group rules, consider the following Performance Center settings:

Process / Service	Direction	Protocol	Local Port
Remote Management Agent Service	Inbound	TCP	Assigned port in the Cloud Network Settings dialog box
Performance Center Agent Service	Inbound	TCP	Assigned port in the Cloud Network Settings dialog box
Remote Desktop (RDP) *	Inbound	TCP	3389

* Required only if you intend on connecting to a cloud host through RDP.

4 Troubleshooting Cloud Host Templates

This chapter provides information for troubleshooting issues related to the cloud host templates.

Problem Description

When creating a template, the list of images does not include all images in my account.

Explanation

The images available per region are the public HP Load Generator (LG) images and images that are owned by your cloud account.

Troubleshooting Steps

- Ensure that the missing image is owned by your account by checking the account owner number.

- If the image was created recently, ALM may not have refreshed. Wait up to 10 minutes, and the image should appear in the images list.

5 Troubleshooting Cloud Hosts

This chapter provides information for troubleshooting issues related to the Cloud Hosts.

For troubleshooting issues related to cloud hosts, following are the basic steps to get more information about the cloud host and details about possible issues:

- First, get the Cloud Host Identifier, which is the instance identifier in the cloud provider. In many cases of provision or termination failure you can get more details about the instance status on the Cloud Provider console using the Cloud Host Identifier.

- View the Cloud Host event log. In the Cloud Host event log, you can find operations that were performed on this host, and in most cases an error during provision or termination is displayed in the event log.

  - From the Hosts module, on the Lab management sidebar, under **Lab Resources**, select **Hosts**. In the information panel, select **Event Log**.

  - Lab Event log. This event log includes general operations that are performed from the Lab project. In case of provision or termination request failures, the details of the error are found in the event log.

  - From the Tools module, on the Lab management tool bar, under **Tools**, select **Event Log**. This is the general event log.

Provision Request Failure

In this section you can find troubleshooting information for two different provision request failures:

- The provision request received an error from the provider and was not performed. In most cases, this occurs as a result of:

  - Wrong configuration.

  - Not enough limits on your cloud provider account.

- The provision request is preformed but some of the hosts failed during provision.

If the provision request was not executed by the provider error, details of the error can be found on the Lab event log. If there are provision failures on specific hosts, the error details can be found on the Host event log.

Problem Description

Provision request failed. When looking at the Event log (from the provision progress report or the Lab Event log) the following error is displayed:

> Provision request error. Your request for at least 21 instances exceeds your current quota of 20. Requested 21 hosts on Amazon EC2 US West (Oregon); Template: Tests (M1 Small; image: Win2008R2x64-LoadRunner-12.0-Drop32-O-FL)

Troubleshooting Steps

Make sure the amount of hosts you select on the Provision Cloud Host dialog does not exceed your current limit on this region.

Problem Description

Provision request failed due to a missing certificate, with the following error:

> Unable to provision hosts due to missing digital certificates. Contact your system administrator to verify your cloud network settings

Troubleshooting Steps

If you are working in an unsecured mode, uncheck the **use SSL** checkbox in Cloud Network Settings. For more information on secure mode, refer to the *HP ALM Lab Management Guide*.

Note: Working in an unsecured mode is not recommended.

If you are working in a secure mode, create the needed digital certificates. For more information on certificates configuration, refer to the *HP ALM Lab Management Guide*.

Problem Description

Provision request failed due to an insufficient number of credits, with the following error:

> Insufficient number of credits to complete this task. Contact your administrator for further assistance

Explanation

The number of credits is negative or zero. For more information on credits, refer to the *HP ALM Lab Management Guide*.

Troubleshooting Steps

Contact your administrator for further assistance.

Problem Description

Provision request failed. In the Event log (from the Provision progress report or the Lab Event log) the following error is displayed:

> Provision request error. AMI <'ami-id'> with an instance-store root device is not supported for the instance type 't1.micro'... Requested 1 hosts on Amazon EC2 US West (Oregon); Template: Tests (Micro; image: SQL2)

Explanation

There is a wrong template definition, and the selected image is not supported with the selected instance type. The provider sends a run time error that the configuration is wrong.

Troubleshooting Steps

- Check which instance types is supported with the selected image.
- Change the template according to the new configuration.

