# BlackBerry Access
## Administration Guide

3.7

# Contents

# What is BlackBerry Access?

BlackBerry Access is a secure browser that allows users to access your organization's intranet and business applications through the work firewall, without using a VPN, on Android, iOS, Windows, and macOS devices.

BlackBerry Access is part of the suite of BlackBerry Dynamics mobile productivity apps. You deploy and manage BlackBerry Access using BlackBerry UEM or a standalone Good Control server. Both solutions give you the ability to configure app settings to meet the needs and standards of your organization.

The features offered by BlackBerry Access:

| Feature | Description |
|---|---|
| Secures data | BlackBerry Access secures work web apps in containers, ensuring that data is protected and never leaves your organization's control. All browsing data is encrypted with industry-leading FIPS-validated AES encryption, and BlackBerry Access uses PAC file URLs to route work data securely. |
| User authentication | BlackBerry Access leverages standard user authentication methods, including SSL, NTLM, and TLS, and supports credential persistence.<br><br>BlackBerry Access also supports single sign-on with Kerberos Constrained Delegation across realms and RSA soft token generation. |
| Intuitive browser features | BlackBerry Access provides an intuitive interface that makes it easy to download content, set bookmarks, and browse in multiple tabs. BlackBerry Access for iOS also captures and saves web clips, and allows users to view streaming video with intuitive player controls. |
| App deployment | BlackBerry Access supports pop-ups that streamline the deployment of web apps, including Cisco WebEx, Salesforce, and custom-developed apps. You can deploy your organization's HTML5 desktop apps securely, and can provide users with offline access to those apps. |
| Remote commands | If a user's device is compromised (for example, lost or stolen), you can remotely delete browser data, lock the app, or wipe device data. |
| Integration with other apps | BlackBerry Access for Windows and BlackBerry Access for macOS also provide users with access to BlackBerry Work to access their mail, calendars, and contacts from within the secure browser. |

# Getting started with BlackBerry Access

## System requirements

To use BlackBerry Access, your organization must meet the following requirements:

| Item | Requirement |
|---|---|
| Management solution | One of the following: <br>• BlackBerry UEM, version 12.6 MR1 or later <br>• Good Control version 2.3 or later, Good Proxy version 2.3 or later |
| Device OS | For device OS compatibility, see the Mobile/Desktop OS and Enterprise Applications Compatibility Matrix. |

## Deploying BlackBerry Access

You can use either BlackBerry UEM or Good Control to manage BlackBerry Access. If you have not configured your BlackBerry UEM or Good Control environment, you must complete configuration tasks before you can continue with the tasks in this guide. Refer to the table below for more information on which solution to use and where to find more information.

| Management option | Description |
|---|---|
| BlackBerry UEM | • If you require MDM capabilities, you must manage BlackBerry Access using BlackBerry UEM. <br>• To use BlackBerry UEM to manage BlackBerry Access, see Managing BlackBerry Dynamics apps for information about deploying BlackBerry Access in your organization. |
| Good Control | • Although it is recommended that you use BlackBerry UEM, if you do not require MDM, you can use Good Control to manage BlackBerry Access. For more information on the benefits of using BlackBerry UEM, see Benefits of upgrading from Good Control to BlackBerry UEM. <br>• To use Good Control to manage BlackBerry Access, see the Good Control documentation for information about deploying BlackBerry Access in your organization. |

## Downloading and activating BlackBerry Access

For MDM managed devices, you can use BlackBerry UEM to push BlackBerry Access to users, or you can make the app available in users' work catalogs. Users can download the BlackBerry UEM Client from the Google Play store or App Store. The UEM Client manages the activation of BlackBerry Dynamics apps, so users do not require an access key to activate the apps.

For devices that are not MDM managed, users can download BlackBerry Access from the Google Play store or App Store. Using BlackBerry UEM or Good Control, you provide users with an access key to activate BlackBerry Access (see Generate access keys, activation passwords, or QR codes for BlackBerry Dynamics apps).

Direct users to download and install BlackBerry Access from the BlackBerry Products and Application Support page.

Using BlackBerry UEM or Good Control, you provide users with an access key to activate BlackBerry Access (see Generate access keys, activation passwords, or QR codes for BlackBerry Dynamics apps).

