



# **BlackBerry UEM**

## **Managing BlackBerry Dynamics apps**

Administration

12.18



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# Managing BlackBerry Dynamics apps

If your organization uses BlackBerry Dynamics apps, you must configure connectivity settings and other options that apply only to BlackBerry Dynamics apps. You may have to configure additional app settings. For example, if your organization uses BlackBerry Work, you configure settings for the app to send email to devices rather than using the email profile.

For more information on the features and settings supported by individual BlackBerry Dynamics apps, see the documentation for the app.

For more information on configuring BlackBerry UEM to support BlackBerry Dynamics apps, including communication settings and Kerberos, see [Configuring BlackBerry UEM to support BlackBerry Dynamics apps](#).

To use BlackBerry Dynamics apps in your organization, perform the following actions:

Step	Action
1	Check BlackBerry Dynamics connectivity settings and change them if necessary.
2	Create a BlackBerry Dynamics profile or update the Default BlackBerry Dynamics profile.
3	Add BlackBerry Dynamics apps to BlackBerry UEM.
4	If required, change BlackBerry Dynamics apps settings.
5	Add the work app catalog to the BlackBerry Dynamics Launcher.
6	Assign the BlackBerry Dynamics profile and BlackBerry Dynamics connectivity profile to <a href="#">user accounts</a> or <a href="#">user groups</a> .
7	Assign BlackBerry Dynamics apps to <a href="#">user accounts</a> or <a href="#">user groups</a> .
8	For users who want to activate BlackBerry Dynamics apps on devices without the UEM Client, generate access keys, activation passwords, and QR codes for the apps.

# Use a third-party identity provider to activate a BlackBerry Dynamics app on a device

## Before you begin:

- BlackBerry UEM 12.15 or later
  - BlackBerry Dynamics apps compiled with BlackBerry Dynamics SDK 9.1 or later
  - BlackBerry Enterprise Identity is enabled
1. Configure your organization's third-party identity provider to work with BlackBerry Enterprise Identity.
    - For information about configuring Okta and BlackBerry Enterprise Identity, see the [BlackBerry Enterprise Identity Administration Guide](#). Ensure that the Microsoft Active Directory that your organization's Okta instance uses is also configured in BlackBerry UEM through **Settings > External Integration > Company Directory**.
    - For information about configuring PingFederate and BlackBerry Enterprise Identity, see the [BlackBerry Enterprise Identity Administration Guide](#).
  2. Do one of the following:
    - If you are using PingFederate or Okta, enable **Dynamics Activation via Enterprise IDP** as an OpenID Connect app.
    - If you are using Active Directory as the identity provider, add the **Dynamics Active Directory Activation** as an OpenID Connect app.

For more information, see the [BlackBerry Enterprise Identity Administration Guide](#).
  3. In BlackBerry UEM, set up your organization's identity provider. For more information, see the *BlackBerry Enterprise Identity Administration Guide* [PingFederate](#) and [Okta](#) instructions.
  4. In, create a BlackBerry Enterprise Identity Authentication policy. Ensure you select **Manage service exceptions**, and add the **Dynamics Activation via Enterprise IDP** service. For more information, see the [BlackBerry Enterprise Identity Administration Guide](#).
  5. Assign the BlackBerry Enterprise Identity Authentication policy to users. For more information, see the [BlackBerry Enterprise Identity Administration Guide](#).

Note that during the activation process, the user needs to select the **Sign in with your organization if instructed by your administrator** option, which will allow them to sign in using your organization's identity provider.

# Use a third-party identity provider to unlock, activate, and reset your password for BlackBerry Dynamics apps

You can use your log in credentials for your organization's third-party identity provider to unlock, activate, and reset your password for BlackBerry Dynamics apps.

## Unlock a BlackBerry Dynamics app using a third-party identity provider

If one of your BlackBerry Dynamics apps, such as BlackBerry Work, has been locked, you can use your organization's identity provider to unlock the app. Note that your organization's administrator has to enable this feature before you can use it.

1. On the **Application Remote locked** screen on the device, tap **Unlock**.
2. On the **Application Unlock** screen, tap **Sign in**.
3. Enter the email address that you use to sign in to your organization's identity provider and tap **Next**.

4. Enter the username that you use to sign in to your organization's identity provider and tap **Next**.
5. Enter the password that you use to sign in to your organization's identity provider and tap **Sign in**.
6. After the BlackBerry Dynamics app activates, enter and confirm a new password.

### **Activate a BlackBerry Dynamics app after a device restore using a third-party identity provider**

After you have restored your device from a backup, you can log in to the device with your organization's third-party identity provider (for example, Okta or Ping Identity) credentials and activate BlackBerry Dynamics apps.

1. On the **Application Unlock** screen, tap **Sign in**.
2. Enter the email address that you use to sign in to your organization's identity provider and tap **Next**.
3. Enter the username that you use to sign in to your organization's identity provider and tap **Next**.
4. Enter the password that you use to sign in to your organization's identity provider and tap **Sign in**.
5. After the BlackBerry Dynamics app activates, enter and confirm a new password.

### **Reset your BlackBerry Dynamics app password using a third-party identity provider**

If you have forgotten the password for your BlackBerry Dynamics app, you can use your organization's third-party identity provider to set a new password.

1. When you are logging in to the app, on the password screen, tap **Forgot password**.
2. Tap **Sign in**.
3. Enter the email address that you use to sign in to your organization's identity provider and tap **Next**.
4. Enter the username that you use to sign in to your organization's identity provider and tap **Next**.
5. Enter the password that you use to sign in to your organization's identity provider and tap **Sign in**.
6. After the BlackBerry Dynamics app activates, enter and confirm a new password.

# Setting up network connections for BlackBerry Dynamics apps

BlackBerry Dynamics connectivity profiles define the network connections, Internet domains, IP address ranges, and app servers that BlackBerry Dynamics apps can connect to.

BlackBerry UEM includes a Default BlackBerry Dynamics connectivity profile with preconfigured settings. If no BlackBerry Dynamics connectivity profile is assigned to a user account or to a user group that a user belongs to, BlackBerry UEM sends the Default BlackBerry Dynamics connectivity profile to a user's devices. BlackBerry UEM automatically sends a BlackBerry Dynamics connectivity profile to a device when a user activates it, when you update an assigned BlackBerry Dynamics connectivity profile, or when a different BlackBerry Dynamics connectivity profile is assigned to a user account or device.

The following options allow administrators to control how BlackBerry Dynamics traffic is routed:

- BlackBerry Dynamics connectivity profile
- BlackBerry Proxy web proxy server configuration

**Note:** To use the BlackBerry Proxy in a BlackBerry UEM Cloud environment, you must install an on-premises BlackBerry Connectivity Node.



- App-specific settings (for example, BlackBerry Access web proxy server configuration)

Before you configure routing, ensure that you have a BlackBerry Proxy server installed, that the correct ports are open, and that you have network connectivity to the BlackBerry Dynamics NOC from the BlackBerry Proxy server.

For more information, see [Port requirements in the Planning content](#) and [Sending BlackBerry Dynamics app data through an HTTP proxy in the Configuration content](#).

This documentation discusses only configurations that affect overall routing. App-specific configuration may be required for apps to connect to specific servers (for example, for BlackBerry Work configured with the URL of the Microsoft Exchange Server). Review the documentation for each app to understand which app configurations to apply.

## Create a BlackBerry Dynamics connectivity profile

1. On the menu bar, click **Policies and Profiles**.
2. Click **Networks and connections > BlackBerry Dynamics connectivity**
3. Click .
4. Type a name and description for the profile.
5. If you have previously exported BlackBerry Dynamics connectivity profile settings that you want to reuse to a .csv file, click  to import the settings.
6. Configure the appropriate values for the profile settings. For more information about each profile setting, see [BlackBerry Dynamics connectivity profile settings](#).
7. To add an app server for a BlackBerry Dynamics app, see [Add an app server to a BlackBerry Dynamics connectivity profile](#).
8. Click **Save**.

