

BIG-IP[®] Access Policy Manager[®] and BIG-IP[®] Edge Client[™] for Android v2.0.1

Technical Note



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Chapter

1

Overview: BIG-IP Edge Client for Mobile Devices

Topics:

- *What does BIG-IP Edge Client do for mobile devices?*

What does BIG-IP Edge Client do for mobile devices?

BIG-IP® Edge Client™ for mobile devices provides full network access through BIG-IP® Access Policy Manager™. With network access, users can run applications such as RDP, SSH, Citrix®, VMware® View, and other enterprise applications on their mobile devices.

For information about how to use BIG-IP Edge Client, refer to the *BIG-IP® Edge Client™ for Android User Guide* on your device.

BIG-IP Edge Client features include:

- N-factor auth (at least two input fields, password and passcode) support
- Username and password, client certificate
- Multiple input field support
- Credential caching support
- Support for checking information from client devices
- Support for roaming between 3G and WiFi networks
- Landing URI support
- Logging support to report issues

About supported authentication types

The BIG-IP® Edge Client™ app for mobile devices provides the following authentication methods.

Authentication method	Description
Regular Logon	Provides the following two options: <ul style="list-style-type: none">• Username and Password• Client certificate + Username and Password (prompt if password is empty)
Web Logon	Provides the following two options: <ul style="list-style-type: none">• Username and Password• Username/password + RSA + any other server-side checks

About establishing VPN connections

You can use BIG-IP® Edge Client™ for mobile devices to establish a VPN tunnel connection.

About pre-logon checks supported for Android devices

Access Policy Manager can check unique identifying information from an Android client device. The supported session variables, which gets populated with the Android client device information, are gathered automatically and can easily be combined with an LDAP or AD query to implement white-listing in a custom action to improve access context. This information allows Access Policy Manager to perform pre-logon sequence checks and actions based on information about the connecting device. Using such information, Access Policy Manager can perform the following tasks:

- Deny access if the Android version is less than the required level
- Log UUID and MAC address information

The following example displays an access policy with a custom action of Device ID Check to check the device's UUID.