# Prerequisites: Deploying BlackBerry Work with BlackBerry Access

When users install BlackBerry Access for Windows or BlackBerry Access for macOS, BlackBerry Work is also installed as an integrated web extension for BlackBerry Access.

Before you deploy BlackBerry Access for Windows or BlackBerry Access for macOS with BlackBerry Work, note the following prerequisites:

- Verify that the "Disable BlackBerry Work" app configuration setting is not selected (see BlackBerry Access app configuration settings).
- BlackBerry Work uses Microsoft Exchange Web Services instead of Microsoft Exchange ActiveSync. BlackBerry Work doesn't use a configuration file for the Microsoft Exchange Web Services Autodiscover service. Verify that the Microsoft Exchange Web Services Autodiscover service is enabled. For more information about using EWSEditor to check if the Autodiscover service is enabled, visit support.blackberry.com/community to read article 40351.
- Verify that the BlackBerry Enterprise Mobility Server is configured for the Microsoft Exchange Web Services Autodiscover service. For instructions, see the BlackBerry Enterprise Mobility Server Installation and Configuration content

  **Note:** To use BEMS for Autodiscover, the user must be assigned the BlackBerry Core and Mail Services or Good Enterprise Services entitlement. The entitlement must be configured in the BlackBerry Dynamics connectivity profile linked to the FQDN of the BEMS and port 8443. For more information, see Configure BlackBerry Work connection settings.

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  Autodiscovery of the user's mailbox occurs as follows:

  1. BlackBerry Work connects to BEMS to perform autodiscovery if the proper BEMS-related entitlements are configured in the BlackBerry Dynamics connectivity profile and assigned to the user. Good Enterprise Services or BlackBerry Core and Mail Services entitlements both cover this requirement.
  2. If that fails, BlackBerry Work attempts to connect to https://<emaildomain.com>/autodiscover/autodiscover.svc
  3. If that fails, BlackBerry Work attempts to connect to https://autodiscover.<emaildomain.com>/autodiscover/autodiscover.svc.
- If Microsoft Exchange Web Services is using a self-signed server certificate, ensure that the "Alert user for invalid or expired certificate" app configuration setting is not selected.

If you want to enable Kerberos Constrained Delegation, note the following prerequisites:

- In the Microsoft Internet Information Services (IIS), enable Kerberos authentication (under Windows authentication) for the Microsoft Exchange Web Services web server.
- In Microsoft Active Directory Users and Computers, in the Microsoft Management Console (MMC), on the Delegation tab, add the Microsoft Exchange Web Services HTTP service for the UEM or Good administrator account.

- If Kerberos Constrained Delegation is enabled, users can't enter their authentication credentials (username and password). Authentication is delegated to the UEM or Good administrator account.
- For more information about setting up Kerberos Constrained Delegation, read Configuring Kerberos for BlackBerry Dynamics apps in the BlackBerry UEM Configuration content.

# Installing BlackBerry Access using a script (Windows only)

Optionally, you can install BlackBerry Access using a script.

**Before you begin:** Download the BlackBerry Access .exe file.

### Install BlackBerry Access for one user

A user can install BlackBerry Access on their Windows device using this method.

1. Copy the BlackBerry Access_<version>.exe file to C:\Users\username\AppData\Local\BlackBerry\BlackBerry Access.
2. To start the installation, double-click on the BlackBerry Access_<version>.exe file.

### Install BlackBerry Access for multiple users

An administrator can install BlackBerry Access for multiple users on the same computer.

**Before you begin:**

- You must have Administrator permissions to perform this task.

- Uninstall all individual instances of BlackBerry Access on the computer. Use the /SaveContainer option to preserve the users' data.
  **Note:** If you do not use the /SaveContainer option, all user data for BlackBerry Access is deleted during the installation.
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1. Copy the BlackBerry Access_<version>.exe file to C:\Program Files\BlackBerry\BlackBerry Access.
2. To start the installation, open a command window and type `BlackBerryAccess_3.0.1.331.exe / PerMachine.`

# Managing BlackBerry Access

## Making BlackBerry Access available to users

### Make BlackBerry Access available to users in BlackBerry UEM

To manage BlackBerry Access in BlackBerry UEM, you must add BlackBerry Access to the app list. Your organization must be entitled to use BlackBerry Access in the BlackBerry Marketplace for Enterprise Software. After your organization is entitled to use the app, you can update the app list to synchronize the apps with BlackBerry UEM immediately, or wait until it synchronizes automatically (UEM synchronizes BlackBerry Dynamics apps every 24 hours). After BlackBerry Access has been added to the app list, you can assign it to users.