**After you finish:** If necessary, rank profiles.









# BlackBerry Dynamics connectivity profile settings

BlackBerry Dynamics connectivity profiles are supported on the following device types:

- iOS
- macOS
- Android
- Windows

BlackBerry Dynamics connectivity profile setting	Description
Name	Specify a name for the BlackBerry Dynamics connectivity profile.
Description	Specify a description for the BlackBerry Dynamics connectivity profile.
<b>Infrastructure</b>	
Route all traffic	<p>For apps developed with a version of the BlackBerry Dynamics SDK earlier than 6.0, this setting specifies whether all BlackBerry Dynamics app data is routed through BlackBerry Proxy. For more information, see <a href="#">BlackBerry Proxy web proxy server configuration</a>. This option takes precedence over other settings in the profile. If you select Route all traffic, you can specify a BlackBerry Proxy cluster to route through, or select Deny to block all connections.</p> <p>For apps developed with BlackBerry Dynamics SDK version 6.0 and later, the default route under "Allowed domains" replaces this setting.</p> <p>You should select this option only if your organization uses custom or ISV apps developed with a version of BlackBerry Dynamics SDK earlier than 6.0. Recent versions of BlackBerry Dynamics apps released by BlackBerry use a version of the SDK later than 6.0.</p> <p>This setting is not included in BlackBerry UEM Cloud.</p>
Allowed domains	<p>A list of the Internet domains that your organization wants to control access to. For example, <code>blackberry.com</code> controls access to any server in the <code>blackberry.com</code> domain. BlackBerry Dynamics apps are allowed to connect through your organization's firewall to any server in the listed domains and their subdomains.</p> <p>For BlackBerry Dynamics apps running BlackBerry Dynamics SDK versions 6.0 and later, the "Default route" under Allowed domains applies to all domains that aren't otherwise specified in the profile. This option allows for detailed control over how BlackBerry Dynamics apps can connect to app servers. For more information, see <a href="#">Setting the default route for BlackBerry Dynamics app data</a>.</p> <p>To add a new domain to the Allowed domains list, click <b>+</b> and configure the settings for the domain. To remove a domain from the list, click <b>×</b> beside the domain that you want to remove.</p>


BlackBerry Dynamics connectivity profile setting	Description
Domain	Specify the Internet domains that you want to allow or deny access to. For example, <code>blackberry.com</code> allows access to any server in the <code>blackberry.com</code> domain. BlackBerry Dynamics apps are allowed to connect through your organization's firewall to any server in the listed domains and their subdomains.
BlackBerry Proxy cluster	Select this option to specify the BlackBerry Proxy clusters that must be used to reach the domain. For more information, see <a href="#">BlackBerry Proxy web proxy server configuration</a> .
Direct	Select this option to route traffic directly from the app to the domain without going through BlackBerry Proxy. This option is supported only for apps developed with BlackBerry Dynamics SDK version 6.0 and later.
Deny	Select this option to block the app from connecting to the domain. This option is supported for apps developed with BlackBerry Dynamics SDK version 6.0 and later.
Primary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the primary route that the app uses to connect to the domain.
Secondary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the backup route that the app uses to connect to the domain if the primary cluster is down.
<b>Default domains</b>	<p>A list of the default allowed domains (for example, <code>qa.blackberry.com</code>). BlackBerry Dynamics apps may try to connect to an unqualified hostname like "portal" instead of using a fully qualified name like "portal.sales.xyzcorp.com". The domains in this list will be appended to unqualified hostnames to construct fully qualified names.</p> <p>To add a new domain to the Default domains list, click  and configure the settings for the domain. To remove a domain from the list, click  beside the domain that you want to remove.</p>
Domain	Specify the domain that you want to add to the Default domains list.
Primary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the primary route the app uses to connect to the domain.
Secondary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the backup route the app uses to connect to the domain if the primary cluster is down.
<b>Additional servers</b>	<p>A list of additional servers that BlackBerry Dynamics apps can connect to. Add servers to this list if you want BlackBerry Dynamics apps to connect only to certain servers and not to every server in a domain.</p> <p>To add a new server to the Additional servers list, click  and configure the settings for the server. To remove a server from the list, click  beside the server that you want to remove.</p>

BlackBerry Dynamics connectivity profile setting	Description
Server	Specify the fully qualified domain name of any additional servers that BlackBerry Dynamics apps can connect to. Add servers to this list instead of using the "Allowed Domains" list if you want BlackBerry Dynamics apps to be able to connect only to certain servers and not to every server in a domain. Servers, routing types, and BlackBerry Proxy clusters listed in this section have precedence over entries listed in the "Allowed Domains" section.
Port	Specify the port that the server uses.
BlackBerry Proxy cluster	Select this option to specify the BlackBerry Proxy clusters that must be used to reach the domain.
Direct	Select this option to route traffic from the app to the server without going through BlackBerry Proxy. This option is supported only for apps developed with BlackBerry Dynamics SDK version 6.0 and later.
Deny	Select this option to block the app from connecting to the server. This option is supported for apps developed with BlackBerry Dynamics SDK version 6.0 and later.
Primary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the primary route the app uses to connect to the server.
Secondary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the backup route the app uses to connect to the domain if the primary cluster is down.
IP address ranges	<p>A list of IP address ranges that BlackBerry Dynamics apps can access when they make a connection request using an IP address rather than a hostname.</p> <p>To add a new IP address range to the list, click  and configure the settings for the settings. To remove an IP address range from the list, click  beside the range that you want to remove.</p>
Range	<p>Specify a range of IP addresses that BlackBerry Dynamics apps can access when they make a connection request using an IP address rather than a hostname. Address ranges must be entered with a lower and upper bound address (for example, 192.168.2.0-192.168.2.255) or in IPv4 CIDR notation (for example, 192.168.2.0/24). For example:</p> <ul style="list-style-type: none"> <li>Discrete addresses: Example: 192.168.2.0-192.168.2.255</li> <li>An entire subnet: Example: 192.168.2.0/24</li> </ul>
BlackBerry Proxy cluster	Select this option to specify the BlackBerry Proxy clusters that must be used to reach the IP address range.

BlackBerry Dynamics connectivity profile setting	Description
Direct	Select this option to route traffic directly from the app to the IP address range without going through BlackBerry Proxy. This option is supported only for apps developed with BlackBerry Dynamics SKD version 6.0 and later.
Deny	Select this option to block the app from connecting to the IP address range. This option is supported for apps developed with BlackBerry Dynamics SDK version 6.0 and later.
Primary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the primary route that the app uses to connect to the IP address range.
Secondary	Select the name of the BlackBerry Proxy cluster from the drop-down list to use as the backup route the app uses to connect to the IP address range if the primary cluster is down.
<b>App servers</b>	
Add	<p>If you have one or more BlackBerry Dynamics apps that are served from an app server or web server, you can specify the name and port of the server and the priority of the BlackBerry Proxy clusters used for communication with it. You can also set the priority of the app server to the client app as primary, secondary, or tertiary. All BlackBerry Dynamics apps served by the app server or web server are able to use the connection settings you specify.</p> <p>If you have BlackBerry UEM Cloud and a BEMS Cloud in your environment and you configured Email notifications or BEMS-Docs to create a BEMS tenant, the BEMS Cloud URL, port number, and priority are added automatically to the App servers payload section.</p> <p>For more information, see <a href="#">Add an app server to a BlackBerry Dynamics connectivity profile</a>.</p>



## Export BlackBerry Dynamics connectivity profile settings

You can export BlackBerry Dynamics connectivity profile settings to a .csv file if you need to create additional profiles with similar settings.

1. On the menu bar, click **Policies and Profiles**.
2. Click **Networks and connections > BlackBerry Dynamics connectivity**
3. Click the name of the profile that you want to export.
4. Click .
5. Click **Cancel** to close the profile without saving changes.

# Add an app server to a BlackBerry Dynamics connectivity profile

If you have a BlackBerry Dynamics app that is served from an app server or web server, you can specify the name of that server and the priority of the BlackBerry Proxy clusters used for communication with it.

1. On the menu bar, click **Policies and Profiles**.
2. Click **Networks and connections > BlackBerry Dynamics connectivity**.
3. Click the BlackBerry Dynamics connectivity profile that you want to add an app server to.
4. Click .
5. Under **App servers**, click **Add**.
6. Select the BlackBerry Dynamics app that you want to add an app server for.
7. Click **Save**.
8. In the table for the app, click .
9. In the **Server** field, specify the FQDN of the app server.
10. In the **Port** field, specify the port of the BlackBerry Proxy cluster that is used to access the server.
11. In the **Priority** drop-down list, specify the priority of the BlackBerry Proxy cluster that must be used to reach the domain.
12. In the **Primary BlackBerry Proxy cluster** drop-down list, specify the name of the BlackBerry Proxy cluster that you want to set as the primary cluster.
13. In the **Secondary BlackBerry Proxy cluster** drop-down list, specify the name of the BlackBerry Proxy cluster that you want to set as the secondary cluster.
14. Click **Save**.

## Default routing

By default, in a new installation of BlackBerry UEM, all BlackBerry Dynamics app traffic routes directly to the Internet, with no web proxy server configurations.

### BlackBerry Dynamics connectivity profile configuration

The only item configured in the default BlackBerry Dynamics connectivity profile is the **Default allowed domain route type**, which is set to **Direct**.

Using the default BlackBerry Dynamics connectivity profile, no internal servers or domains are accessible to BlackBerry Dynamics apps. Administrators can modify the default connectivity profile or create a new one to allow connectivity to internal servers.

For more information, see [Create a BlackBerry Dynamics connectivity profile](#).

### BlackBerry Proxy web proxy server configuration

The default configuration for BlackBerry Proxy servers has no web proxy server configuration applied. In this configuration, each BlackBerry Proxy server attempts to connect directly to the Internet to make connections. This applies to both app server traffic and to BlackBerry Dynamics NOC connections.

In the BlackBerry Dynamics connectivity profile, you can specify the servers that your users' BlackBerry Dynamics apps are allowed to access through the firewall using BlackBerry Proxy.

Routing traffic through BlackBerry Proxy has the following benefits:

- Web browsers and BlackBerry Dynamics apps on devices can connect to any server behind the firewall that is reachable by BlackBerry Proxy.
- You can easily monitor data traffic between BlackBerry Dynamics apps and your resources.

For apps developed with the BlackBerry Dynamics SDK version 6.0 and later, you can specify the BlackBerry Proxy clusters that data must route through.

