

# **BIG-IQ™ Cloud: Tenant User Guide**

Version 4.3





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# Chapter 1

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## BIG-IQ User Interface Basics

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- *About the BIG-IQ system user interface*
  - *Filtering for associated objects*
  - *Customizing panel order*
  - *Filtering on multiple objects*
-

## About the BIG-IQ system user interface

---

The BIG-IQ™ system interface is composed of panels. Each panel contains objects that correspond with a BIG-IQ system feature. Depending on the number of panels and the resolution of your screen, some panels are collapsed on either side of the screen. You can cursor over the collapsed panels to locate the one you want, and click the panel to open. To associate items from different panels, click on an object, and drag and drop it onto the object to which you want to associate it.

## Filtering for associated objects

---

The BIG-IQ system helps you easily see an object's relationship to another object, even if the objects are in different panels.

1. In a panel, click the object on which you want to filter.  
The selected object name displays in the Filter field, and the screen refreshes to display unassociated objects as unavailable.
2. To further filter the objects displayed, you can type one additional object in the Filter field, and click the **Apply** button.
3. To display only those objects associated with the object you selected, click the **Apply** button.  
The screen refreshes and the objects previously displayed in a gray font do not appear. Only objects associated with the object you click display, and the object you selected displays below the Filter field.
4. To remove a filter, click the **x** icon next to the object that you want to remove, below the Filter field.

## Customizing panel order

---

You can customize the BIG-IQ system interface by reordering the panels.

1. Click the header of a panel and drag it to a new location, then release the mouse button.  
The panel displays in the new location.
2. Repeat step 1 until you are satisfied with the order of the panels.

## Filtering on multiple objects

---

The BIG-IQ system interface makes it easy to search for a specific object. This can be especially helpful as the number of objects increase when you add more users, applications, servers, and so forth.

1. In a panel, click the object on which you want to filter.  
The selected object name displays in the Filter field, and the screen refreshes to display unassociated objects as unavailable.
2. To display only those objects associated with the object you selected, click the **Apply** button.

The screen refreshes and the objects previously displayed in a gray font do not appear. Only objects associated with the object you click display, and the object you selected displays below the Filter field.

3. To remove a filter, click the **x** icon next to the object that you want to remove, below the Filter field.



---

# Chapter 2

---

## Self-Service Application Deployment

---

- *About self-service application deployment*
  - *Deploying applications*
-

## About self-service application deployment

---

Cloud service providers customize iApps® application templates based on your needs as a cloud tenant. For example, they specify such things as an IP address for a virtual server, identify hosts and server pools, set connection limits, and so forth. This customization eliminates the need for you to perform complicated networking tasks, and ensures that your settings are optimized for your resources. When these customized applications are associated with you as a tenant, you have the option to further modify the applications as required, and deploy them as needed.

Additionally, BIG-IQ Cloud provides you with optional self-service access to SSL certificates that you can deploy on demand to your managed BIG-IP devices.

## Deploying applications

---

Before you can deploy and use an application, your cloud service provider must add you as a user and a tenant, and associate you with at least one cloud connector.

When a cloud administrator adds you as a cloud tenant user, they contact you with the details about the resources to which you have access. These resources are provided to you in the form of an application template. As a cloud tenant user, you can customize these application templates and deploy them.

1. Log in to the BIG-IQ Cloud with your tenant user name and password.
2. Hover over the Applications header, and click the + icon when it appears.
3. In the **Name** field, type a name for this new application.
4. From the **Application Type** list, select an application.
5. From the **Cloud Connector** list, select the cloud connector associated with where you want to deploy your application.
6. To configure BIG-IQ Cloud to automatically provision additional resources when traffic to your application increases, select **Enable** from the **Server Elasticity** list and specify the settings for the server elasticity options that display.

This option is available only for the EC2 connector. For automatic server provisioning to work, your cloud service provider must have enabled the **Server Elasticity** setting for this EC2 connector.