For complete instructions for managing BlackBerry Dynamics apps in BlackBerry UEM, see see Managing BlackBerry Dynamics apps

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.

**After you finish:**

- Update the app list.
- To allow users to install and activate BlackBerry Access on their devices, assign BlackBerry Access to a user group or user account.
- If you want to use the BlackBerry UEM Client to manage the activation of BlackBerry Access (and other BlackBerry Dynamics apps) on Android or iOS devices, instruct users to download the BlackBerry UEM Client from the Google Play store or App Store.
- If you want users to activate BlackBerry Access using an access key, use  to send users an email with the email address and access key they need to activate the app (see Generate access keys for BlackBerry Dynamics apps).

### Update the app list

1. On the menu bar, click **Apps**.
2. Click ⟳.

### Making BlackBerry Access available to users in Good Control

For more information about making BlackBerry Access available to users in Good Control, see the Good Control Online Help.

## Configuring BlackBerry Access app settings

### Configure BlackBerry Access app settings in BlackBerry UEM

1. On the menu bar, click **Apps**.
2. Click the BlackBerry Access app.

3. On the BlackBerry Dynamics tab, in the **App configuration** table, click +.
4. Type a name for the app configuration.
5. Configure the app settings. See BlackBerry Access app configuration settings for a description of the settings that you can configure.
6. Click **Save**.

**After you finish:** Assign BlackBerry Access to a user group or user account.

### Configure BlackBerry Access app settings in Good Control

1. On the menu bar, click **Policy Sets**.
2. Click the name of the policy that you want to assign to BlackBerry Access users.
3. Click the **APPS** tab.
4. Expand **APP SPECIFIC POLICIES > BLACKBERRY ACCESS**.
5. Configure the app settings. See BlackBerry Access app configuration settings for a description of the settings that you can configure.
6. Click **Update**.

### BlackBerry Access app configuration settings

**General**

| Setting | Supported OS | Description |
|---|---|---|
| Homepage | Android<br>iOS<br>Windows<br>macOS | This setting specifies the URL for the website that you want to appear as the home screen when users start BlackBerry Access.<br>The URL must begin with "http://" or "https://". |
| Allow user to set home page | Windows<br>macOS | This setting specifies whether users can set their own home pages in BlackBerry Access. |
| Use UIWebView to render web content on devices (only applicable to iOS devices 12.0 or earlier) | iOS | This setting specifies whether to allow iOS 12.0 and earlier devices to use UIWebView. The default view is WKWebView.<br>**Note:** This setting is not supported in BlackBerry Access version 3.1.0 and later. For more information, see developer.apple.com/news to read "Updating Apps that Use Web Views". |
| Allow telephone and maps URL | Android<br>iOS<br>Windows<br>macOS | This setting specifies whether users can access telephone and map URLs in BlackBerry Access. |
| Allow telephone only | Android<br>iOS | This setting specifies whether users can access telephone URLs only. |