Problem Description

Provision request failed due to ports, with one of the following errors:

> Cannot provision hosts. Performance Center agent service port' is illegal (port = ")
>
> Cannot provision hosts. Remote management agent service port' is illegal (port = ")

Troubleshooting Steps

In the Cloud Network Settings, define two ports to use for Load Generator's communication. These two ports must be open for outgoing requests. For more information on Load Generator port settings configuration, refer to the *HP ALM Lab Management Guide*.

Problem Description

Provision request on HP Cloud only failed due to the object not matching the DNS, with the following error:

> Provision request error. Object 'lab_security_group' doesn't match dns naming constraints. Reason: Should have lowercase ASCII letters, numbers, or dashes... Requested 20 hosts on HP US WEST 1; Template: hpc_az1 (standard. Small; image: HPSoftware-HPC-Win-LGSA)

Explanation

The Security Group name cannot contain an underscore.

Troubleshooting Steps

Use a different Security Group or rename the current Security Group to a name without underscores.

Problem Description

Provision request failed due to a non-existent image ID, with one of the following errors:

> Provision request error. The image id '[ami-xxx]' does not exist. Requested 1 hosts on Amazon EC2 US West (Oregon); Template: SQL (Micro; image: SQL)
>
> Failed creating provision configuration, consider checking your template

Explanation

The image no longer exists in the provider.

Troubleshooting Steps

Use another image.

Problem Description

In the Provision Cloud Hosts screen, the list of security group does not include all the security groups in my account.

Explanation

The list shows the security groups available per region that are owned by your cloud account.

Troubleshooting Steps

- Check the account owner number to ensure that the missing security group is owned by your account.

- If the security group was created recently, ALM may not have refreshed. Wait up to 10 minutes, and the security group should appear in the security groups list.

Problem Description

Provision request on HP cloud failed, and the instances are created with state "Failed".

Explanation

Hosts provisioned on HP Cloud must use the "Default" Security Group. Attempts to use custom security groups will result in the above error.

Troubleshooting Steps

When provisioning hosts on HP Cloud, use the "Default" security group.

Problem Description

In the Provision Cloud Hosts screen, the Key Pair list does not include all the key pairs in my account.

Explanation

The list shows the key pairs available per region that are owned by your cloud account.

Troubleshooting Steps

- Check the key pair owner number to ensure that the missing key pair is owned by your account.

- If the key pair was created recently, ALM may not have refreshed. Wait up to 10 minutes, and the key pair should appear in the Key Pair list.

Problem Description

Provision hosts on HP Cloud failed with error message "Quota exceeded for ram: Requested <amount>, but already used <amount> of <totalAmount> ram".

Explanation

HP Cloud limits the amount of RAM that can be provisioned in each region. If the RAM requirements of the hosts you attempt to provision exceed the region limit, you receive this error.

Troubleshooting Steps

Contact HP Cloud support to verify your account limits.

Provider Status Checks Failure

Cloud providers perform several status checks after provisioning to monitor the status of an instance. In many cases the provision phase was completed but the instance is still not reachable. When ALM identifies that the instance has finished the provision phase and is pending provider status checks, the instance status changes to *pending provider status checks*. When the instance successfully passes the provider status checks, ALM perform its own checks (see *ALM Checks Failure* below).

Note: Currently, only Amazon EC2 performs status checks.

Problem Description

Instance fails in provider status checks.

Troubleshooting Steps

Refer to the Amazon article, Troubleshooting Instances with Failed Status Checks, at
http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/TroubleshootingInstances.html

ALM Checks Failure

Problem Description

Pending ALM checks failed during the provisioning, with one of the following errors:

> Host <IP> changed state to 'Provision failed on ALM checks'
>
> Provision failed for host <IP>. ALM cannot configure this host

Troubleshooting Steps

- Determine whether configurations are required on the provider side before provisioning. Create a security group according to the ports defined for Load Generator's communication and minimum required rules. For more information on Load Generator port settings configuration, refer to the *HP ALM Lab Management Guide*.

- If you are using SSL, verify that the same certificates files exist on the ALM server, PCS, and Cloud host machines:

  - ALM Server path: \ProgramData\HP\ALM\repository\sa\DomsInfo\Certificates

  - PCS path: <PC_ROOT>\dat\cert

  - Cloud host path: <LG_ROOT>\dat\cert

- Use the **netstat –ab** command to verify that there is a **magentservice.exe** process on the cloud host machine that listens to the same port defined in **LAB_PROJECT > Cloud Network Settings > Performance Center Agent Service Port**.