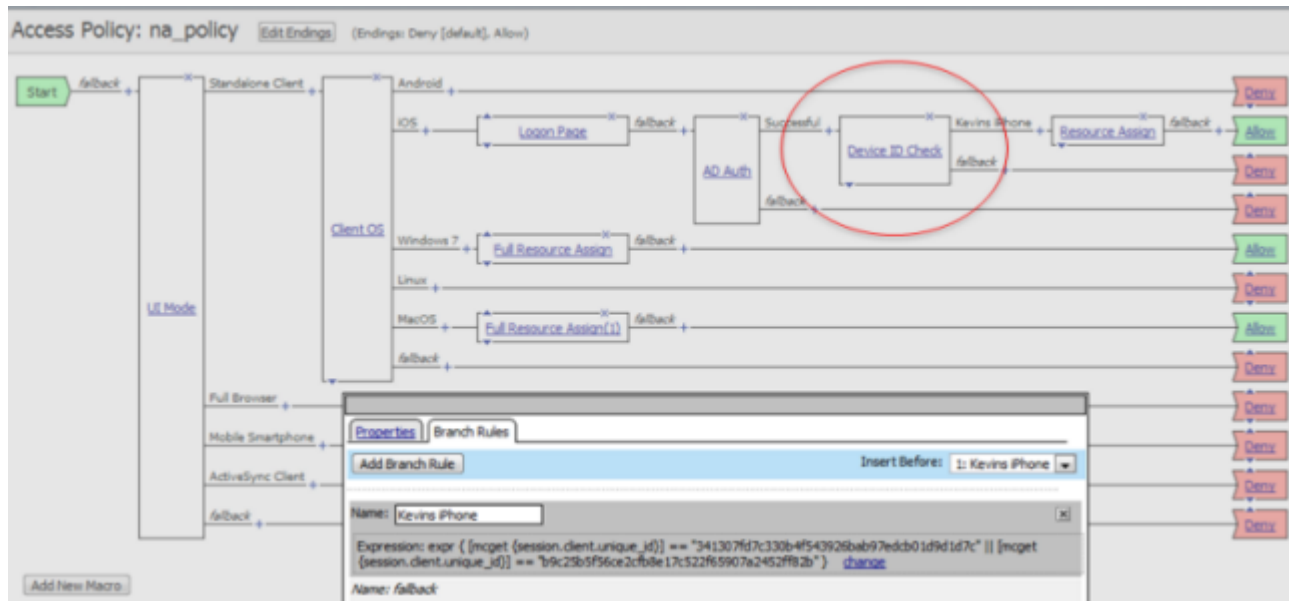
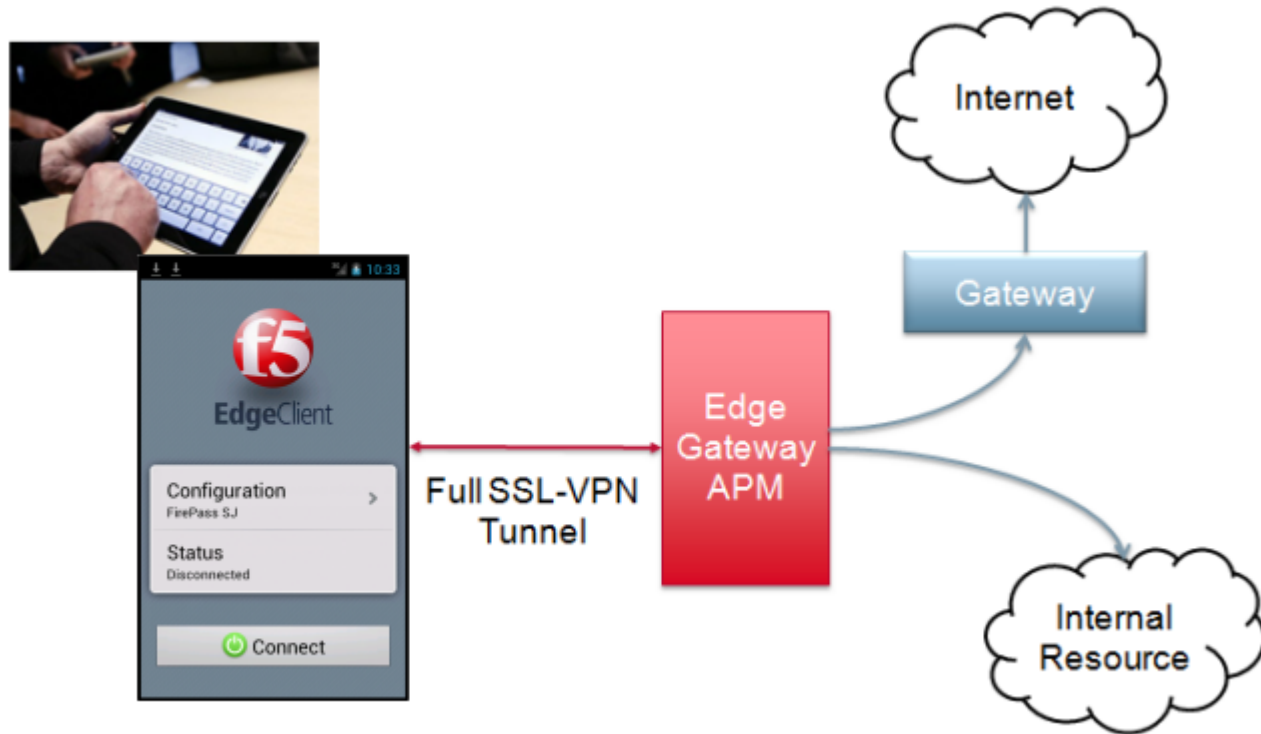


Figure 1: Example of a custom action for checking device's UUID

About secure web gateway integration on Android devices

Access Policy Manager provides web application-level security to prevent malware attacks. As an administrator, you can enforce all web access through a secured gateway as well as bypass secure gateways for internal resources. This is especially useful where you have users using corporate tablets, smartphones, or other mobile devices to browse the web, for example.