| Setting | Supported OS | Description |
|---------|-------------|-------------|
| Allow maps only | Android<br>iOS | This setting specifies whether users can access map URLs only. |
| Identify BlackBerry Access in User Agent | iOS | This setting specifies whether BlackBerry Access can send its user agent string to servers hosting websites that users visit. The user agent string identifies BlackBerry Access in the HTTP request headers.<br><br>Servers use the information in the user agent string to provide content tailored to BlackBerry Access. |
| Allow phone number to dial using entitled and installed Dynamics VOIP apps | Android<br>iOS | This setting specifies whether users can make phone calls using a third-party phone call service such as CellTrust. |
| Enable pop-up windows | Android<br>iOS<br>Windows<br>macOS | This setting specifies whether BlackBerry Access allows pop-up windows.<br><br>Disabling pop-up windows may cause issues with applications such as Microsoft Exchange, that open pop-up windows for tasks like composing new email messages. If you disable this setting, when an app tries to open a pop-up window, BlackBerry Access displays a message that pop-up windows are blocked. |
| Allow other applications to open urls in full screen mode | iOS | This setting specifies whether apps can open in full screen mode by default. |
| Allow import of bookmarks from Safari or Firefox | Android<br>Windows<br>macOS | This setting specifies whether users can import bookmarks that they export from other browsers into BlackBerry Access. |
| Push Bookmarks | Android<br>iOS<br>Windows<br>macOS | This setting specifies bookmarks that will be preloaded in BlackBerry Access to make it easier for users to access work intranet webpages.<br><br>You can copy and paste the text of your bookmarks file directly into this text box. The bookmarks must follow the Netscape bookmark file format. For more information, see https://gist.github.com/jgarber623/cdc8e2fa1cbcb6889872. |
| Enable web clip feature | iOS | This setting specifies whether users can use web clips. Web clips are small icons on mobile devices that link to webpages. |

| Setting | Supported OS | Description |
|---|---|---|
| Allow users to perform app diagnostics | Android<br>iOS | This setting specifies whether users can perform app diagnostics for BlackBerry Access. If this setting is selected, the "Run Diagnostics" option appears in the BlackBerry Access settings menu on users' devices. |
| Enable APK installation (Android only) | Android | This setting specifies whether users can download and install .apk files. |
| Allow external apps to open HTTP/HTTPS URLs through BlackBerry Access | Android<br>iOS | This setting specifies whether third-party apps on the device can open webpages in BlackBerry Access.<br><br>**Note:** For BlackBerry Access for iOS, links in third-party, non-BlackBerry Dynamics apps can open in BlackBerry Access only if they launch with the following URL scheme: `access://open?url=` (for example, `access://open?url=http://www.blackberry.com`) |
| Do not allow download from any HTTP or HTTPS site you have not approved by whitelisting it in BlackBerry Control | Android<br>iOS | This setting specifies whether BlackBerry Access users can download content from HTTP or HTTPS webpages even if they haven't been added to an allowed list. |
| Do not allow download from any HTTPS site you have not approved by whitelisting it in BlackBerry Control | Android<br>iOS | This setting specifies whether BlackBerry Access users can download content from HTTPS webpages even if they haven't been added to an allowed list. |
| Enable export of downloaded files to OS file system (Windows and Mac) | Windows<br>macOS | This setting specifies whether BlackBerry Work users can download files directly to their device's default download folder, instead of the BlackBerry Dynamics secure container.<br><br>Note that allowing users to bypass the secure container is a potential security risk. |
| Enable import of files from OS file system (Windows and Mac) | Windows<br>macOS | This setting specifies whether BlackBerry Work users can attach files that aren't in the BlackBerry Dynamics secure container. |
| Enable Direct Downloads (Windows and Mac) | Windows<br>macOS | This setting specifies whether BlackBerry Work users can download attachments in email messages directly to the device's file system, instead of into the Download Manager in the BlackBerry Dynamics Launcher. |

| Setting | Supported OS | Description |
|---|---|---|
| Disable BlackBerry Work (Windows and Mac) | Windows<br>macOS | This setting specifies whether users can use BlackBerry Work. |
| Open HTML files from other BlackBerry Dynamics applications | Android<br>iOS | This setting specifies whether BlackBerry Access can open HTML files from other BlackBerry Dynamics apps. |
| Enable Geolocation | Android<br>iOS | This setting specifies whether BlackBerry Access users can allow webpages to access their device's location. |
| Enable 3rd-Party Applications | Android<br>iOS<br>Windows<br>macOS | This setting specifies whether BlackBerry Access can open custom URL schemes supported by third-party apps. By default, BlackBerry Access opens only HTTP and HTTPS URL schemes.<br><br>If you select this setting, you must also set the "Enter comma separated URL schemes" setting.<br><br>**Note:** Each URL string must be mapped as *yourstring://your.URL.string*. For example, for Webex, you could use `wbx://yourcompany.webex.com`. In Access, the user would click on the anchor tag <a href="wbx://blackberry.webex.com">wbx://blackberry.webex.com</a> to open the local Webex app and pass the string yourcompany.webex.com to the app. |
| Enter comma-separated URL schemes | Android<br>iOS<br>Windows<br>macOS | This setting specifies the custom URL schemes that BlackBerry Access can open.<br><br>The list must be separated by commas. For example, itms-services,market,wbx,lync, where "itms-services" is App Store, "market" is Google Play, "watchdox" is BlackBerry Workspaces, "wbx" is WebEx, and "lync" is Microsoft Lync Server.<br><br>This setting is valid only if the "Enable 3rd-Party Applications" setting is selected. |