- If you are using a proxy to communicate with the cloud host, go to **LAB_PROJECT > Cloud Network Settings** and verify that:

  - **Proxy Server** (including the port number) is valued.

  - The **Use proxy server for Load Generator communication** checkbox is selected.

  - The **Use SSL for Load Generator communication** checkbox is selected.

- If you are not using a proxy to communicate with the cloud host, go to **LAB_PROJECT > Cloud Network Settings** and verify that the **Use proxy server for Load Generator communication** checkbox is not selected.

- If none of the above steps solved the problem, the issue occurs due to an incorrect template definition, causing the selected image to not be supported with the selected instance type.

  - Check which instance types are supported with the selected image.

  - Change the template according to the new configuration.

Problem Description

Pending ALM checks failed during the provisioning of HP Cloud only, with one of the following errors:

Host <IP> changed state to 'Provision failed on ALM checks'

Provision failed for host <IP>. ALM cannot configure this host

Troubleshooting Steps

- Use the check host retry mechanism, performed during provisioning. The number of retries is 20 and this is a configurable site parameter.

- If after the retries the host state is still *Pending ALM checks*, you can perform a manual check host from the UI. The host state becomes *Idle* if the check host succeeds.

- If none of the above steps solved the problem, the issue occurs due to an incorrect template definition, causing the selected image to not be supported with the selected instance type.

  - Check which instance types are supported with the selected image.

  - Change the template according to the new configuration.

Check Host Failure

Problem Description

Check Host on Cloud hosts failed.

Troubleshooting Steps

- If you are using a proxy to communicate with the cloud host, go to **LAB_PROJECT > Cloud Network Settings** and verify that:

  - **Proxy Server** (including the port number) is valued.

  - The **Use proxy server for Load Generator communication** checkbox is selected.

  - The **Use SSL for Load Generator communication** checkbox is selected.

- If you are using SSL, verify that the same certificates files exist on the ALM server, PCS, and Cloud host machines:

  - ALM Server path: \ProgramData\HP\ALM\repository\sa\DomsInfo\Certificates

  - PCS path: <PC_ROOT>\dat\cert

  - Cloud host path: <LG_ROOT>\dat\cert

- Use the **netstat –ab** command to verify that there is a **magentservice.exe** process on the cloud host machine that listens to the same port defined in **LAB_PROJECT > Cloud Network Settings > Performance Center Agent Service Port**.

- Check the cloud provider web site to verify that the port defined for the Performance Center agent service is open at the security group that was used for the Load Generator.

Provision Failed to Allocate Elastic or Floating IPs

Problem Description

Provision hosts are in failed status with the following error:

Host Error: There are no available elastic IPs for this host [Host IP: xx.xxx.xxx.xx]

Troubleshooting Steps

- Check the host's event log for the cause. If there are not enough elastic IPs available, the administrator should allocate more elastic IPs in this region or release unused elastic IPs.

- Terminate the failed instances.

Host Termination Failed

Problem Description

Deletion host fails with a *Terminate failed* status.

Troubleshooting Steps

Delete the host again.

Failed to Connect RDP Instance

Problem Description

Failed to connect to your instance in RDP, with the following error:

> The credentials that were used to connect to <machine name> did not work, Please enter new credentials

Explanation

The wrong administrator password may have been generated.

Troubleshooting Steps

Contact the lab administrator to regenerate the administrator password using the key pair.

Problem Description

In case of failure to connect to your instance in RDP with the following error:

> The remote computer <IP> returned an RDP protocol error (Return code: 516)
> Remote Desktop can't connect to the remote computer for one of these reasons:
> 1. Remote access to the server is not enabled.
> 2. The remote computer is turned off.
> 3. The remote computer is not available on the network
> Make sure the remote computer is turned on and connected to the network, and that remote access is enabled

Explanation

The remote desktop cannot connect to the remote computer for one of the following reasons:

- Remote access to the server is not enabled.

- The remote computer is turned off.

- The remote computer is not available on the network.

- The RDP port (3389) in the Inbound Rules at your security group is not defined.

Troubleshooting Steps

- Ensure that the remote computer is turned on and connected to the network, and that remote access is enabled.

- Contact the lab administrator to check the rules in the security group. Check that the RDP port (3389) in the Inbound Rules at your security group is defined.

