



Troubleshooting Services Using the Developer Console

The following procedures may be used to troubleshoot services using the developer console:

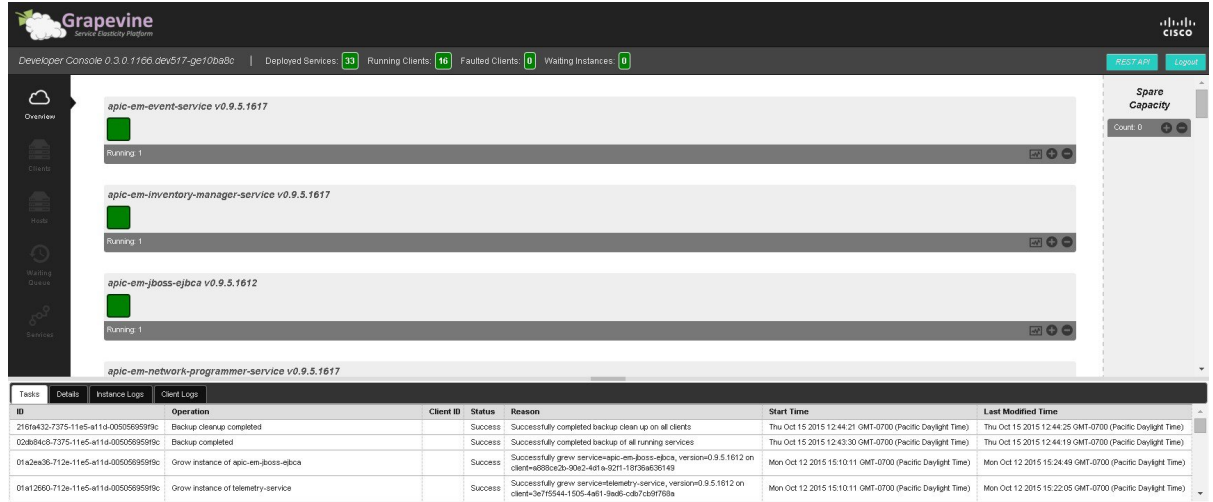
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Grapevine Developer Console

The Cisco APIC-EM creates a Platform as a Service (PaaS) environment for your network. A service in this PaaS environment is a horizontally scalable application that adds instances of itself when increasing loads occur on a client within the network. You use the Grapevine developer console to troubleshoot these services.

The Grapevine developer console tools were bundled with the deployment files and installed when you first deployed the Cisco APIC-EM.

Figure 1: Grapevine Developer Console



Note

For a multi-host cluster, you do not have to log into each host to view the Grapevine developer console. In a multi-host cluster, you get a single, consolidated view of all of the services running on all three hosts.

The Grapevine developer console provides the following windows and functionality:

- **Overview**—Provides a list of services with information about their version and status. You can add or remove services in this window.
- **Clients**—Provides detailed client information in this window.
- **Hosts**—Provides detailed host information in this window.
- **Waiting Queue**—Provides information about the waiting queue.
- **Services**—Provides detailed service information. You can add or remove services in this window.
- **Logs**—Provides detailed task, instance, and client logs



Note

You cannot access the Grapevine developer console as a Linux root user. You can only access the Grapevine developer console using the administrator username and password that you configured during the deployment process.

Logging into the Grapevine Developer Console

You are able to perform the following tasks using the Grapevine developer console:

- Review the status of each service
- Review the version of each service
- Review the logs of each service

**Caution**

Only advanced users should access the Grapevine developer console to perform any troubleshooting tasks for the services.

Before You Begin

You must have successfully deployed the Cisco APIC-EM.

Step 1

Access the Grapevine developer console by opening a browser window and entering the IP address that you configured for the network adapter using the configuration wizard.

Note This IP address connects the appliance to the external network.

For example, enter the following IP address with required port number:

https://external network IP address:14141

Step 2

Enter your administrative username and password when prompted.