| Setting | Supported OS | Description |
|---|---|---|
| Enter JSON for search engine titles and URLs | Android<br>iOS<br>Windows<br>macOS | This setting specifies search engine links that are added to the end of users' search results for bookmarks, history, or downloads. They provide users with easier access to search engines when they perform searches.<br><br>In the text box, specify the search engine labels to show in BlackBerry Access such as Google and the corresponding search engine URLs. The text must be in .json format and each entry must end with [[GASEARCHKEY]]. For example:<br><br>`[`<br><br>`{ "Google" : "https://www.google.com/search?q=[[GASEARCHKEY]]"}, { "Yahoo" : "https://search.yahoo.com/search?p=[[GASEARCHKEY]]"}, { "Bing" : "http://www.bing.com/search?q=[[GASEARCHKEY]]"}`<br><br>`]` |
| Enable QR Code scanning | Android<br>iOS | This setting specifies whether users can scan a QR code. |
| Allow universal links to external apps from BlackBerry Access (iOS only) | iOS | This setting allows BlackBerry Access to open universal links to external apps, |
| To force policy update to device, enter current date and time and click update | Android<br>iOS<br>Windows<br>macOS | This setting allows you to send the updated app settings to devices. It also refreshes PAC files.<br><br>Enter the current date and time, in either 24-hour format or 12-hour format (for example, `02-16-2021 12:04AM` in 12-hour format and `02-16-2021 0004` in 24-hour format) and click **Update**. |

**Security**

| Setting | Supported OS | Description |
|---|---|---|
| Allow SHA1 leaf or intermediate certificates | Android<br>iOS | This setting specifies whether BlackBerry Access users can access https websites that use SHA1 signature TLS certificates and expired certificates. By default, this setting is selected. |
| Allow legacy/weak algorithms (DES) | Android<br>iOS | This setting specifies whether BlackBerry Access can use 3DES algorithms. |

| Setting | Supported OS | Description |
|---|---|---|
| Allow user to securely save authentication credentials | Android<br><br>iOS<br><br>Windows<br><br>macOS | This setting specifies whether BlackBerry Access users can save their authentication credentials that they use to access webpages.<br><br>**Note:** BlackBerry Access supports saving only NTLM or Kerberos authentication credentials. Passwords entered into web forms are not saved even if this setting is enabled. |
| Expire stored credentials after | Android<br><br>iOS<br><br>Windows<br><br>macOS | This setting specifies when the stored user credentials expire. You can choose between "'Never Expire" or "24 Hrs."<br><br>This setting is valid only if the "Allow user to securely save authentication credentials" setting is selected. |
| Allow to save web form credentials and credentials autofill | Android<br><br>iOS | This setting specifies if a user can automatically fill fields with saved passwords and credentials. |
| Alert user for invalid or expired certificate | Android<br><br>iOS<br><br>Windows<br><br>macOS | This setting specifies whether users will be notified when certificates are invalid or expired. |
| Enforce strict tunnel | Android<br><br>iOS<br><br>Windows<br><br>macOS | This setting specifies whether BlackBerry Access can use only IP addresses and URLs listed in Connectivity profiles. If an IP address or a URL is explicitly defined to route DIRECT, the site is allowed and routes DIRECT.<br><br>External sites that are not explicitly defined in the Connectivity profile are blocked. However, if the default route is configured to use a BlackBerry Proxy cluster, all undefined IP addresses and URLs are allowed. If external sites are not allowed, they are blocked.<br><br>If the default route is set to DIRECT, all sites that are not explicitly allowed are blocked. |
| Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native browser | Android<br><br>iOS<br><br>Windows<br><br>macOS | This setting determines whether webpages from domains that aren't listed in the "Allowed Domains" section of the Connectivity profiles, will open in the user's native browser instead of BlackBerry Access.<br><br>This setting is valid only if the "Enforce strict tunnel" setting is selected. |