- a) From the **Node Image** list, select the image from which to create new application servers when capacity is met and additional servers are required.
- b) In the **Min. # of Servers** field, type the minimum number of application servers you want running at any given time.
- c) In the **Max. # of Servers** field, type the maximum number of application servers you want running when additional servers are required.
- d) From the **Monitor By** list, select the category associated with the statistic on which you want to base the threshold value.
- e) For the **When** setting, select a specific statistic, the associated relational operator, and a type a number in the field for the threshold.

Base the threshold on the maximum amount of traffic a server can reasonably process for this application to ensure that BIG-IQ Cloud adds additional resources at the right time.

- f) In the **Add Servers** field, type the number of application servers you want BIG-IQ Cloud to add when this threshold is met.

7. To define a new SSL certificate and private key for this application, for the **SSL Certificate Options**, paste the PEM (CRT or CER) text representation of the certificate and private key.  
The SSL certificate and private key must be unbundled Base64 encoded ASCII text with PEM header and footer.
8. Alternatively, select the **Use Existing** option to use a SSL certificate and private key already stored on the device.
9. You can further customize this application by specifying an IP address for the virtual server and adding pool hosts.  
If your cloud service provider assigned IP addresses for the **Servers**, **Pool Hosts**, and **Pool Members** for this application, the addresses display. If these addresses were specified as not editable, you cannot change them.
10. When you are finished, click the **Deploy** button located at the top of the New Application panel.

You can now use this new application, and any application server associated with this new application displays in the Server panel.



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# Chapter

# 3

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## Monitoring

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- *About monitoring applications and application servers*
  - *Monitoring applications*
  - *Monitoring application servers*
-

### About monitoring applications and application servers

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As a tenant, you can use BIG-IQ™ Cloud to monitor the health statistics and performance of applications and servers. In addition to the application itself, the health of an application is influenced by its associated objects, including:

- Servers that host applications
- Virtual servers that manage traffic to applications
- Connectors

### Monitoring applications

---

Before you can monitor an application, you must first deploy it.

Monitoring statistics and performance details for applications and associated network objects provides you with the information you need to make resource management decisions. The application statistics are collected by the managed BIG-IP device and include various network statistic, such as connections, bits per second, and so forth. The performance data displays the application performance trend over a period of time.

1. Log in to the BIG-IQ Cloud with your tenant user name and password.
2. On the Applications panel, click the gear icon next to the name of the application that you want to monitor.  
The panel expands to display the application's properties.
3. To view the statistics, click **Statistics**.  
The statistics display and all of the associated objects for that application are highlighted in the applicable panels.
4. To view the performance, click **Performance**  
The performance graph displays.

### Monitoring application servers

---

A cloud provider must have discovered, or you must have added, an application server before you can monitor it.

Monitoring health and performance statistics for your application servers provides you useful information about the health and usage for your resources. This information helps you decide when to increase or decrease resources to support your application requirements.

1. Log in to BIG-IQ Cloud with your tenant user name and password.
2. On the Server panel, click the gear icon next to the name of the application server that you want to monitor.  
The panel expands to display the application monitor's properties.
3. To view the statistics, click **Statistics**.  
The statistics display and all of the associated objects for that application are highlighted in the applicable panels.

4. To view the performance, click **Performance**  
The performance graph displays.



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# Chapter 4

---

## Amazon EC2 Servers

---

- *About Amazon EC2 servers*
  - *Creating an Amazon EC2 server*
-

### About Amazon EC2 servers

---

You can leverage Amazon EC2 cloud servers to host the resources that your applications require. After you create a new server, you can view its statistics and performance to monitor your resource load.

### Creating an Amazon EC2 server

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Before you can create a new server, your cloud administrator must associate you as a user to an Amazon EC2 cloud connector. You must also have the Amazon Machine Image identification number assigned to you by Amazon.

You can leverage Amazon EC2 cloud servers to host the resources that your applications require. This eliminates the need for you to purchase and manage hardware and allows you to expand and retract virtual resources as needed.

1. Log in to BIG-IQ Cloud with your tenant user name and password.
2. Hover on the Servers header, and click the + icon when it appears.  
The panel expands to display fields for the new server details.
3. In the **AMI ID** field, type the identification for the Amazon Machine Image.
4. In the **Key Pair Name** field, type the name of an existing EC2 key pair.  
This step is optional. If you do not provide the name of an existing key pair, BIG-IQ Cloud will create one for you.
5. Click the **Save** button.