The administrative username and password were configured by you using the configuration wizard.

The console for the Elastic Service Platform (Grapevine) appears.

What to Do Next

Proceed to review any of the service versions, status, and logs for any troubleshooting purpose.

Reviewing the Service Version, Status, and Logs

You are able to perform the following tasks using the Grapevine developer console:

- Review the status of each service
- Review the version of each service
- Review the logs of each service

**Caution**

Only advanced users should access the console to perform the tasks described in this procedure or attempt to troubleshoot the services.

Before You Begin

You must have successfully deployed the Cisco APIC-EM and it must be operational.

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- Step 1** Access the Grapevine developer console by opening a browser window and entering the IP address that you configured for the network adapter using the configuration wizard.
- Note** This IP address connects the appliance to the external network.
- For example, enter the following IP address with required port number:
- https://external network IP address:14141**
- Step 2** Enter your administrative username and password when prompted.
The administrative username and password were configured by you using the configuration wizard.
The console for the Elastic Service Platform (Grapevine) appears.
- Step 3** Review the status of each service listed in the **Overview** window in the console.
Each service is represented by a square. A green colored square represents an active instance of the service, and a red colored square represents a service with a faulty or failed instance. Squares without color represents inactive services (no instances initiated and running).
- In a multi-host environment, a service may be represented by two green colored squares, indicating that the service is running on two different hosts within your cluster. Place your cursor over each square to view the host that the service is running on.
- Step 4** Review the version of each service in the **Overview** window in the console.
The version is located in the header of each listed service.
- Step 5** Review the service logs by clicking a specific active instance of a service (green square icon) and then viewing the **Instance** or **Client** logs located at the bottom of the window.
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What to Do Next

When finished with the Grapevine developer console, click the **Logout** button to log out of the console.

Removing a Service Instance Manually

You are able to remove or harvest a service instance manually by using the Grapevine developer console. The Grapevine developer console tools are bundled within the ISO image and installed when you first deploy the Cisco APIC-EM.



Caution

Only advanced users should access the Grapevine developer console to perform the tasks described in this procedure or attempt to troubleshoot the services.

Before You Begin

You must have successfully deployed the Cisco APIC-EM and it must be operational.

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- Step 1** Access the Grapevine developer console by opening a Google Chrome browser window and entering the IP address that you configured for the network adapter using the configuration wizard.
- Note** This IP address connects the appliance to the external network.
- For example, enter the following IP address with required port number:
- https://external network IP address:14141**
- Step 2** Enter your administrative username and password when prompted.
The administrative username and password were configured by you using the configuration wizard.
The Grapevine developer console for the Elastic Service Platform (Grapevine) appears.
- Step 3** Review the list of operational services in the **Overview** window in the console.
Each service is represented by a square. A green colored square represents an active instance of the service, and a red colored square represents a service with a faulty or failed instance. Squares without color represents inactive services (no instances initiated and running).
- Placing your cursor over a square displays the IP address of the Grapevine client where the service is running.
- In a multi-host environment, a service may be represented by two green colored squares, indicating that the service is running on two different hosts within your cluster. Place your cursor over each square to view the host that the service is running on.
- Note** At the right of the console window are spare Grapevine clients that are not running any service instances.
- Step 4** Locate the service where you want to manually harvest an instance of a service and click the subtraction sign (-) at the lower right.
You are then prompted to confirm your action to harvest an instance.
- Step 5** Choose **Yes** in the dialog box to confirm that you want to harvest an instance of the service.
Grapevine then proceeds to spin down the instance of the service.
When the process is finished, the square representing the service instance is removed.
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What to Do Next

Manage your services by manually growing additional instances or removing (harvesting) instances from the services. When finished with the Grapevine developer console, click the **Logout** button to log out of the console.

Creating a Service Instance Manually

You can create a service instance manually using the Grapevine developer console.

**Caution**

Only advanced users should access the Grapevine developer console to perform the tasks described in this procedure or attempt to troubleshoot the services.