If you have BlackBerry UEM in an on-premises environment, for apps developed with a version of the BlackBerry Dynamics SDK, earlier than 6.0, you select the Route all traffic option to route all BlackBerry Dynamics app data, regardless of domain or subnet, through BlackBerry Proxy.

You should be aware of the following considerations when you route data through BlackBerry Proxy:

- Establishing connections to servers on the Internet can take longer.
- If you are using a web proxy to allow access to external sites and have settings configured in your proxy to restrict certain sites, when you select the Route all traffic option, you also need to set the proxy properties in BlackBerry Proxy. Otherwise, apps will not be able to access external sites. For more information on configuring BlackBerry Proxy settings, see the [on-premises Configuration content](#) or the [Cloud Configuration content](#).
- BlackBerry Access can be configured with a PAC file that determines allowable sites. In this case, the PAC file determines the proxy settings. For more information, [see the BlackBerry Access Administration Guide](#).

For more information, see [Port requirements](#) in the Planning content and [Sending BlackBerry Dynamics app data through an HTTP proxy](#).

## App-specific proxy configuration

BlackBerry Access and some third-party apps allow app-level web proxy server configurations.

The default configuration for BlackBerry Access has no web proxy server configuration applied. Review the documentation for third-party BlackBerry Dynamics apps to understand the default configuration for each.

**Note:** An app server is a server that a BlackBerry Dynamics app connects to, such as the URL of a Microsoft Exchange Server, the URL for BEMS, the URL for Skype for Business, or any URL that BlackBerry Access browses to. The BlackBerry Dynamics NOC and the BlackBerry UEM Core server are not app servers.

## Setting the default route for BlackBerry Dynamics app data

For BlackBerry Dynamics apps running BlackBerry Dynamics SDK versions 6.0 and later, you can configure the default route under Allowed Domains in the BlackBerry Dynamics Connectivity profile. The default route is used for BlackBerry Dynamics app data when no other settings in the profile take precedence.

BlackBerry Dynamics apps use the routing configuration that applies to the app in the following order of precedence:

1. If an app server is specified for the app in the connectivity profile, the app uses the routing option specified for the app server.
2. If the app can connect to a server listed in the Additional servers table, the app uses the routing option specified for that server.
3. If the app can connect to any IP addresses listed in the IP address ranges table, the app uses the routing option specified for that server.
4. If the app can connect to an allowed domain specified in the Allowed domains table, the app uses the option specified for the allowed domain.
5. If the app server address does not have any domain information specified, the connection is made using information specified in the default domain.
6. If the above rules do not apply, the Default route is used.

**Note:** For apps running BlackBerry Dynamics SDK versions earlier than 6.0, the following rules apply:

- If a server or additional server is set to use Direct route and Route All is also enabled, then Route All setting is used.
- If a connection to a sub-domain is set to use the Direct route and Route All is also enabled, then Route All setting is used.

## Example routing scenarios

The following example scenarios reflect the most common configurations. If these configurations don't meet your organization's needs or you have more complex requirements, contact [BlackBerry Enterprise Consulting](#) for assistance.

### Scenario 1: Route traffic to specific servers or domains through BlackBerry Proxy

This configuration is appropriate for scenarios where some internal app servers must be accessible to BlackBerry Dynamics apps, but general traffic to public servers can remain direct.

For example, you can route connections directly to public sites like google.com and microsoft.com, but require internal routing through the BlackBerry Proxy to access internal Microsoft Exchange Servers and SharePoint servers.

This configuration assumes that a web proxy server connection to the Internet is not required, either because no Internet-based servers will ever be routed through the BlackBerry Proxy server or because the BlackBerry Proxy server itself has direct access to the Internet without requiring a web proxy server connection.

#### BlackBerry Dynamics connectivity profile

1. Set the **Default allowed domain route type** to **Direct**.
2. Under **Allowed domains**, add the internal domains that you want to route through the BlackBerry Proxy and select a BlackBerry Proxy cluster.
3. (Optional) Add specific server names under **Additional servers** and select a BlackBerry Proxy cluster. This is required only if the servers are not already covered by the **Allowed domains** rules.

See [BlackBerry Dynamics connectivity profile settings](#) for more information about how the rules in the connectivity profile are used.

#### BlackBerry Proxy server web proxy server

No web proxy server configuration is necessary.

**Note:** If your organization has special requirements to access the internet from internal servers, or requires all traffic to be routed through a web proxy server, see the configuration examples below that include proxy configurations.

#### App-specific web proxy server

No app-specific web proxy server configurations are necessary.

### Scenario 2: Route all traffic through the BlackBerry Proxy and then through a web proxy server

This configuration is appropriate for organizations that require all traffic from work apps to be routed internally. A web proxy server is required for internal servers to connect to the internet.

For example, connections to public sites like google.com and microsoft.com as well as internal Microsoft Exchange Servers and SharePoint servers must all be routed internally through the BlackBerry Proxy.

In this configuration, it is assumed that a web proxy server connection to the Internet is also required, because most organizations that require all traffic to be routed internally also require that traffic be routed through a web proxy server for filtering or monitoring.



## BlackBerry Dynamics connectivity profile

1. Set the **Default allowed domain route type** to **BlackBerry Proxy cluster**.
2. (Optional) Add internal domains to the **Allowed domains** list. This is not necessary when the **Default allowed domain route type** is set to route through the BlackBerry Proxy.
3. (Optional) Add specific server names under **Additional servers** and select a BlackBerry Proxy cluster. This is not necessary when the **Default allowed domain route type** is set to route through the BlackBerry Proxy.
4. (Optional) If you want specific servers to be exempt from the default routing through the BlackBerry Proxy, you can specify specific domains (either under **Allowed domains** or **Additional servers**) and select **Direct**. This allows you to route most traffic through BlackBerry Proxy but exempt some traffic (for example, to improve performance to certain trusted public sites).

See [BlackBerry Dynamics connectivity profile settings](#) for more information about how the rules in the connectivity profile are used.

## BlackBerry Proxy server web proxy server

Depending on the complexity of your environment, you can configure the BlackBerry Proxy server to route traffic through a web proxy server rather than directly to the destination server.

You can either use a manual web proxy server configuration or a PAC file.

**Note:** You can select both manual HTTP proxy and PAC. This may be necessary for scenarios where NOC traffic should use a different proxy server than app traffic. Avoid this level of complexity where possible.

**Manual HTTP proxy:** Manual web proxy server configuration is sufficient if there are no complex rules governing which URLs should use a web proxy server and which should go direct. If all traffic should use a web proxy server, then configuring a manual web proxy server is the easiest way to accomplish this.

1. Enable the manual HTTP proxy:

In an on-premises environment	<ol style="list-style-type: none"><li>a. Go to <b>Settings &gt; Infrastructure &gt; BlackBerry Router and proxy</b>.</li><li>b. Expand <b>Global Settings</b>, and select <b>Enable manual HTTP proxy</b>.</li></ol>
In a Cloud environment	<ol style="list-style-type: none"><li>a. Go to <b>Settings &gt; BlackBerry Dynamics &gt; Clusters</b>.</li><li>b. Click on the cluster you want to edit.</li><li>c. Enable <b>Override Global Settings</b>, and select <b>Enable manual HTTP proxy</b>.</li></ol>

2. Select **Use proxy to connect to all servers**.
3. Type the address and port for the web proxy server.

**Proxy auto-configuration (PAC) file:** If your organization requires more complex rules about which servers should use a proxy and which should connect directly, BlackBerry recommends using a PAC file because it is much easier to manage.

For example, if you want all connections to the public internet to use the web proxy server, but all internal domains to connect directly, the best practice is to use a PAC file.

**Note:** PAC file configuration is not part of the BlackBerry product and should be completed by the appropriate network or proxy team in your organization.

1. Open the proxy settings:

In an on-premises environment	<ol style="list-style-type: none"><li>a. Go to <b>Settings &gt; Infrastructure &gt; BlackBerry Router and proxy</b>.</li></ol>
In a Cloud environment	<ol style="list-style-type: none"><li>a. Go to <b>General Settings &gt; BlackBerry Router and proxy</b>.</li></ol>



2. Expand **Global Settings**, select **Enable PAC**.
3. Enter the PAC URL and authentication information as required.

### **App-specific web proxy server**

No app-specific proxy configurations are necessary. This configuration assumes that all traffic is routed internally and either a manual proxy or PAC is configured at the BlackBerry Proxy server.

## **Scenario 3: Route some traffic internally for most apps but configure a proxy server specifically for web browsing using BlackBerry Access**

This configuration is appropriate for organizations that require traffic for apps to be routed internally, but require more complex routing through a web proxy server specifically for browser traffic.

For example, your organization might decide that it is acceptable for BlackBerry Work to connect to Microsoft Office 365 servers directly. SharePoint is still internal, though, so some traffic must route through the BlackBerry Proxy. However, browsing is more tightly controlled, and any traffic from BlackBerry Access should route through a web proxy server for monitoring and logging.

This configuration can also include a web proxy server configuration at the BlackBerry Proxy server level, but for this example we assume direct connectivity is available from the BlackBerry Proxy.

### **BlackBerry Dynamics connectivity profile**

1. Set the **Default allowed domain route type** to **Direct**.
2. Under **Allowed domains**, add all internal domains that you want to route through the BlackBerry Proxy and select a BlackBerry Proxy cluster.
3. (Optional) Add specific servers that are not already included under **Additional servers** and select a BlackBerry Proxy cluster.