Overview: BIG-IP Edge Client for Mobile Devices



Setting up a secure web gateway

You can force traffic through a tunnel on the BIG-IP Edge Client. Please note that even though you disable **Allow local subnet access** while enabling **Force all traffic through tunnel**, the client will still permit local subnet traffic to travel outside of the tunnel. This is a limitation of Android and not with the BIG-IP Edge Client.

1. On the Main tab, click **Access Policy > Network Access**.
The Network Access List screen opens.
2. Click the name to select a network access resource on the Resource List.
The Network Access editing screen opens.
3. To configure the network settings for the network access resource, click **Network Settings** on the menu bar.
4. Enable **Force all traffic through tunnel**.
If you enable **Use split tunneling for traffic**, the client will not use the proxy settings.
5. Enable **Allow Local Subnet**.
6. Under **Client Options**, enable the **Client for Microsoft Networks** check box.
7. Click **Update**.

Chapter

2

Configuring Access Policy Manager for BIG-IP Edge Client

Topics:

- *Access Policy Manager configuration for BIG-IP Edge Client for mobile devices*

Access Policy Manager configuration for BIG-IP Edge Client for mobile devices

To configure BIG-IP® Edge Client™ for mobile devices support on BIG-IP® Access Policy Manager™, use the following configuration steps.

- Run the Network Access Setup Wizard.
- You can also set up SSO and ACLs for your network access (optional). Refer to the *BIG-IP Access Policy Manager Configuration Guide* on the AskF5 Knowledge Base for instructions.
- Customize an access policy to support BIG-IP Edge Client.

Running the Network Access Setup Wizard

Configure Access Policy Manager to provide users with full network access from their mobile devices using the Network Access Setup Wizard for Remote Access.

1. On the Main tab, click **Wizards > Device Wizards**.
The Device Wizards screen opens.
2. For Access Policy Manager Configuration, select **Network Access Setup Wizard for Remote Access**, and then click **Next**.
3. In the Basic Properties area of the wizard, clear the **Enable Antivirus Check in Access Policy** check box for Client Side Checks to ensure that your users can connect to BIG-IP Edge Client.
4. Click **Finished**.

You now have network access that supports BIG-IP Edge Client for mobile devices.

Customizing an access policy to support BIG-IP Edge Client on Access Policy Manager 10

Create an access policy that supports BIG-IP Edge Client for Android.



Note: This policy applies to Access Policy Manager version 10.x systems.

1. On the Main tab, click **Access Policy > Access Profiles**.
The Access Profiles List screen opens.
2. In the Access Policy column, click the **Edit** link for the profile you want to configure to launch the visual policy editor.
The visual policy editor opens the access profile in a separate window or tab.
3. Click the plus [+] sign that appears before the Logon Page action.
4. Under **Server Side Checks**, select **UI Mode**, and click **Add Item**.
5. Click **Save**.
The UI Mode action is added to the access policy, and several new branches appear.
6. On the Standalone Client branch of the UI Mode action, click the plus [+] sign.
7. Under **General Purpose**, select **Empty**, and click **Add Item**.
8. Click the Branch Rules tab.
9. Click **Add Branch Rule**.

10. Rename the new branch rule **Branch Rule *n*** to **Android Edge Client**.
11. Next to **Expression: Empty**, click the **change** link.
12. Click the **Advanced** tab.
13. Type the following rule in the box:


```
expr { [mcget {session.client.platform}] == "Android" && [mcget {session.client.type}] == "Standalone" }
```
14. Click **Finished**, and then click **Save**.
15. Add the network access resource to the branch.
16. Click **Save**.
This access policy now supports BIG-IP Edge Client for Android.

Customizing an access policy to support BIG-IP Edge Client on Access Policy Manager 11

Create an access policy that supports BIG-IP Edge Client for Android.



Note: This policy applies to Access Policy Manager version 11.x systems.