Before You Begin

You must have successfully deployed the Cisco APIC-EM and it must be operational.

Step 1 Access the Grapevine developer console by opening a Google Chrome browser window and entering the IP address that you configured for the network adapter using the configuration wizard.

Note This IP address connects the appliance to the external network.

For example, enter the following IP address with required port number:

https://external network IP address:14141

Step 2 Enter your administrative username and password when prompted.

The administrative username and password were configured by you using the configuration wizard.

The Grapevine developer console for the Elastic Service Platform (Grapevine) appears.

Step 3 Review the list of operational services in the **Overview** window in the Grapevine developer console.

Each service is represented by a square. A green colored square represents an active instance of the service, and a red colored square represents a service with a faulty or failed instance. Squares without color represents inactive services (no instances initiated and running).

Placing your cursor over a square displays the IP address of the Grapevine client where the service is running.

In a multi-host environment, a service may be represented by two green colored squares, indicating that the service is running on two different hosts within your cluster. Place your cursor over each square to view the host that the service is running on.

Note At the right of the console window are spare Grapevine clients that are not running any service instances.

Step 4 Locate the service where you want to manually grow an instance of a service and click the addition sign (+) at the lower right.

You are then prompted to confirm your action to grow an instance.

Step 5 Choose **Yes** in the dialog box to confirm that you want to grow an instance of the service.

Grapevine then takes a Grapevine client from the Spare Capacity Pool and spins up an instance of the service.

When the process is finished, the square that represents the new service instance turns green.

What to Do Next

Manage your services by manually growing additional instances or removing (harvesting) instances from the services. When finished with the Grapevine developer console, click the **Logout** button to log out of the console.

Reviewing the User Logs

You are able to review the user logs using the Elastic Service Platform (Grapevine) developer console.



Note We recommend that only advanced users use the developer console to perform the steps described in this procedure.

Before You Begin

You must have successfully deployed the Cisco APIC-EM and it must be operational.

Step 1 Access the Grapevine developer console by opening a Google Chrome browser window and entering the IP address that you configured for the network adapter using the configuration wizard.

Note This IP address connects the appliance to the external network.

For example, enter the following IP address with required port number:

https://external network IP address:14141

Step 2 Enter your administrative username and password when prompted.
The administrative username and password were configured by you using the configuration wizard.
The Grapevine developer console for the Elastic Service Platform (Grapevine) appears.

Step 3 Review the status of each service listed in the **Overview** window in the console.
Each service is represented as a square. A green square represents an active instance of the service, and a red square represents a service with a faulty or failed instance. Squares without color represents inactive services (no instances initiated and running).

Step 4 Review the version of each service in the **Overview** window in the console.
The version is located in the header of each listed service.

Step 5 Review the service logs by clicking a specific active instance of a service (green square icon) and then viewing the **Instance** logs located at the bottom of the window.

Step 6 Search through the logs for the keyword: USER-ACCOUNTING.
The following data is displayed for these log entry types:

- Date and timestamp
- API
- Action—GET, POST, PUT, or DELETE method
- Successful or unsuccessful

Note You can also use the **grep** command to search on the keyword in the logs.

What to Do Next

After reviewing the user data in the logs, proceed to troubleshoot any user activity.

When finished with the developer console, click **Logout**.

Monitoring Services and Clients Using the CLI

In addition to the developer console, a command-line interface on the host is also provided for troubleshooting purposes. This CLI allows you to monitor the health of the Cisco APIC-EM from the command line.

Before You Begin

You have deployed the Cisco APIC-EM using the procedures described in this guide.

Step 1 Using a Secure Shell (SSH) client, log into the host (physical or virtual) with the IP address that you specified using the configuration wizard.

Note The IP address to enter for the SSH client is the IP address that you configured for the network adapter. This IP address connects the host to the external network.

Step 2 When prompted, enter your Linux username ('grapevine') and password for SSH access.