**Important:** If you plan to specify an internally hosted web proxy server in the app-specific configuration, you must include that web proxy server URL either in the Allowed domains list or the Additional servers list. If the web proxy server URL is not set to route through the BlackBerry Proxy, then connections to the web proxy server will fail. If the web proxy server is accessible publicly, this step is not required.

See [BlackBerry Dynamics connectivity profile settings](#) for more information about how the rules in the connectivity profile are used.

### **BlackBerry Proxy server web proxy server**

This example assumes that the BlackBerry Proxy servers have direct access to the Internet. If not, or if you need to specifically configure a proxy for BlackBerry Dynamics NOC connections, configure a web proxy server as needed.

### **App-specific web proxy server**

If a web proxy server is required for a specific app (for example, BlackBerry Access for browsing, or other third-party apps), you must use the App configuration for that app.

**Note:** Consult third-party vendors for specifics on whether an app-specific proxy is supported and how to configure it.

If an app-specific web proxy server is configured, the BlackBerry Dynamics app evaluates the proxy and PAC rules locally on the device before BlackBerry Dynamics connectivity profile rules are evaluated. It is important, therefore, that any proxy URLs configured using the manual proxy, or that can be returned by the PAC file, must be appropriately configured in the BlackBerry Dynamics connectivity profile.

1. Go to **Apps**, then click on the app you want to configure (for example, BlackBerry Access).
2. Under **App configuration**, create a new configuration or edit an existing one.

3. For BlackBerry Access, on the **Network** tab, select **Enable Web Proxy** and **Use Proxy Auto Configuration** as required.

For more information, see [Troubleshoot routing issues in the BlackBerry Access content](#).

## BlackBerry Dynamics data flow

It is important for administrators to understand the effects of certain combinations of settings. The table in this section describes the interaction between the BlackBerry Dynamics connectivity profile and the HTTP proxy server configured for the BlackBerry Proxy service.

### How BlackBerry UEM evaluates connections to hosts

The BlackBerry Dynamics connectivity profile is always checked first. After traffic arrives at the BlackBerry Proxy server, the PAC or web proxy server configuration set on the BlackBerry Proxy server is evaluated for connectivity. Configuring a web proxy server on the BlackBerry Proxy server controls how that BlackBerry Proxy handles sending traffic out to the Internet. It does not affect how the BlackBerry Dynamics app on the device evaluates connections.

	Host in connectivity profile resolves to BlackBerry Proxy	Host in connectivity profile resolves to Direct	Host in connectivity profile is blocked
<b>Proxy/PAC = Proxy URL</b>	BlackBerry Dynamics app > BlackBerry Proxy cluster > Web proxy server URL > Destination	BlackBerry Dynamics app > Destination	Content blocked by BlackBerry Dynamics SDK
<b>Proxy/PAC = Direct</b>	BlackBerry Dynamics app > BlackBerry Proxy cluster > Destination	BlackBerry Dynamics app > Destination	Content blocked by BlackBerry Dynamics SDK
<b>Proxy/PAC = Block</b>	Content blocked by web proxy server	BlackBerry Dynamics app > Destination	Content blocked by BlackBerry Dynamics SDK

**Note:** Some apps allow a web proxy server or PAC to be configured specifically for that app. For example, BlackBerry Access allows administrators to configure a web proxy server or PAC specifically for BlackBerry Access to use. In these scenarios, the app evaluates the app-specific web proxy server configuration before it evaluates the BlackBerry Dynamics connectivity profile.

For more information, see [Troubleshoot routing issues in the BlackBerry Access Administration content](#).

# Controlling BlackBerry Dynamics on users devices

The BlackBerry Dynamics profile enables BlackBerry Dynamics for users and sets standards for BlackBerry Dynamics app access, data protection, and logging.

BlackBerry UEM includes a Default BlackBerry Dynamics profile with preconfigured settings. If no BlackBerry Dynamics profile is assigned to a user account, a user group that a user belongs to, or a device group that a user's devices belong to, BlackBerry UEM sends the Default BlackBerry Dynamics profile to a user's devices. BlackBerry UEM automatically sends a BlackBerry Dynamics profile to a device when a user activates it, when you update an assigned BlackBerry Dynamics profile, or when a different BlackBerry Dynamics profile is assigned to a user account or device.

You can assign the BlackBerry Dynamics profile to user accounts, user groups, or device groups.

## Create a BlackBerry Dynamics profile

1. On the menu bar, click **Policies and Profiles**.
2. Click **Policy > BlackBerry Dynamics**
3. Click **+**.
4. Type a name and description for the profile.
5. Configure the appropriate values for the profile settings. For more information about each profile setting, see [BlackBerry Dynamics profile settings](#).
6. Click **Add**.

**After you finish:** If necessary, rank profiles.

## BlackBerry Dynamics profile settings

[BlackBerry Dynamics profiles](#) are supported on the following device types:

- iOS
- macOS
- Android
- Windows

BlackBerry Dynamics profile setting	Description
<b>Configuration</b>	
Require device management to use BlackBerry Dynamics apps	This setting specifies whether a device must be activated with MDM to use BlackBerry Dynamics apps.

<b>BlackBerry Dynamics profile setting</b>	<b>Description</b>
Enable UEM Client to enroll in BlackBerry Dynamics	If a device is using the BlackBerry UEM Client, this setting specifies whether the BlackBerry Dynamics manages the activation of BlackBerry Dynamics apps and whether BlackBerry Dynamics apps can be used on the device. If this option is not selected, BlackBerry Dynamics apps could be removed from the device because the device will not be enabled for BlackBerry Dynamics. If you do not plan to use BlackBerry Dynamics in your environment, do not select this setting.
<b>Password</b>	
Password expiration	This setting specifies whether the password for a BlackBerry Dynamics app expires and the number of days a password remains valid before it expires.
Do not allow previous passwords	This setting specifies whether previous passwords can be used and the maximum number of previous passwords that cannot be used for a BlackBerry Dynamics app.
Minimum password length	This setting specifies the minimum length of the password for a BlackBerry Dynamics app.
Allowed occurrences of a character	This setting specifies how many times a character can appear in a password for a BlackBerry Dynamics app.
Require both letters and numbers	This setting specifies whether the password must contain both letters and numbers for a BlackBerry Dynamics app.
Require both uppercase and lowercase	This setting specifies whether the password must contain both uppercase and lowercase letters for a BlackBerry Dynamics app.
Require at least one special character	This setting specifies whether the password must contain at least one special character for a BlackBerry Dynamics app.
Do not allow sequences of more than two numbers	This setting specifies whether the password can contain more than two sequential numbers (for example, 1, 2, 3) for a BlackBerry Dynamics app.
Do not allow more than one password change per day	This setting specifies whether a password can be changed more than once every 24 hours for a BlackBerry Dynamics app.
Do not allow personal information	<p>This setting specifies whether the following personal information can be used in a password for a BlackBerry Dynamics app:</p> <ul style="list-style-type: none"> <li>• The user's first and last names (excluding initials) as recorded in Active Directory</li> <li>• The part of an email address before the @ sign.</li> </ul>

BlackBerry Dynamics profile setting	Description
Allow Biometrics	<p>This setting specifies whether BlackBerry Dynamics apps can be unlocked using biometric input when they are already open in the app switcher on iOS devices. You can allow the following options:</p> <ul style="list-style-type: none"> <li>• None</li> <li>• Allow Touch ID</li> <li>• Allow Face ID</li> <li>• Allow Touch ID and Face ID</li> </ul>
Enable Touch ID and Face ID from cold start	<p>This setting specifies whether BlackBerry Dynamics apps can be unlocked using the selected biometric input methods when they are opened for the first time after a device restarts.</p>
Permit fallback to device passcode if biometric authentication fails.	<p>This option allows iOS biometric (TouchID/FaceID) authentication to fall back to the device passcode if biometric authentication fails.</p>
Require password to be re-entered and disable Touch ID and Face ID	<p>This setting specifies a period of time after which users must enter a password to unlock a BlackBerry Dynamics app and re-enable Touch ID, Face ID, or both.</p>
Allow Android biometric authentication	<p>This setting specifies whether BlackBerry Dynamics apps can be unlocked using any device-supported biometric authentication method. If this option is not selected, all Android biometric authentication features are blocked, including fingerprint, iris, and face recognition.</p>
Enable Android biometric authentication after the device or app restarts	<p>This setting specifies whether BlackBerry Dynamics apps can be unlocked using biometric authentication when they are opened for the first time after a device restarts.</p>
Require password to be re-entered and disable Android biometric authentication	<p>This setting specifies a period of time after which users must enter a password to unlock a BlackBerry Dynamics app and re-enable Android biometric authentication.</p>
Do not require password	<p>These settings specify whether a user can access a BlackBerry Dynamics app without entering a password. The choices are:</p> <ul style="list-style-type: none"> <li>• iOS</li> <li>• macOS</li> <li>• Android</li> <li>• Windows</li> </ul>
<b>Blocked password list</b>	
Blocked password file (.txt)	<p>This setting specifies a list of banned passwords. You can download the previously uploaded list of banned passwords. Passwords in the list must meet the following requirements: each password must be separated by a hard return, only UTF-8 characters are supported, and passwords must be 14 characters or less.</p>