| Setting | Supported OS | Description |
|---|---|---|
| When user selects apply to all during prompt to open in third-party browser, do not prompt again for all the hosts under same domain. | iOS | When users select "Always open links from "<domain> in Safari", this setting specifies whether they will be prompted again for any other hosts the user accesses within same domain.<br><br>This setting is valid only if the "Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native browser" setting is selected. |
| Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native default browser | iOS | This setting determines whether BlackBerry Access users can access webpages from domains not listed in the "Allowed Domains" section of the Connectivity profiles. If these domains are encountered, they will open in the device's native browser, which is typically set by the user in the device settings. By default, the native default browser on the device is Safari.<br><br>⚠️ **Warning:** You must inform users that if they want to change the default browser in their device settings, they should avoid selecting "Access" or "BlackBerry Access." Selecting these options may lead to unexpected behavior.<br><br>This setting is valid only if the "Enforce strict tunnel" setting is selected. |
| Do not prompt client cert authorization for all sites | Android<br>iOS<br>Windows<br>macOS | When a user uploads only one certificate to BlackBerry UEM that matches a recognized CA, selecting this setting allows the webpage requesting authorization to obtain the certificate without prompting the user. If the user has uploaded multiple certificates from the same CA, the user is prompted to select the certificate to use. |
| Do not prompt client cert authorization for white listed sites only | Android<br>iOS<br>Windows<br>macOS | When a user uploads only one certificate to BlackBerry UEM that matches a recognized CA, selecting this setting allows all domains listed in the allowed domains portion in Connectivity profiles to obtain the certificate without prompting the user. If the user has uploaded multiple certificates from the same CA, the user is prompted to select the certificate to use. |
| List all certificates available to user to choose for client cert authentication | Android<br>iOS | Specify whether all uploaded encryption certificates are displayed when a user attempts to access websites that require a client cert. |
| Enable DLP Watermark | Android<br>iOS | This setting specifies whether to add a faint background watermark across all application screens, with the username and the current date and time. |
| Prevent Screenshots on iOS | iOS | This setting allows you to prevent screenshots of BlackBerry Access from being taken on an iOS device. |

| Setting | Supported OS | Description |
| --- | --- | --- |
| Allow SameSite cookies feature and associated restrictions. | iOS | This setting specifies whether to allow SameSite cookies.<br><br>**Note:** Some legacy websites may not function properly when this setting is enabled. |
| Force authenticate using NTLM over Kerberos when NTLM authentication is possible to access resources. | Android<br>iOS | This setting specifies whether to force authentication using NTML over Kerberos.<br><br>This policy is not applied when the FIPS policy is enabled.<br><br>If the NTLM override policy is enabled, BlackBerry Access will force NTLM authentication, if the website is configured to use Kerberos/KCD and NTLM.<br><br>**Note:** Use this setting only if Kerberos authentication is not available. This setting disables Kerberos to improve performance by preventing extra network roundtrips and timeouts to an unreachable KDC. |
| Allow MDM web content restrictions | iOS | This setting allows you to turn off MDM content filter rules that are configured for Safari in BlackBerry Access. |
| Enable biometric authentication while reusing saved credentials | iOS | Enable biometric authentication while reusing saved credentials. |
| Allow JavaScript to clear credentials | Android<br>iOS | Web developers can use a JavaScript API to clear credential storage when a user logs out of their account on a web page.<br><br>If you are using the API, when you select this option, you then specify which domains or hosts the policy should apply to. You can add up to 10 domains.<br><br>**Note:** When you enable this feature, users will be prompted for credentials on their next login. |