6 Troubleshooting Cloud Alerts and Notifications

This chapter provides information for troubleshooting issues related to cloud alerts and notifications.

Problem Description

The user does not receive emails and alerts, but the user's email is set.

Explanation

To receive emails, an administrator must configure the mail to be used for sending emails.

Troubleshooting Steps

The administrator must belong to a TDAdmin group.

7 Troubleshooting Timeslot Autostart

This chapter provides information for troubleshooting issues related to the functional test autostart feature.

Test Failed to Run with Reserved Timeslot

Problem Description

You reserved an autostart timeslot for running your functional test set or build verification suite, but the test failed to run.

Troubleshooting Steps

Open the Timeslots module (calendar view) and select the timeslot you reserved. You can find your timeslot based on start time, name or ID.

The Timeslots event log can be accessed from **Tools > Event Log**. In addition, each timeslot has an event log with details of events pertaining to that timeslot. This event log can be accessed from the timeslot Details dialog box.

- **If you cannot find the timeslot you reserved:** Your timeslot may have been deleted.

  If you find that the timeslot was deleted, check the event log for the *Delete Timeslot* event. The event log lists the user who deleted it and the time when it was deleted. If you cannot find the event, consult your project or lab administrator.

- **If you find the timeslot you reserved:** You can track the events related to the timeslot in the timeslot's **Event Log** tab.

  To drill down further, examine the run itself. Click on the link to the run in the Details pane, which is to the right of the calendar view. Continue with the troubleshooting sections below.

- **If you find multiple timeslots similar to the one you reserved (consecutive timeslots related to the test you reserved):** Your timeslot has been automatically split by ALM. In most cases, a timeslot is split in order to enable reuse of the resources after the run of the original timeslot has ended. The split occurs only if the remaining time in the timeslot is more than the minimum timeslot duration time.

    To analyze what caused the split, select the earliest timeslot, i.e., the timeslot that has the same start time as the timeslot you reserved. The test may have run in either one of the split parts; examine the parts and look for a link to a run. If necessary, continue with the run troubleshooting sections below.

    To track the timeslot splits, look for the *SplitTimeslot* event in the original timeslot's event log.

Run Does Not Exist in the Timeslot

Problem Description

The run was not started.

Explanation

Either the timeslot is invalid (e.g., host allocation problem) or you did not check the **Autostart** checkbox after linking your test to the timeslot.

Troubleshooting Steps

- **If the timeslot is not marked as autostart:** The timeslot was not scheduled for autostart, and therefore no run took place. To schedule an autostart timeslot, make sure the **Autostart** option is checked when reserving the timeslot.

- **If the timeslot is marked as autostart:** The timeslot was scheduled to run, but it did not start. This may be due to timeslot invalidity (e.g., host allocation problems). A timeslot may become invalid after creation due to changes in host availability and other changes in system configuration.

Problem Description

The run does not exist and the timeslot is valid.

Explanation

The Timeslot mechanism includes a minimum time for a timeslot to be autostarted. If the duration time of a timeslot is less than the minimum duration allowed, this timeslot will not be autostarted.

- For build verification suites and performance tests, this time is 30 minutes.

- For functional test sets, this time is 15 minutes.

Troubleshooting Steps

- Although the timeslot is currently valid, it was probably not valid at the timeslot's start time. Check the timeslot event log for the following messages: "Timeslot ID <id> validity changed to 'N'." The system stops trying to run an autostart timeslot according to the autostart options in the project settings.

- Even if the timeslot becomes valid after a certain time, the test does not run, even though the timeslot is still open.

- It is also possible that the ALM server was down during the timeslot, and therefore the autostart did not take place.

Note: To check when the timeslot became invalid, look for the change in the Validity field in the timeslot's **History** tab (Grid view only). You can also check the *Timeslot Validity Changed* event in the timeslot event log.

Problem Description

The run does not exist and the timeslot is not valid.

Troubleshooting Steps

Open the timeslot and check the failure reason. If the timeslot was not autostarted due to invalidity, the timeslot event log includes a *Timeslot Not Autostarted* event.

A timeslot may become invalid for the following reasons:

- **Host allocation** – the system could not allocate all the resources that were requested by the timeslot. This can be caused by changes in host properties, host status, assignment of host to pools, or assignment of pools to a project.