BlackBerry Dynamics profile setting	Description
<b>Lock screen</b>	
Require password when BlackBerry Dynamics apps start	<p>This setting specifies whether a password is required each time a BlackBerry Dynamics app is started.</p> <p><b>Note:</b> If you are using authentication delegation, do not select this option.</p>
Require password after period of inactivity	This setting specifies the period of inactivity that must elapse before a password is required.
Take action after invalid password attempts	<p>This setting specifies whether there is a limit to the number of times that a user can enter an incorrect password. If you select this rule, specify the number of times that a user can enter an incorrect password and the action that occurs after the limit has been reached. Choose one of the following actions:</p> <ul style="list-style-type: none"> <li>• Lock out user</li> <li>• Wipe Data</li> </ul>
<b>Wearables</b>	
Allow wearables	This setting specifies whether BlackBerry Dynamics apps can be used on a wearable device. If you select this rule, specify the how much time must elapse before the wearable device is disconnected and whether the wearable can reconnect automatically.
<b>App authentication delegation</b> (iOS and Android only)	

BlackBerry Dynamics profile setting	Description
App	<p>You can designate a BlackBerry Dynamics app to act as the authentication delegate on behalf of other BlackBerry Dynamics apps so that users do not have to create a password for each BlackBerry Dynamics app that they install. After an authentication delegate is configured, each time a user opens a BlackBerry Dynamics app, the device displays the password screen for the authentication delegate instead of the app that they are attempting to open. After the user enters the password for the authentication delegate, the user can open the BlackBerry Dynamics app.</p> <p>You can choose any app to be the authentication delegate for other apps, but it is recommended that you choose your most commonly used app to be the primary authentication delegate to provide the most seamless experience for the user.</p> <p><b>Note:</b> For supervised iOS devices, do not set BlackBerry UEM Client as the primary authentication delegate.</p> <p>As a best practice, it is recommended that you set only one authentication delegate. This prevents unnecessarily complex and undesirable authentication delegate switching and simplifies administrative management. If a user accidentally deletes the authentication delegate, they must reinstall it. If more than one authentication delegate is required, for example, the primary authentication delegate does not exist for a given platform and an alternate delegate is configured, refer to the following recommendations to make sure that BlackBerry Dynamics apps are successfully installed and activated:</p> <ul style="list-style-type: none"> <li>• Users should always install the primary authentication delegate first and they should not activate it using an already installed, alternate authentication delegate app.</li> <li>• If the user already has an alternate authentication delegate installed and in use, and then later installs the primary authentication delegate, they need to make sure that the existing, installed authentication delegate is in an unlocked state to successfully complete the authentication. If the alternate authentication delegate has been force closed, the user will encounter various errors and may be blocked.</li> <li>• Users must not delete the currently installed authentication delegate after they install their primary authentication delegate. Apps that are currently using that authentication delegate will need to automatically switch to the new authentication delegate when the app is next launched in online mode.</li> <li>• If the primary authentication delegate is deleted, users should reactivate the authentication delegate using an access key. If they attempt to activate the authentication delegate with any other app, it may cause various errors.</li> <li>• Even if the <b>Allow self-authentication when no authentication delegate application is detected</b> option is selected, or if an app that is designated as a secondary or tertiary authentication delegate is installed, there is no fallback mechanism to allow apps to change the authentication delegate without the original authentication delegate being installed and unlocked.</li> <li>• Select the <b>Allow self-authentication when no authentication delegate application is detect</b> option if you want to allow the user to authenticate the app when an authentication delegate is not installed on a device.</li> </ul>
Data leakage prevention	

BlackBerry Dynamics profile setting	Description
Do not allow copying data from non BlackBerry Dynamics apps into BlackBerry Dynamics apps	<p>This setting specifies whether users can copy data from non BlackBerry Dynamics apps to BlackBerry Dynamics apps.</p> <p><b>Note:</b> If you are using an app-based PKI solution such as Purebred, do not select this option.</p>
Do not allow Android dictation	<p>This setting specifies whether Android device users can use voice dictation with BlackBerry Dynamics apps. This setting applies to application-specific uses of voice dictation and might not apply to the keyboard, which might allow dictation through other channels. To disable dictation on keyboards, you should also select "Enable Android keyboard restricted mode."</p>
Do not allow screen captures on Android devices	<p>This setting specifies whether Android device users can take screen captures in BlackBerry Dynamics apps.</p>
Do not allow screen recording and sharing on iOS devices	<p>This setting specifies whether iOS device users can share and record screens in BlackBerry Dynamics apps.</p> <p>This setting applies to devices running iOS 11 and later.</p>
Do not allow iOS dictation	<p>This setting specifies whether iOS device users can use voice dictation with BlackBerry Dynamics apps. This setting applies only to the system keyboard and does not apply to third-party keyboards.</p>
Do not allow custom keyboards on iOS devices	<p>This setting specifies whether iOS device users can use custom keyboards with BlackBerry Dynamics apps.</p>
Do not allow custom keyboards on Android devices	<p>This setting specifies whether Android device users can use custom keyboards with BlackBerry Dynamics apps.</p>
Enable Android keyboard restricted mode	<p>This setting specifies whether Android device users can use custom keyboards with BlackBerry Dynamics apps.</p>
Enable FIPS	<p>This setting specifies whether compliance with U.S. Federal Information Processing standard 140-2 is enforced.</p> <p>Federal Information Processing Standards (FIPS) are U.S. government regulations regarding computing and computing security. When you enable FIPS compliance, the major effect is on associated applications. Enabling FIPS compliance enforces the following constraints in conformance with FIPS:</p> <ul style="list-style-type: none"> <li>• MD4 and MD5 are prohibited by FIPS, which means that access to NTLM- or NTLM2-protected web pages and files is blocked.</li> <li>• Wrapped applications are blocked.</li> <li>• In secure socket key exchanges with ephemeral keys, with servers that are not configured to use Diffie-Hellman keys of sufficient length, BlackBerry Dynamics retries with static RSA cipher suites.</li> </ul>



BlackBerry Dynamics profile setting	Description
<b>Certificates</b>	
Enable device certificate store	This setting specifies whether BlackBerry Dynamics apps can get certificates from the device certificate store.
<b>Detailed logging</b>	
Enable detailed logging for BlackBerry Dynamics apps	This setting specifies whether log files can be generated and uploaded from BlackBerry Dynamics apps.
Prevent users from turning on detailed logging in BlackBerry Dynamics apps	This setting specifies whether users can turn on the ability to generate and share detailed log files from BlackBerry Dynamics apps.
<b>Agreement</b>	
Enable an agreement message for BlackBerry Dynamics apps	<p>This setting specifies whether to display a message in BlackBerry Dynamics apps that the user must acknowledge. If authentication delegation is enabled, the message is displayed only in the authenticator app. If you select this rule, complete the following actions:</p> <ul style="list-style-type: none"> <li>Specify if the message is displayed each time the app is unlocked, otherwise the message is only displayed the first time the user opens the app.</li> <li>In the <b>Message</b> field, create the message that you want to display.</li> </ul> <p><b>Note:</b> On Android devices, only the first 4000 characters are displayed.</p>


## Send device commands to BlackBerry Dynamics apps in BlackBerry UEM

If any BlackBerry Dynamics app has been installed on a device, you can perform actions on the app. For example, you can delete app data if a user has lost a device.

1. On the menu bar, click Users.
2. Search for a user account.
3. In the search results, click the name of the user account.
4. Select the device tab for the device that has installed the app that you want to manage.
5. Expand the BlackBerry Dynamics apps section.
6. Locate the row for the BlackBerry Dynamics app to send a device command to.
7. Click the three dots in the App actions column to perform one of the following actions:

Task	Description
Lock app	Lock the BlackBerry Dynamics app. This is useful when a user has lost a device but may recover it. The app cannot be accessed but app data is not deleted.
Unlock app	Unlock the BlackBerry Dynamics app. The user will regain access to the app and app data.
Delete app data	Delete all data for the BlackBerry Dynamics app and make the app unusable. The app data cannot be recovered. This is useful when a user has lost a device and cannot recover it.
Logging on	Turn on app logging. Logging is set to debug level.
Logging off	Turn off app logging.
Upload log files	Upload the app logs from the device to the BlackBerry Dynamics NOC.
Get app events	Display detailed information about compliance and other app events.
App details	Displays detailed information about the app including the Container ID.

# Adding BlackBerry Dynamics apps to the app list

You add BlackBerry Dynamics apps to the app list in the same way as [adding any app to the app list](#); however, you have additional configuration steps to use BlackBerry Dynamics apps. Apps listed in the app list with a lock icon  are BlackBerry Dynamics apps.

## Add public BlackBerry Dynamics apps to the app list

To add public BlackBerry Dynamics apps to the app list in BlackBerry UEM, your organization must be entitled to use apps in the BlackBerry Marketplace for Enterprise Software. The BlackBerry Marketplace for Enterprise Software contains a catalog of BlackBerry Dynamics apps. After your organization is entitled to use the app, you can [update the app list](#) to synchronize the apps with BlackBerry UEM right away or wait until BlackBerry UEM synchronizes automatically. BlackBerry UEM synchronizes BlackBerry Dynamics apps every 24 hours.