**Network**

| Setting | Supported OS | Description |
| --- | --- | --- |
| Enter comma-separated Kerberos realm mappings e.g.: foo=FOO. COMPANY.COM | Android<br>iOS<br>Windows<br>macOS | This setting specifies Kerberos realm mappings. Kerberos authentication realms define areas that are under control of Kerberos. These mappings allow you to equate realm names with other names that are accessible or for some other reason.<br><br>The limit is 4000 characters. |

| Setting | Supported OS | Description |
| --- | --- | --- |
| Enable Kerberos Forwardable Ticket | Android<br>iOS | This setting specifies whether Kerberos Forwardable tickets can be used.<br><br>Forwardable tickets in Kerberos are client-side authentication credentials that are tied to a particular IP address that can be treated as new tickets with other IP addresses. |
| Resolve short names to fully qualified domain name (FQDN) for Kerberos authentication | Android<br>iOS<br>Windows<br>macOS | This setting specifies whether users can reach servers by typing the unqualified domain name instead of the FQDN for Kerberos authentication.<br><br>Enabling this setting may impact performance. |
| Disable file upload and download on mobile connections (Windows Only) | Windows | This setting specifies whether files can be downloaded or uploaded when users are connected to a mobile network instead of a Wi-Fi network. |
| Enable HTTP 2.0 Support | Android<br>iOS | This setting specifies whether HTTP 2.0 is supported in BlackBerry Access. |
| Enable Web Proxy | Android<br>iOS<br>Windows<br>macOS | This setting specifies whether BlackBerry Access can communicate through a web proxy server. |
| Use Proxy Auto Configuration | Android<br>iOS<br>Windows<br>macOS | PAC files make it easier for users to work with proxy servers by hiding the complexities of authentication from the end user.<br><br>If your organization uses a PAC file to define proxy rules, you can select this setting to use the proxy server settings from the PAC file that you specify.<br><br>Enabling this setting will override static web proxy settings.<br><br>This setting requires BlackBerry Dynamics servers version 1.6 and later.<br><br>This setting is valid only if the "Enable Web Proxy" setting is selected. |

| Setting | Supported OS | Description |
| --- | --- | --- |
| Enter URL for PAC file location | Android<br>iOS<br>Windows<br>macOS | This setting specifies the URL for the web server that hosts the PAC file, including the PAC file name. For example, http://www.example.com/PACfile.pac.<br><br>**Note:** The PAC file must not be hosted on the same server as Good Control or on the same server as BlackBerry UEM or any of its components. This configuration is not supported.<br><br>The limit is 4000 characters.<br><br>This setting is valid only if the "Enable Web Proxy" and "Use Proxy Auto Configuration" settings are selected. |
| Use Static Web Proxy (Full Tunnel) | Android<br>iOS<br>Windows<br>macOS | This setting specifies whether communications are enabled through a single web proxy service only.<br><br>This setting is valid only if the "Enable Web Proxy" setting is selected.<br><br>**Note:** Enabling this setting overrides 'Enforce strict tunnel' settings. |
| Proxy Host | Android<br>iOS<br>Windows<br>macOS | This setting specifies the the FQDN or IP address of the proxy server.<br><br>This setting is valid only if the "Use Static Web Proxy (Full Tunnel)" setting is selected. |
| Proxy Port | Android<br>iOS<br>Windows<br>macOS | This setting specifies the port number of the proxy server.<br><br>This setting is valid only if the "Use Static Web Proxy (Full Tunnel)" setting is selected. |
| Use HTTPS web proxy tunnel for above host | Android<br>iOS<br>Windows<br>macOS | The HTTPS proxy can be specified either as a static proxy or through PAC:<br><br>• You can specify the HTTPS using a BlackBerry UEM policy.<br>• Example PAC script for an HTTPS proxy: function FindProxyForURL(url, host) { return "HTTPS secure-proxy.example.com:443"; } |
| Enable PAC proxy check for all the sub-resources | Android<br>iOS<br>Windows<br>macOS | You can use this setting to enforce PAC processing without caching.<br><br>Selecting this setting has an impact on the performance of your organization's environment. It is recommended to use this feature for special circumstances only. |