Step 3 Display all of the Cisco APIC-EM services currently installed by entering the **grape service display** command. Key data about each service is then displayed separated by hash marks.

```
$ grape service display

...

#
rabbitmq          config          {}
rabbitmq          core_service    True
rabbitmq          enabled         False
rabbitmq          endpoint_config {u'default':
{u'backend_protocol': u'amqp', u'backend_path': u'',
u'frontend_protocol': u'', u'frontend_path': u'', u'frontend_port':
0, u'backend_port': 5672}}
rabbitmq          kill_as_group   True
rabbitmq          max_instances   1
rabbitmq          min_instances   0
rabbitmq          priority        1
rabbitmq          queue_config    {u'queues': [],
u'bindings': [], u'exchanges': []}
rabbitmq          requirements    {u'template_id':
u'default', u'persistent_disk': False}
rabbitmq          run_as_group    grapevine
rabbitmq          run_as_user     grapevine
rabbitmq          service_type    rabbitmq
rabbitmq          spare_count     0
rabbitmq          start_secs      10
rabbitmq          static_load     10
rabbitmq          status_interval 60
rabbitmq          stop_as_group   True
```



```
rabbitmq          stop_signal      TERM
rabbitmq          version         1.0.0
#
```

...

Step 4 Display running instances of the Cisco APIC-EM services by entering the **grape instance display** command. Key data about running instances of service is then displayed separated by hash marks.

```
$ grape instance display
...
#
4c4c83db-2da6-4a04-9af6-96c8dac692d1  client_id
4c4c83db-2da6-4a04-9af6-96c8dac692d1
4c4c83db-2da6-4a04-9af6-96c8dac692d1  endpoint_config
{u'default': {u'backend_port': 5672, u'backend_protocol': u'amqp'}}
4c4c83db-2da6-4a04-9af6-96c8dac692d1  interfaces
[{'interface': 'eth0', 'ip': '192.168.0.1', 'mac': '00:50:56:9f:6c:c4'},
{'interface': 'eth1', 'ip': '172.16.0.15', 'mac': '00:50:56:9f:71:46'}]
4c4c83db-2da6-4a04-9af6-96c8dac692d1  is_error          None
4c4c83db-2da6-4a04-9af6-96c8dac692d1  service_type      rabbitmq
4c4c83db-2da6-4a04-9af6-96c8dac692d1  state             running
4c4c83db-2da6-4a04-9af6-96c8dac692d1  task_id           None
4c4c83db-2da6-4a04-9af6-96c8dac692d1  timestamp
Fri Oct 03, 2014 02:05:43 PM (4 days ago)
4c4c83db-2da6-4a04-9af6-96c8dac692d1  version           1.0.0
#
...
```

Note All services should have a *state* property value of *running*.

Step 5 Display all Grapevine clients currently running in Cisco APIC-EM by entering the **grape client display** command. Key data about each client is then displayed separated by hash marks.

```
$ grape client display

CLIENT                                PROPERTY                                VALUE
-----                                -
ae63a6c1-a946-4df7-a68d-33227eed8134  client_id                               ae63a6c1-a946-4df7-a68d-33227eed8134
ae63a6c1-a946-4df7-a68d-33227eed8134  client_version                           0.1.0.212.dev633-gf7e21de
ae63a6c1-a946-4df7-a68d-33227eed8134  interfaces                               [{'interface': 'eth0', 'ip': '192.168.0.32',
'mac': '00:50:56:9f:3a:90'}]
ae63a6c1-a946-4df7-a68d-33227eed8134  is_alive                                  True
ae63a6c1-a946-4df7-a68d-33227eed8134  last_heartbeat                           Wed Oct 08, 2014 10:22:50 AM (15 secs ago)
ae63a6c1-a946-4df7-a68d-33227eed8134  template_id                              default
ae63a6c1-a946-4df7-a68d-33227eed8134  vm_id                                     ce0a634a-5475-4450-9dce-f3217d855ac4
#
...
```

All clients should have a *is alive* property of *True*.