For general information on adding public apps, see [Add public apps to the app list](#).

**Note:** Users should activate the apps on the same BlackBerry UEM environment that the apps are assigned from. Activating BlackBerry Dynamics apps with access keys, activation passwords, or QR codes from an external BlackBerry Dynamics environment is not supported. To use QR codes or activation passwords, the app must use BlackBerry Dynamics SDK version 8.0 or later.

1. Log in to your account at <https://marketplace.blackberry.com/apps>.
2. Locate the app in the BlackBerry Marketplace for Enterprise Software and request a trial. The app will be made available to your organization and can be assigned to users after the app has been synchronized to BlackBerry UEM.
3. To purchase the app, follow the instructions provided by the app developer.

### View public BlackBerry Dynamics app entitlements

1. Log in to <https://account.blackberry.com/pce/#/a/organization//servers>.
2. Expand **Entitlements**.



## Add an internal BlackBerry Dynamics app entitlement

To add an internal BlackBerry Dynamics app, you must add an entitlement for it. After the entitlement has been added, you can upload the app source files.

For general information on adding internal apps, see [Add internal apps to the app list](#).

### Before you begin:

- If you have BlackBerry UEM in an on-premises environment, [specify the shared network location for storing internal apps](#).
- You must have an appropriate license to be able to add an internal BlackBerry Dynamics app entitlement. For more information, see the [BlackBerry Enterprise Licensing Guide](#).
- If the app will be installed on Android Enterprise devices and you are managing the app as a private app in Google Play, [add the private app to Google Play](#).

1. On the menu bar, click **Apps**.
2.  Click .
3. Click **Internal BlackBerry Dynamics app entitlements**.

4. In the Name field, type the name of the app that you want to add.
5. In the **BlackBerry Dynamics entitlement ID** field, enter the entitlement ID of the app that you want to add. If you do not know the entitlement ID for the app, contact the app developer. For more information on entitlement IDs, [see the BlackBerry Dynamics SDK documentation](#). The entitlement ID must be in the following format:
  - Reverse domain name form, for example, `com.yourcompany.appname`.
  - Cannot begin with any of the following
    - `com.blackberry`
    - `com.good`
    - `com.rim`
    - `net.rim`
  - Cannot contain uppercase letters
  - Must conform to the <subdomain> format [defined in section 2.3.1 of RFC 1035, as amended by Section 2.1 of RFC 1123](#).
6. In the **BlackBerry Dynamics entitlement version** field, enter the entitlement version. If you do not know the entitlement version for the app, contact the app developer. The entitlement version must be in the following format:
  - From one to four segments of digits, separated by periods, for example, 100 or 1.2.3.4.
  - No leading zeroes in the numeric segments. For example, you cannot use 0100 or 01.02.03.04.
  - The length of the numeric segments can be from one to three characters, for example, 100.200.300.400.
7. Optionally, add an app description.
8. Click **Add**.

**After you finish:**

- Unless you have added the app to Google Play as a private app, [Upload BlackBerry Dynamics app source files](#).
- If the app will be installed on Android Enterprise devices and it is not added to Google Play as a private app, complete one of the following tasks:
  - [Host an internal app for Android Enterprise devices in Google Play using the .apk file](#)
  - [Host an internal app for Android Enterprise devices in BlackBerry UEM using a .json file](#)

## **Adding public BlackBerry Dynamics apps as internal apps**

You can upload the source files for BlackBerry Dynamics apps from the public Google Play so that users can install the apps without accessing Google Play. When you add Google Play apps as internal apps, the Send to and Restricted versions options are not supported.

For Android Enterprise activation types, when Google Play is not accessible and the "Add Google Play account to work space" option is not selected in the activation profile that is assigned to the user, only the app source files are sent to the device.

For Android Enterprise activation types, when Google Play is accessible and the "Add Google Play account to work space" option is selected in the activation profile that is assigned to the user, only the published app in Google Play is sent to the device. This also applies to Samsung Knox activation types with "Google Play app management for Samsung Knox Workspace devices" selected in activation profile.

## **Upload BlackBerry Dynamics app source files**

After a BlackBerry Dynamics app entitlement has been created, you can upload the source files for the applicable device platforms.

**Note:** Users should activate the dynamics applications on the same BlackBerry UEM environment that the applications are assigned from. Activating BlackBerry Dynamics apps with access keys, activation passwords, or

QR codes from an external BlackBerry Dynamics environment is not supported. To use activation passwords or QR codes, the app must use BlackBerry Dynamics SDK version 8.0 or later.

**Before you begin:**

- [Add an internal BlackBerry Dynamics app entitlement](#)
1. On the menu bar, click **Apps**.
  2. Click the app that you want to upload source files for.
  3. Click the tab for the device platform that you want to upload a source file for.
  4. In the **App source file** section, click **Add**.
  5. Click **Browse**. Navigate to the app that you want to add or update.
  6. Click **Add**.
  7. If necessary, update the app settings. For more information, see [Manage settings for a BlackBerry Dynamics app](#).

## **Add an app configuration for BlackBerry Dynamics apps**

For general information on app configurations, see [Adding or changing an app configuration](#).

**Tip:**

You do not need to upload a template to BlackBerry UEM for BlackBerry Dynamics apps listed in the BlackBerry Marketplace. Those apps automatically retrieve their template from the BlackBerry Marketplace.

**Before you begin:**

- [Add an internal BlackBerry Dynamics app entitlement](#).
  - [Create an app configuration template to upload](#)
1. On the menu bar, click **Apps**.
  2. Click the internal BlackBerry Dynamics app that you want add an app configuration for.
  3. Beside **App configuration**, click **Upload a template** to add a new app configuration template.
  4. Browse to and select the template.
  5. Click **Save**.
  6. Click **OK**.
  7. Click **Save**.

# Manage settings for a BlackBerry Dynamics app

You can manage app configurations, server configurations, and app settings.

1. On the menu bar, click **Apps**.
2. Click the BlackBerry Dynamics app that you want to change.
3. On the **Settings > BlackBerry Dynamics** tab, perform any of the following tasks:

Task	Steps
Specify a BlackBerry Dynamics profile for the app	If you want the app to use a specific BlackBerry Dynamics profile instead of the BlackBerry Dynamics profile that is assigned to the user, select the profile from the <b>Override BlackBerry Dynamics profile</b> drop-down list.
Specify a compliance profile for the app	If you want the app to use a specific compliance profile rather than the compliance profile that is assigned to the user, select the profile from the <b>Override compliance profile</b> drop-down list.
Specify a BlackBerry Dynamics connectivity profile for the app	If you want the app to use a specific BlackBerry Dynamics connectivity profile instead of the BlackBerry Dynamics connectivity profile that is assigned to the user, select the profile from the <b>Override BlackBerry Dynamics connectivity profile</b> drop-down list.
Add or change the app configuration for an internal app	<ol style="list-style-type: none"> <li>a. Beside <b>App configuration</b>, click <b>Upload a template</b> to add a new app configuration template.</li> <li>b. Browse to the location of the template.</li> <li>c. Click <b>Save</b>.</li> </ol> <p>For more information on creating the template, see the <a href="#">BlackBerry Dynamics SDK Development Guide</a></p>
Add or change the app configuration for a public app	<ol style="list-style-type: none"> <li>a. In the <b>App configuration</b> table, click <b>+</b>.</li> <li>b. Type a name for the app configuration.</li> <li>c. Edit the configuration settings.</li> <li>d. Click <b>Save</b>.</li> <li>e. If required, use the arrows to move the app configuration up or down to change the priority.</li> </ol> <p>For more information see <a href="#">BlackBerry UEM Client app configuration settings</a> .</p> <p>For more information about BlackBerry Work, BlackBerry Notes and BlackBerry Tasks app configuration settings, see <a href="#">Configure BlackBerry Work app settings</a> and <a href="#">Configure BlackBerry Notes and BlackBerry Tasks app settings</a> in the BlackBerry Work, Notes, and Tasks Administration content.</p>
Add or change the server configuration payload to specify the keys and values used to configure settings for the app	<p>If the app has custom app policies, the custom policies are added to the Server configuration payload area.</p> <ol style="list-style-type: none"> <li>a. In the <b>Server configuration payload</b> section, click <b>Add</b>.</li> <li>b. In the text box, enter the XML or JSON code for the configuration payload.</li> </ol>

Task	Steps
Allow BlackBerry Dynamics apps to use user certificates, SCEP profiles, and user credential profiles	Select whether the app can use user certificates as an authentication option. For more information about configuring your environment to using certificates with BlackBerry Dynamics apps, see <a href="#">Sending certificates to devices and apps using profiles</a> .

- Click the tab for the device platform that you want to manage and set the appropriate options.
- Click **Save**.