  In general, the system tries to reorganize host allocation to allow a timeslot to stay valid. This reorganization is subject to timeslot and host priorities, and may not succeed in keeping the timeslot valid if there are not enough available hosts.

  Note that the allocation problem might have been resolved by now, but during the timeslot period there may have been a problem.

- **Invalid functional test set / build verification suite** – someone changed the test set and therefore the test set has become invalid. For example, there may be an error in the allocation of hosts with specific attributes. Open the test set and check for errors in the **Requested Hosts** tab.

- **License issue** - someone has changed either the project limits or the license. Consult your site administrator.

Note: To check when the timeslot became invalid, look for the change in the Validity field in the timeslot's **History** tab (Grid view only). You can also check the *Timeslot Validity Changed* event in the timeslot event log.

Run Exists in the Timeslot

In these cases, the system tried to run the test and it did not complete running. You can track the run's progress in the **Event Log** tab. The following sections describe the troubleshooting steps according to the run state in the **Event Log** tab.

Timeslot Run State is 'Finished' but not all instances have run

You can open the Execution Report from **Test Runs > Test Sets** and **Test Runs > Build Verification Suites Runs**.

Problem Description

In most cases, this occurs because a host allocated for this timeslot has become 'Non-Operational' during the run. ALM tries to replace the host, but

if there is no other available host (matching the timeslot demands) the timeslot validity will change to 'N', the timeslot Status will be set to 'Finished', but the test instance run states will be set to 'No Run'.

Troubleshooting Steps

Track the event log in the Execution Report. If ALM tried to replace a host but failed, the following events are displayed:

Event Type	Action	Description
❌ Error	Host Non-Operational	*Host <host name> is about to become Non-Operational and be replaced.*
❌ Error	Host Non-Operational	*Host <host name> has become Non-Operational and could not be replaced.*
ⓘ Info	Timeslot Validity changed	*Timeslot ID '1052' validity changed to 'N'*

For more details on the cause of Host Non-Operational and for troubleshooting, see above, page 15.

Timeslot Run State is 'Stopped'

Examine the timeslot's event log to track the events that occurred during the timeslot run.

Troubleshooting Steps

A common reason for the 'Stopped' state is that timeslots are stopped by the system 5 minutes before the timeslot end time. This is done to free all resources and prepare hosts for the next scheduled timeslot.

The following is displayed in the event log:

> Action: Timeslot Ends in 5 Minutes
>
> Description: Timeslot ID <id> ends in 5 minutes. Stopping run

When scheduling a timeslot you need to make sure to schedule the time for the run properly and factor in at least 5 minutes for timeslot end actions. If the timeslot was stopped due to this event, it means that it exceeded its time and the system stopped the timeslot.

Note that stopping the timeslot includes sending Stop requests to all hosts that were allocated for this Timeslot and are in 'Running' state.

Timeslot Run State is 'Aborted'

Examine the timeslot's event log to track the events that occurred during the timeslot run.

Troubleshooting Steps

In most cases, a timeslot is aborted if its duration ended and the timeslot is still open.

You may see the following in the **Event Log**:

Event Type	Action	Description
Info	Timeslot Ends in 5 Minutes	*Timeslot ID <id> ends in 5 minutes. Stopping run*
Info	Run Aborted	*Run <run id> of 'BVS' <BVS id> (Timeslot ID <id>) has been aborted*

In this case, the timeslot was aborted because it exceeded its time. The server sent a Stop request for the timeslot, but if after 5 minutes some of the allocated hosts are still in a 'Running' state the server will send an Abort request to immediately free the resources.

Run Exists in Timeslot, Run State is 'Failure'

Examine the timeslot's event log to track the events that occurred during the timeslot run.

Problem Description

One common message is the following:

    Test Instance is of a QTP test.
    Run Failure Details: 'Unable To Open a test'

Troubleshooting Steps

This issue occurs in certain cases when QTP is installed on a Windows 7 host. DEP (Data Execution Prevention) must be turned off. See more details in the Test Run Failure section below, page 46.

Note: Check the timeslot event log to see if the failures could be caused by more general events. For instance, perhaps a host became Non-Operational during the run.

8 Troubleshooting Test Set / Build Verification Suite Request Details

Test Set Invalid

The validity of a test set is calculated according to the availability of the resources required by that test set.