You can now deploy applications to the server you created.

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# Chapter 5

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## OpenStack Cloud Integration

---

- *About OpenStack servers*
  - *Creating an OpenStack application server*
-

## About OpenStack servers

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BIG-IQ™ Cloud includes a feature that provides you with the tools you need to manage OpenStack private cloud resources. These management tasks include discovering, creating, starting, and stopping BIG-IP® VE virtual machines and application servers running in the private cloud.

You can use this feature to accommodate seasonal traffic fluctuations for which you might need to periodically add devices or application servers (referred to as, *cloud bursting*) or retract devices or application servers.

## Creating an OpenStack application server

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Before you can create a new application server, your cloud administrator must associate you as a user to an OpenStack connector. You must know what the OpenStack virtual machine and flavor are assigned to you by OpenStack.

BIG-IQ Cloud must be able to collect statistics to provide server diagnostics to tenants. By default, most OpenStack deployments are configured to disallow data collection. For successful deployment, you must change this option by editing the Nova `policy.json` file (typically located in the `/etc/nova/` directory) and changing the following line: `compute_extension:server_diagnostics": "rule:admin_api` to `compute_extension:server_diagnostics": "rule:admin_or_owner`.

You can leverage OpenStack servers to host the resources that your applications require. This eliminates the need for you to purchase and manage hardware and allows you to expand and retract virtual resources as needed.

1. Log in to BIG-IQ Cloud with your tenant user name and password.
2. Hover on the Servers header, and click the + icon when it appears.  
The panel expands to display fields for the new server details.
3. From the **Cloud Connector** list, select OpenStack.
4. From the **Network Interface** list, select the interface from which you are accessing the server.  
The **Address** field populates with the IP address of the virtual machine in the OpenStack network.
5. In the **Name** field, type a name for this application server.
6. From **Image ID** list, select the OpenStack virtual machine image.
7. In the **OpenStack Flavor** field, type the name of the OpenStack flavor that you received from OpenStack.  
*A flavor* is an available hardware configuration for this server. Each flavor has a unique combination of disk space and memory capacity.
8. Click the **Save** button.

You can now deploy applications to the server you created.

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# Chapter 6

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## Glossary

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- *BIG-IQ Cloud terminology*
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## BIG-IQ Cloud terminology

Before you manage cloud resources, it is important that you understand some common terms as they are defined within the context of the BIG-IQ™ Cloud.

Term	Definition
<i>application templates</i>	An application template is a collection of parameters (in the form of F5 iApps® templates) that a cloud administrator defines to create a customized configuration for tenants. Cloud administrators add the configured application to a catalog from which a tenant can self-deploy it.
<i>BIG-IQ Cloud</i>	The BIG-IQ™ Cloud system is a tool that streamlines management and access for tenants to services and applications hosted by local and/or cloud-based servers.
<i>cloud administrator</i>	Cloud administrators create application templates for tenants to centrally manage access to specific web-based applications and resources. Cloud administrators might also be referred to as cloud providers.
<i>cloud bursting</i>	Cloud bursting is a seamless way to manage an anticipated increase in application traffic by directing some traffic to another cloud resource. When demand falls back into normal parameters, traffic can be directed back to the original cloud resource. This elasticity enables efficient management of resources during periods of increased or decreased traffic to applications.
<i>cloud connector</i>	A cloud connector is a resource that identifies the local or virtual environment in which a tenant deploys applications and, when necessary, adds parameters required by third-party cloud providers.
<i>resources</i>	A resource is any managed object, including devices, web applications, virtual servers, servers, cloud connectors, and so forth.
<i>roles</i>	A role defines specific privileges to which you can associate one or more users. There are two roles for BIG-IQ Cloud: cloud administrator and cloud tenant.
<i>tenant</i>	A tenant is an entity that can consist of one or more users accessing resources provided by a cloud administrator.
<i>user</i>	A user is an individual who has been granted access to specific tenant resources.

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