1. On the Main tab, click **Access Policy > Access Profiles** .
The Access Profiles List screen opens.
2. In the Access Policy column, click the **Edit** link for the profile you want to configure to launch the visual policy editor.
The visual policy editor opens the access profile in a separate window or tab.
3. Click the plus [+] sign that appears before the **Logon Page** action.
4. Under **Server Side Checks**, select **Client Type**, and click **Add Item**.
5. Click **Save**.
The Client Type action is added to the access policy, and several new branches appear.
6. On the Edge Client branch of the Client Type action, click the plus [+] sign.
7. Under **Server Side Checks**, select **Client OS**, and click **Add Item**.
8. Configure the **Android** Branch Rule with the configuration objects and resources you want to assign to Android Edge Client.
9. Click **Finished**, and then click **Save**.
10. Add the network access resource to the branch.
11. Click **Save**.
This access policy now supports BIG-IP Edge Client for Android.

Chapter

3

Overview: Access Policies for BIG-IP Edge Client

Topics:

- *About access policy branches for BIG-IP Edge Client*

About access policy branches for BIG-IP Edge Client

You can configure separate access policy branches for BIG-IP® Edge Client™.

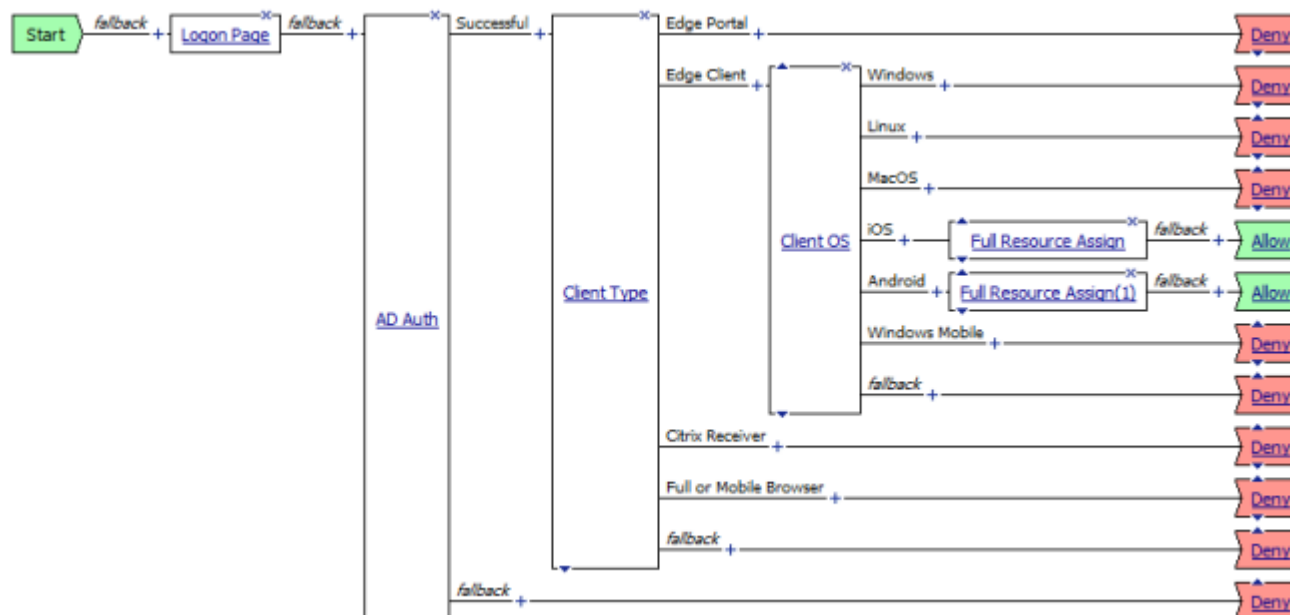
BIG-IP Edge Client does not support client-side checks; however, you can configure an access policy that provides network access for Android clients with any of the following methods.

- Create an access policy using **Client-Side Check Capability**. This provides a branch for clients that do not support client-side checks. Assign authentication and a network access resource to this branch.
- Use an existing access policy with client-side checks. The Android client will fail to the fallback branch of the first client-side check. Assign authentication and a network access resource to this branch.
- Create a specific branch for Android clients. Use an empty action and empty session variables to identify the client. Add authentication and assign a network access resource for Android clients to this branch.

Basic access policy that supports BIG-IP Edge Client

You can configure an access policy branch to direct mobile device users to BIG-IP Edge Client, and direct non-mobile device users to a fallback branch.