If a test set becomes invalid, you can track the cause of the test set invalidity by checking the **Message** pane in the **Requested Host** tab. If there is a problem with resource availability, the following error is displayed:

> The test set cannot be executed due to lack of testing resources.

For some examples of test set invalidity, see below:

Problem Description

You received the following error message:

> Some test instances are not supported by the current list of requested hosts.

Explanation

This case occurs due to a conflict between test instance host request details and test set host request details.

Troubleshooting Steps

- Click on the 'More Details' link to get a description of the test instances that request hosts that are unavailable – you need to change the request details of these instances (using the **Testing Host** field) so that they conform to resource availability.

- Test set request details may have been manually customized in the Requested Host tab, but the customization did not end up including some of the hosts required by the test instances. In this case, a message is displayed on the Requested Hosts tab:

The host requests have been manually modified. ALM now generates host requests for additional test instances only if needed. Click <u>here</u> to restore original host requests

Clicking the link on this message will restore the original demands required for this test set, and in most cases resolves the missing resources problem.

Build Verification Suite Invalid

The validity of a build verification suite is calculated according to the availability of the resources required by the test sets and the performance test in the build verification suite. In addition, a user can manually add host request details to a build verification suite using the **Requested Hosts** tab. If the request details cannot be met, the build verification suite will be labeled invalid.

Problem Description

The build verification suite has become invalid. The following error message is displayed in **Requested Hosts > Messages**:

The build verification suite cannot be executed due to lack of testing resources.

The following test sets are invalid and must be fixed in order to run the build verification suite: <test-sets>.

Some test instances are not supported by the current list of requested hosts.

Troubleshooting Steps

- Click on a test set link in the error message and check why the test set is invalid. Resolving all the invalid test sets resolves the build verification suite's validity problem. When done, check the **Build Verification Suites > Requested Hosts** tab.

- If the host requests in the grid in **Build Verification Suites > Requested Hosts** were manually customized, but the customization removed some of the host requests required by the test sets in the build verification suite, the build verification suite will be invalid. After manual customization, the following message is displayed in the Requested Hosts tab:

  > The host requests have been manually modified. ALM now generates host requests for additional test instances only if needed. Click here to restore original host requests.

- To restore the original host requests required for this build verification suite, click the 'here' link.

9 Troubleshooting Testing Tools

Check Host Failure

Problem Description

Check Host failed for a host with the purpose 'VAPI-XP'. The following error is displayed:

> The OTA version is not compatible with the current version of the Application Lifecycle Management server

Explanation

This error occurs when the ALM client version registered on the host machine is not compatible with the ALM server version.

Troubleshooting Steps

Run HP ALM Client Registration on the host. You can access the client registration tool from the **ALM Tools** link on the ALM options window.

Test Run Failure

Examine the Execution Report (for a functional test set or build verification suite run). Look for an instance with the 'Run Failure' state, and check the run details.

10 Troubleshooting Topology

This chapter provides information for troubleshooting issues related to using a proxy server in the ALM environment.

ALM using IIS

Problem Description

If ALM is configured to work with IIS as a web server, there may be communication issues between the Lab Service agent running on the testing host and the ALM server. You can find these errors listed in the **Server Log** as 'Gateway Timeout' exceptions.

Troubleshooting Steps

Configure the time-out value for the proxy server according to the ALM requirements. You can find the IIS proxy server configurations in the 'ALM Server-IIS Configuration Guide' KB in the link below:

http://support.openview.hp.com/selfsolve/document/KM1383166

Testing Host is configured to send HTTP requests via Proxy server

Problem Description

The Lab Service agent cannot connect to the ALM Server when using an Internet proxy server that is not set up for local system accounts.

Troubleshooting Steps

Configure Lab Service to use the proxy server by setting the proxy server in the proxy tab located in the agent settings.

11 General Troubleshooting

This chapter provides troubleshooting information on general issues.

ALM Server Configurations

Problem Description

Server performance is slowing down during execution. The following error is displayed in the server logs:

Failed to obtain a connection to schema <lab schema name> - timeout expired

Troubleshooting Steps

- In order to work with the Lab Project, the number of connections to the database must be set to 200 (for more, see the *Readme*).

    o Configure the number of connections in Site Administration.

    o If this is a clustered environment, this configuration should be done for each node.

    o After changing the number of connections, restart the ALM server.

- If the number of connections to the database was already configured properly according to the instructions, but this error still occurs, contact customer service.