## iOS and macOS: BlackBerry Dynamics app settings

Most of the following settings are supported only for iOS devices and don't appear on the macOS tab.

iOS and macOS settings	Description
iOS or macOS app package ID	This setting specifies the package ID for the app.
App name	This setting specifies the name of the app that appears on the app list.
Vendor	This setting specifies the vendor of the app.
App description	This setting specifies the app description.
Category	This setting specifies a category to filter apps in the app list by category and to organize the apps into categories in the work apps list on users' devices. You can select a category or type a name to create a new category.
Screenshots	This setting specifies screenshots for the app. Click "Add" to select the images. The supported image types are .jpg, .jpeg, .png, or .gif.
Supported device form factor	This setting specifies the form factors that the app can be installed on. For example, you can prevent the app from being available in the Work Apps app on iPad devices.
Remove the app from the device when the device is removed from BlackBerry UEM	<p>This setting specifies whether the app is deleted from the device when the device is removed from BlackBerry UEM.</p> <p>This setting applies only to apps with a disposition marked as "Required" and the default installation for required apps is set to "Prompt once."</p>
Disable iCloud backup for the app	<p>This setting specifies whether the app can be backed up to the iCloud online service.</p> <p>This option applies only to apps with a disposition marked as "Required."</p>

iOS and macOS settings	Description
Default installation for required apps	<p>This setting specifies whether users are prompted to install required apps. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Prompt once:</b> users to receive one prompt to install the app on their iOS devices. If users dismiss the prompt, they can install the app later using the Work Apps screen in the BlackBerry UEM Client app or the Work Apps icon on the device.</li> <li>• <b>No prompt:</b> Users don't receive a prompt to install the app.</li> </ul> <p>This setting applies only to apps with the disposition set to "Required." You set the disposition of the app when you assign the app to a user or group.</p>
Convert installed personal app to work app	<p>This setting specifies whether to convert the app to a work app if it is already installed on iOS devices. If you select "Convert," after you assign the app to a user, the app is converted to a work app and can be managed by BlackBerry UEM.</p>
Restricted versions	<p>This setting specifies versions of the app that you want to prevent users from installing on their devices. If you add multiple versions, separate each version with a comma.</p>

## Android: BlackBerry Dynamics app settings

Android settings	Description
Android app package ID	This setting specifies the package ID for the app.
App name	This setting specifies the name of the app that appears on the app list.
Vendor	This setting specifies the vendor of the app.
App description	This setting specifies the app description.
Category	This setting specifies a category to filter apps in the app list by category and to organize the apps into categories in the work apps list on users' devices. You can select a category or type a name to create a new category.
Send to	This setting specifies whether the app is sent to all Android devices, only Android Enterprise devices, or only Samsung Knox Workspace devices.
Restricted versions	This setting specifies versions of the app that you want to prevent users from installing on their devices. If you add multiple versions, separate each version with a comma.



## Windows: BlackBerry Dynamics app settings

Windows settings	Description
Windows 10 (UWP) package family name	This setting specifies the package family name for a Windows 10 app.
App name	This setting specifies the name of the app that appears on the app list.
Vendor	This setting specifies the vendor of the app.
App description	This setting specifies the app description.
Category	This setting specifies a category to filter apps in the app list by category and to organize the apps into categories in the work apps list on users' devices. You can select a category or type a name to create a new category.
Screenshots	This setting specifies screenshots for the app. Click "Add" to select the images. The supported image types are .jpg, .jpeg, .png, or .gif.
Remove the app from the device when the device is removed from BlackBerry UEM	<p>This setting specifies whether the app is deleted from the device when the device is removed from BlackBerry UEM.</p> <p>This setting applies only to apps with a disposition marked as "Required" and the default installation for required apps is set to "Prompt once."</p>
Restricted versions	This setting specifies versions of the app that you want to prevent users from installing on their devices. If you add multiple versions, separate each version with a comma.

## BlackBerry UEM Client app configuration settings

Option	Description
Allow use of Bypass Unlock in the UEM Client	If you select this option, the UEM Client will bypass the BlackBerry Dynamics user authentication/lock screen and the user can open the UEM Client without needing to unlock the UEM Client app. If you have BlackBerry 2FA configured, the BlackBerry 2FA accept/decline screen will display and the user must click Accept. Then user is then logged in to the app or service through BlackBerry 2FA.
App name	Type a name for the app. You select this option when you want to use your organization's app-based PKI solution, such as Purebred, to enroll certificates for BlackBerry Dynamics apps. You can install the app on devices and allow BlackBerry Dynamics apps to use certificates enrolled through the PKI app. This option is supported only for iOS devices

Option	Description
UTI schemes	Specify the UTI schemes for your organization's app-based PKI solution. For example, if you are using the Purebred app, use the following schemes: <code>purebred.select.all-user</code> , <code>purebred.select.no-filter</code> , <code>purebred.zip.all-user</code> , <code>purebred.zip.no-filter</code> .

# Add the work app catalog to the BlackBerry Dynamics Launcher

For devices that are enabled for BlackBerry Dynamics, you can add the work app catalog to the BlackBerry Dynamics Launcher so that users have quick access to a list of their assigned work apps.

**Note:** BlackBerry Access must be installed and active on a device for the work app catalog to appear in BlackBerry Dynamics Launcher.

1. On the menu bar, click **Groups**.
2. Select the **All users** group.
3. In the **Assigned apps** section, click **+**.
4. In the search field, search for **Feature – BlackBerry App Store**.
5. Select **Feature – BlackBerry App Store**.
6. In the **Disposition** drop-down list for the app, select **Required**.
7. Click **Assign**.

# Generate access keys, activation passwords, or QR codes for BlackBerry Dynamics apps

BlackBerry Dynamics apps require an access key, activation passwords, or QR codes to be activated on a device. BlackBerry UEM Client can request access keys or activation passwords automatically from BlackBerry UEM after users install an app. You or a user must manually generate access keys, activation passwords, or QR codes and send them to activate BlackBerry Dynamics apps in the following situations:

- For Samsung Knox Workspace devices
- For iOS and Android devices that don't need MDM and do not have the UEM Client installed
- For users who want to activate BlackBerry Dynamics apps on devices that don't require the BlackBerry UEM Client.

You can generate access keys, activation passwords or QR codes when you create a new user, or anytime afterwards. Users do not need to activate their devices in BlackBerry UEM to receive access keys, activation passwords or QR codes. Users do not require an email address for you to generate an access key, activation password, or QR code. Users can also generate access keys, activation passwords, or QR codes in BlackBerry UEM Self-Service.

1. On the menu bar, click **Users > Managed devices**.
2. Search for a user account.
3. In the search results, click the name of the user account.
4. Click **Set activation password**. Complete one of the following tasks:

Tasks	Steps
Generate an activation password and QR code  This feature requires that the BlackBerry Dynamics app is running a software version that includes BlackBerry Dynamics SDK 8.0 or later.	<ol style="list-style-type: none"><li>a. In the <b>Activation option</b> drop-down list, select <b>Device activation with specified activation profile</b>.</li><li>b. In the <b>Activation profile</b> drop-down list, select the activation profile that you want the password to be paired with.</li><li>c. In the <b>Activation password</b> drop-down list, perform one of the following tasks:<ul style="list-style-type: none"><li>• If you want to automatically generate a password, select <b>Autogenerate device activation password and send email with activation instructions</b>. When you select this option, you must select an email template to send the information to the user.</li><li>• If you want to set an activation password for the user and, optionally, send an activation email, select <b>Set device activation password</b>.</li></ul></li><li>d. Optionally, change the activation period expiration. The activation period expiration specifies how long the activation password remains valid.</li><li>e. In the <b>Activation email template</b> drop-down list, select the email template that you want to use.</li><li>f. Click <b>Submit</b>.</li></ol> <p>If the user does not have an email address, to find the activation password and QR code, click the <b>View activation email</b> link in the <b>Activation details</b> section, under <b>Device activation password</b>.</p>



Tasks	Steps
Generate an access key	<ol style="list-style-type: none"> <li>In the <b>Activation option</b> drop-down list, select <b>BlackBerry Dynamics access key generation</b>.</li> <li>In the <b>Number of access keys to generate</b> drop-down list, select the number of access keys that you want to create for the user.</li> <li>Select the number of days that you want the access keys to remain valid.</li> <li>In the <b>Email template</b> drop-down list, select the email template that you want to use. If the user does not have an email address, select <b>None</b>. For more information, see <a href="#">Email templates</a>.</li> <li>Click <b>Submit</b>.</li> </ol> <p>If the user does not have an email address, to find the access key, click the link that displays the number of generated keys in the <b>Activation details</b> section, under <b>BlackBerry Dynamics access keys</b>.</p>

## Manage BlackBerry Dynamics access keys

After you generate BlackBerry Dynamics access keys, the number of keys that you generated is listed in the Activation details section on the user summary screen.

**Before you begin:** [Generate access keys, activation passwords, or QR codes for BlackBerry Dynamics apps](#).

- On the menu bar, click **Users > Managed devices**.
- Search for a user account.
- In the search results, click the name of the user account.
- In the **Activation details** section, under **BlackBerry Dynamics access keys**, click the link that displays the number of generated keys. If you do not see this section, no access keys have been generated for the user.
- In the **BlackBerry Dynamics access keys** dialog box, select one of the following options:

Option	Description
	Resend the access key to the user.
	Delete the access key.

- Click **Save**.

# Send a BlackBerry Dynamics app unlock key and QR code to a user

You can send app unlock keys and QR codes to a user if one of their BlackBerry Dynamics apps has become locked. To send an activation password or QR code to unlock an app, the app must use BlackBerry Dynamics SDK version 8.0 or later.