The following example displays a simple access policy.



Chapter 4

Additional Access Policy Manager Configuration Information

Topics:

- *Identifying Android clients using session variables*
- *Additional Access Policy Manager configuration information*
- *Starting the client from a URL scheme*
- *Defining a server from a URL*

Identifying Android clients using session variables

The following table contains a list of session variables and their attributes.

Session variable	Description
<i>session.client.type</i>	Indicates the client type, such as Standalone.
<i>session.client.platform</i>	Indicates the platform type, such as Android.
<i>session.client.agent</i>	Indicates the browser, device type, and operating system version of the client, as well as the version of BIG-IP Edge Client.
<i>session.client.mac_address</i>	Indicates the MAC address of the Wi-Fi adapter. Sample string: %session.client.mac_address%= '90:21:55:07:4A:32'
<i>session.client.model</i>	Indicates the model number of the mobile device. Sample string: %session.client.model%= 'Nexus One'
<i>session.client.platform_version</i>	Indicates the platform and version of the mobile device. Sample string: %session.client.platform_version%= '2.3.3'
<i>session.client.unique_id</i>	Indicates the unique ID of the mobile device. Sample string: %session.client.unique_id%= '8ccaf965e51e3077'
<i>session.agent_info.serial_number</i>	Indicates the serial number of the mobile device. Sample string: %session.agent_info.serial_number%= 'HT097P800388'
<i>session.agent_info.imei</i>	Indicates the international mobile equipment identity (IMEI) number of the mobile device. Sample string: %session.agent_info.imei%= '354957034052954'

Additional Access Policy Manager configuration information

The following table provides tips for setting up the BIG-IP Edge Client for mobile devices.

Feature	Information
Proxy servers	Public and private-side proxy servers are not currently supported.
Client endpoint checks	Client end-point checks are not currently supported.
Password caching policy	<ul style="list-style-type: none"> Under Client Policy, if Enforce session settings is not enabled, clients can save their encrypted password to disk, regardless of what settings are configured under Session Settings. Under the Password Caching Options, if you set Cache password within application for for a specific amount of time, after a successful logon, the submitted credentials are cached until one of the following occurs: <ul style="list-style-type: none"> the specified credential cache duration expires the server address of the configuration within the app changes the username of the configuration within the app changes

Feature	Information
	<ul style="list-style-type: none"> the BIG-IP Edge Client user switches between configurations and makes a new connection the configuration is deleted and a new one is created <ul style="list-style-type: none"> On the mobile device, even if a user clicks Disconnect, terminates the application, or restarts the device, cached credentials are not cleared until the specified cache time.
Client certificates	Client certificate authentication is supported, either with a certificate alone or with a certificate secured with a username and password.
On-Demand Cert Auth	If used, the On-Demand Cert Auth action must be placed after other authentication actions in the access policy.

Starting the client from a URL scheme

You can start BIG-IP® Edge Client™ connections for users from a URL. You can then provide these URLs to users, so they can start the VPN connection without having to manually start the app. If there is already an active connection, a prompt appears to warn the user that the existing connection must be stopped before the new connection can start. The connection uses a client certificate if it is specified in the existing configuration.

URL connections use the following parameters.

```
f5edgeclient://{start|stop}?[parameter1=value1&parameter2=value2...]
```



Note: Special characters in parameters must be URL-encoded.

The syntax to start a connection from a URL follows.

start	Starts a connection. The <code>start</code> command requires either the <code>name</code> or <code>server</code> parameter to be present in the URL. If the <code>name</code> parameter is specified, then the Edge Client looks for the name in the list of existing configuration entries. If the <code>server</code> parameter is specified, then the <code>name</code> parameter is set to the same value as the <code>server</code> . A new configuration is created if a configuration with that name does not exist. If the specified configuration already exists, the other parameters specified in the URL are merged with the existing configuration. The result of this merged configuration is used only for the current, active connection, and does not persist. If a name is specified with other parameters, such as <code>server</code> , <code>username</code> , or <code>password</code> , those parameters override what is specified in the configuration.
sid	A parameter used to specify the session ID with which to start the connection. When the parameter <code>sid</code> is provided, the <code>username</code> and <code>password</code> parameters are ignored, and no additional authentication occurs.
username	A parameter used to specify the user name with which to start the connection. When the <code>username</code> is specified without a <code>password</code> , then an authentication prompt is displayed.
password	A parameter used to specify the password with which to start the connection. When the <code>password</code> parameter is specified, it is used as a one-time password and not saved in the configuration.

