



# Troubleshooting

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## Troubleshooting an Application

### Troubleshooting the Front-End of the App

- Open the JavaScript console of the app in any browser, to troubleshoot the front-end of an app.
- Monitor the API requests called when using the application.

### Collecting Tech Support Logs for a Stateful App

1. Log in to the tech support UI.
2. Create an **On Demand** tech support policy.
3. For an **On Demand** tech support policy, select **For Apps** option.
4. Select the name of the app from the **App** drop-down list.
5. The logs will be located in the `/data2/logs/app-name` directory. The app data will be located in the `/gluster/gv0/app-name` directory.

### Troubleshooting the Backend of a Stateful App

You can modify the source files running in the backend on the service directory on the APIC. You must then uninstall and reinstall the app on the APIC for the changes to take effect.

### Troubleshooting an Installed Application

To report any issues, regarding an installed application you can send an email to the app developer. Select the app to view the details such as contact information.

### Troubleshooting RBAC

After installing an app, ensure that the Managed Objects (MO) for the app user, user role, and security domain are created.

1. Log in to Visore to access the MIT for the app. See the *Cisco APIC REST API Configuration Guide* for information about using Visore.
2. Run a query to verify that the `aaaRole`, `appAppUser` MOs are created for the app.
3. Run a query to verify that the MO `apPlugin` is created. Verify that the fields `configInfo` is empty and `configSt` is populated as none.

### Verifying Creation of Managed Objects for an Application

After you upload an app to APIC, ensure that the Managed Objects (MOs) `firmwareFirmware` and `apPlugin` are created.

1. Log into Visore. See the *Cisco APIC REST API Configuration Guide* for information about using Visore.
2. Run a query to verify that the MOs `firmwareFirmware` and `apPlugin` are created.
3. For the `apPlugin` MO, verify that the fields `permissions`, `permissionsLevel`, `pluginState`, `pluginType`, and `securityDomain` are defined.
4. For a stateful app, verify that the `apPluginAppliance` MO is created for all the APICs in a cluster. The leader APIC will have the fields `cntrInstID`, and `cntrInstIP` populated with the container ID and IP address.

### Troubleshooting Scenarios

The following table summarizes common troubleshooting scenarios for developing an app for the Cisco ACI App Center.

Problem	Solution
The status of the docker is displayed as Restarting and you are unable to ssh to the docker container. This issue is encountered if there is an issue with the starting script or <code>start.sh</code> .	Access the <code>app.log</code> located at <code>/data2/logs/&lt;Vendor&gt;_&lt;AppID&gt;/logs</code> in the APIC to troubleshoot the issue.

## Application Quorum

ACI architecture contains a cluster of independent nodes that work together to increase the availability and load distribution of services. If one of the cluster nodes fail, another node becomes active to provide the service or application. As a result, you experience minimum disruptions in services.

In this scenario, its possible to get into split-brain where the data sets become inconsistent due to writes from two separate nodes in case of network partition, or simultaneous writes on different nodes. This can cause data synchronization to fail.

Application Quorum ensures that a certain number of nodes must be online for the APP cluster to continue running. App Quorum helps in preventing the split-brain scenario. In App Quorum the data must be replicated to more than 50% of the nodes in the cluster for the `WRITE` operations to succeed.

This is to ensure that in case of failure, the app can statefully move to a different node without losing any persisted state. If a network partition occurs such that the majority nodes can not be written to, the underlying infrastructure becomes `Read-Only` and the app will be stopped to avoid data corruption and split-brain.

Application Quorum is set for `glusterfs`, which is the cluster filesystem infrastructure for the App Center.