**Note:** You can [edit the template for the email message that is sent to the user](#).

1. On the menu bar, click **Users**.
2. Search for a user account.
3. In the search results, click the name of the user account.
4. Click the user's device.
5. In the BlackBerry Dynamics section in the **App actions** row, select "Unlock app" for the app that you want to send an email to the user for.
6. In the **Unlock app** page, in the **Email template** field, select BlackBerry Dynamics unlock key email.
7. Click **Send**.

# Automatically activate the first BlackBerry Dynamics app on Apple DEP and User Enrollment devices

During the activation of Apple DEP devices or devices using the User privacy - User enrollment activation type, the BlackBerry Dynamics app that is the primary authentication delegate can be installed first and preconfigured so that when the user opens it for the first time, it automatically activates without requiring the user to manually enter information. Users can use this app to easily activate other BlackBerry Dynamics apps on their devices.

To activate the first BlackBerry Dynamics app on the device automatically, complete the following tasks:

1. Make sure that the device that you want to activate is registered with Apple DEP or assigned the User privacy - User enrollment activation type.
2. In the BlackBerry Dynamics profile, set a BlackBerry Dynamics app as the primary authentication delegate. For example, if BlackBerry Work is the most frequently used app, set it as the primary authentication delegate.

**Note:** For iOS devices enrolled in DEP, do not set BlackBerry UEM Client as the primary authentication delegate.

3. Assign the app that's the primary authentication delegate to the user with a Required disposition.




# Rank app installation

You can rank apps to control the order that the apps are installed when you assign them to devices. Setting the rank ensures that any authentication delegate apps are pushed to the device first. For iOS apps, the ranking applies to public apps and apps hosted in BlackBerry UEM. For Android apps, the ranking applies to apps hosted in BlackBerry UEM or Google Play.

**Note:** The ranking of apps hosted in Google Play is supported only on devices that are activated with Android Enterprise and enabled for Google Play. The ranking of apps hosted in BlackBerry UEM and apps hosted in Google Play are applied separately.



To enable a device for Google Play, select one of the following options when you create the activation profile:

- Add Google Play account to work space
- Google Play app management for Samsung Knox Workspace devices

1. On the menu bar click, **Apps > App installation ranking**.
2. Click .
3. Click .
4. Click the checkbox beside the apps that you want to rank.
5. Click **Add**.
6. On the App installation ranking page, click  in the **Rank** column to place the apps in the order that you want them to be installed on the devices.
7. Click **Save**.



## Edit the app installation ranking list

You can edit the installation sequence for the apps that will be installed on your organization's devices. For iOS apps, the ranking applies to public apps and apps hosted in BlackBerry UEM. For Android apps, the ranking applies to apps hosted in BlackBerry UEM or Google Play.

1. On the menu bar click, **Apps > App installation ranking**.
2. Click .
3. Click  in the **Rank** column to place the apps in the order that you want them to be installed on the devices.
4. Click **Save**.

## Remove an app from the app installation ranking list

You can remove an app from the app installation ranking list. For iOS apps, the ranking applies to public apps and apps hosted in BlackBerry UEM. For Android apps, the ranking applies to apps hosted in BlackBerry UEM or Google Play.

1. On the menu bar click, **Apps > App installation ranking**.
2. Click .
3. In the list, click  beside the app that you want to remove.
4. Click **Remove**.
5. Click **Save**.



# Manage BlackBerry Dynamics app services

App services are shared functions that are offered by a mobile or server-based app. Using the BlackBerry Dynamics SDKs, an app developer can expose a function of an app that other developers can use in their own BlackBerry Dynamics apps. Using the management console, you can register app services for your organization and supply the service definition from the developer. Your organization's developers can review the registered app services and can leverage the available service definitions in the BlackBerry Dynamics apps that they create.

App services for select BlackBerry Dynamics apps and partner apps are also available for use, and you can view the associated service definitions in the management console. For more information about app service development, visit the [BlackBerry Developer Community](#).

**Before you begin:** If you want to register an app service for your organization, verify that you have the app service ID, version number, and service definition.

1. In the management console, on the menu bar, click **Settings > BlackBerry Dynamics**.
2. Click **App services**.
3. Perform any of the following tasks:

Task	Steps
Register an app service for your organization	<ol style="list-style-type: none"><li>a. Click <b>+</b>.</li><li>b. In the <b>Service type</b> drop-down list, perform one of the following actions:<ul style="list-style-type: none"><li>• If the app service is offered by a mobile app, click <b>Application</b>.</li><li>• If the app service is offered by a server-based app, click <b>Server</b>.</li></ul></li><li>c. In the <b>ID</b> field, type the app service ID. The ID must be a unique string (all lowercase) in reverse DNS notation (for example, com.example.service.print).</li><li>d. Type a name and description for the app service.</li><li>e. In the <b>Version</b> field, type the version. The version number must include digits only. If you want to add one or more sub-version numbers (for example, the build version), use periods to separate the segments. Each segment cannot begin with 0 (for example, 1.1.5 is valid, 1.1.05 is not).</li><li>f. Optionally, type a description for the version.</li><li>g. In the <b>Service definition</b> field, type the service definition in JSON format.</li><li>h. Click <b>Save</b>.</li></ol>

Task	Steps
Edit an app service	<p>Use the following steps to edit an app service that was registered for your organization (for example, to add a new version). You cannot change the app service type or ID. You cannot edit a BlackBerry Dynamics app service or partner app service.</p> <ol style="list-style-type: none"> <li>Search for the app service that you want to edit.</li> <li>Click the app service name.</li> <li>Edit the app service details as necessary. To add a new version, click <b>+</b> and specify the version number, description, and service definition.</li> </ol> <p><b>Note:</b> Deleting an app service version does not have any impact on the apps that offer or use the service, it simply removes the service definition from the management console so that your organization's developers cannot refer to it.</p> <ol style="list-style-type: none"> <li>Click <b>Save</b>.</li> </ol>
Delete an app service	<p>You cannot delete a BlackBerry Dynamics app service or partner app service. Deleting an app service from the management console does not have any impact on the apps that offer or use the service, it simply removes the service definition from the management console so that your organization's developers cannot refer to it.</p> <ol style="list-style-type: none"> <li>Search for the app service that you want to remove.</li> <li>Click <b>X</b> next to the service.</li> <li>Click <b>Delete</b>.</li> </ol>

**After you finish:** Optionally, you can bind an app service version to a managed app so that the management console can indicate that the app provides the service. For more information, see [Manage settings for a BlackBerry Dynamics app](#).

# Set up a screen capture rule for BlackBerry Dynamics apps on iOS devices

You can enable an option in a compliance policy that reacts to screen captures of BlackBerry Dynamics apps on iOS devices.

1. On the menu bar, click **Policies and profiles**.
2. Click **Compliance > Compliance**.
3. Click **+**.
4. Type a name and description for the compliance profile.
5. Click the **iOS** tab.
6. Select **BlackBerry Dynamics app screen capture detected**.
7. In the **Maximum number of screen captures within period** list, select a number.
8. In the **Period length** field, type a number of days that a session can last.
9. In the **Enforcement action for BlackBerry Dynamics apps** list, select the action that occurs if the user exceeds the allowed number of screen captures. Do one of the following:
  - Select **Monitor and log**, when a user takes a screen capture a warning message displays on the device that screen captures are prohibited.
  - Select **Do not allow BlackBerry Dynamics apps to run**, a message displays on the device that informs the user how long they are prevented from taking screen captures. If you make this selection, in the **Allow all to run after** field, type a number of minutes, hours, or days that you want the enforcement action to last.

# Turning off notifications outside of work hours

You can use Do not disturb profiles to block device notifications outside of work hours in BlackBerry Work for Android and BlackBerry Work for iOS. This feature requires BEMS 2.8 or later.

## Create a Do not disturb profile

### Before you begin:

- BEMS 2.8 or later is installed and configured in your environment. For instructions, [see the BEMS installation and configuration guides](#).
- BlackBerry Work is added to the BlackBerry Dynamics connectivity profile. See [Configure BlackBerry Work connection settings in the BlackBerry Work administration content](#).

1. On the menu bar, click **Policies and Profiles**.
2. Click **Protection > Do not disturb**
3. Click **+**.
4. Type a name and description for the profile.
5. Enter a message to display on devices when BlackBerry Work notifications are blocked . If you leave this field blank, a default message is displayed.
6. Do one of the following:

Task	Steps
Specify common work days and hours.	<ol style="list-style-type: none"><li>a. Click the <b>Select common work days and hours</b> option.</li><li>b. In the <b>From</b> drop-down lists, specify the time that work days start.</li><li>c. In the <b>To</b> drop-down lists, specify the time that work days end.</li><li>d. In the <b>Work days</b> list, select the days of the week that are work days.</li></ol>
Specify custom work hours for specific days.	<ol style="list-style-type: none"><li>a. Click the <b>Select custom work days and hours</b> option.</li><li>b. Select a day of the week.</li><li>c. In the <b>From</b> drop-down lists, specify the time that the work day starts.</li><li>d. In the <b>To</b> drop-down lists, specify the time that the work day ends.</li><li>e. Repeat steps 2 to 4 for each day of the week that is a work day.</li></ol>

7. Click **Add**.

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Published in Canada