Additional Access Policy Manager Configuration Information

postlaunch_url A parameter used to specify the URL that starts after the connection starts.

logon_mode An optional parameter that specifies whether the logon mode is the standard logon (native) or web logon (web). The default logon mode is native.

Examples of starting a client from a URL

The following examples illustrate how to start BIG-IP® Edge Client™ connections for users from a URL.

Connecting to an existing configuration called MYVPN

```
f5edgeclient://start?name=MYVPN
```

Connecting to an existing configuration called MYVPN and including the server URL
myvpn.siterequest.com

```
f5edgeclient://start?name=MYVPN&server=
myvpn.siterequest.com
```

Connecting to a specific server called myvpn.siterequest.com

```
f5edgeclient://start?server=myvpn.siterequest.com
```

Connecting to a specific server called myvpn.siterequest.com with web logon enabled

```
f5edgeclient://start?server=myvpn.siterequest.com
&logon_mode=web
```

Connecting to an existing configuration called MYVPN and including the username smith and the password passwd

```
f5edgeclient://start?name=MYVPN&username=smith &password=
passwd
```

Starting a connection to a configuration called MYVPN and specifying the post-launch URL jump://?host=10.10.1.10&username=smith

```
f5edgeclient://start?name=MYVPN&postlaunch_url=
jump%3A%2F%2F%3Fhost%3D10.10.1.10%26username%3Dsmith
```

Stopping a connection

```
f5edgeclient://stop
```

Defining a server from a URL

You can add BIG-IP® server definitions to Edge Client™ from a URL. You can provide these URLs to users, so they can start and save VPN connections without having to manually start the app.

Use the following URL and parameters to create a server:

```
f5edgeclient://create?server=server_address[&parameter1=value1&parameter2=value2...]
```



Note: Special characters in parameters must be URL-encoded.

The syntax to define a server from a URL follows.

server	The server address is either a DNS name or an IP address.
name	An optional description of the server.
username	A parameter used to specify the user name with which to start the connection. When the <code>username</code> is specified without a <code>password</code> , then an authentication prompt is displayed.
password	A parameter used to specify the password with which to start the server connection. When the <code>password</code> parameter is specified, it is used as a one-time password and not saved in the configuration.
cert_cn	Certificate common name. Matches the Common Name of a valid certificate pre-installed on the device.
cert_url	The URL for downloading a client certificate in .P12 format. Only one of <code>cert_cn</code> or <code>cert_url</code> can be specified.

Examples of defining a server from a URL

The following examples illustrate how to define servers for BIG-IP® Edge Client™ connections from a URL.

Create a server at `edgeportal.siterequest.com`

```
f5edgeclient://create?server=edgeportal.siterequest.com
```

Create a server named `EdgePortal` with the server URL

```
edgeportal.siterequest.com
```

In this scenario, both `name` and `server` are specified, and `username` and `cert_cn` are absent, so `weblogon` is assumed.

```
f5edgeclient://create?name=EdgePortal&server=
edgeportal.siterequest.com
```

Additional Access Policy Manager Configuration Information

Create the same server with a username, password, and certificate

```
f5edgeclient://create?name=EdgePortal&server=
edgeportal.siterequest.com&username=edgeportal&password=
androiddemo&certcn=clientcert-cert.siterequest.com
```

Create the same server with a username and certificate

```
f5edgeclient://create?name=EdgePortal&server=
edgeportal.siterequest.com&username=
edgeportal&certcn=clientcert-cert.siterequest.com
```

Create the same server with a certificate

```
f5edgeclient://create?name=EdgePortal&server=
edgeportal.siterequest.com&certcn=
clientcert-cert.siterequest.com
```


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