**RSA**

| Setting | Supported OS | Description |
|---------|--------------|-------------|
| Enable RSA SecurID | Android<br>iOS | This setting specifies whether users can use RSA SecurID token authentication to authenticate with BlackBerry Access, instead of a password. |
| Prompt PIN for PINPAD Token | Android<br>iOS | This setting specifies whether users are always prompted for an RSA SecurID PIN.<br><br>This setting is valid only if the "Enable RSA SecurID" setting is selected. |
| Token File Password Retry Count | Android<br>iOS | This setting specifies the number of times that a user can enter an incorrect RSA SecurID PIN before they are locked out.<br><br>This setting is valid only if the "Enable RSA SecurID" setting is selected. |
| Token Request SendTo Email Address | Android<br>iOS | This setting specifies the email address of your RSA authentication manager. All RSA SecurID token seed record requests are sent to this address.<br><br>This setting is valid only if the "Enable RSA SecurID" setting is selected. |
| Token Request CC Email Address | Android<br>iOS | This setting specifies the email address that should be CC'd for all RSA SecurID token seed record requests.<br><br>This setting is valid only if the "Enable RSA SecurID" setting is selected. |
| Token Request Email Subject | Android<br>iOS | This setting specifies the email subject for token request emails.<br><br>This setting is valid only if the "Enable RSA SecurID" setting is selected. |

**Features**

| Setting | Supported OS | Description |
|---------|--------------|-------------|
| Allow user to upload | Android<br>iOS | This setting specifies whether users can upload files to web pages in BlackBerry Access. Files can have a maximum size of 20 MB. |
| Allow user to take new photos/videos and upload | Android<br>iOS | This setting specifies whether users can take photos and videos and upload the photos and videos to a web page. Users must allow BlackBerry Access to access their cameras. Files can have a maximum size of 20 MB. |

| Setting | Supported OS | Description |
|---|---|---|
| Allow user to select existing photos/ videos to upload | Android<br>iOS | This setting specifies whether users can upload existing photos and videos from their photo libraries to a web page. Files can have a maximum size of 20 MB. |
| Allow user to select files from file providers to upload | Android<br>iOS | This setting specifies whether users can upload files from other file apps. Files can have a maximum size of 20 MB. |
| Allow user to upload files from the Dynamics container | Android<br>iOS | This setting specifies whether users can upload files that have been downloaded to the downloads folder in BlackBerry Access. |
| Allow WebRTC | iOS | This setting turns on the use of WebRTC, which provides microphone and camera support required by services such as Zoom and Webex.<br><br>**Note:** WebRTC traffic is not routed through the BlackBerry Dynamics secure tunnel regardless of the network connectivity profile settings. WebRTC traffic goes direct to the internet. Also, Connectivity profile settings do not apply to WebRTC traffic. |
| Enable exporting to 3rd-party native apps | Android<br>iOS | Select the "Enable exporting to 3rd-party native apps" option to specify whether to allow the transfer of files to third-party native apps on the user's device. You can allow and disallow specific apps by app ID. By default, this setting is not selected.<br><br>Consider the following scenarios when you enable this feature to allow or block exporting to 3rd-party native apps:<br><br>• If you select "Allow exporting to only these apps", but do not specify one or more app IDs, the "Share" option is not available and users are restricted from sharing files to apps of their choice.<br>• If you select "Allow exporting to only these apps" and specify one or more app IDs, users can share files to the specified apps. When users try to share a file to an app that is not listed, they receive an error message.<br>• If you select "Block exporting to only these apps", but do not specify one or more app IDs, users can share files to apps of their choice.<br>• If you select "Block exporting to only these apps", and specify one or more app IDs, users cannot share files to the specified apps.<br><br>This policy is not applied when the CylanceAVERT policy "Do not allow copying data from BlackBerry Dynamics apps into non BlackBerry Dynamics apps" option is selected in the BlackBerry Dynamics profile. For more information about the BlackBerry Dynamics profile, see the Managing BlackBerry Dynamics apps content. |

**BlackBerry Work (Mac and Win)**

| Setting | Supported OS | Description |
|---|---|---|
| Launch mail app on browser start | Windows<br>macOS | This setting specifies whether the mail app opens instead of a browser window when BlackBerry Access starts. |
| Enable avatar photos | Windows<br>macOS | This setting specifies whether users can set avatar photos. If it is disabled, the user's initials appear instead. |
| EWS server | Windows<br>macOS | Optionally, you can use this setting to specify the URL that the mail app uses for Microsoft Exchange Web Services provisioning. Otherwise, BlackBerry Work uses autodiscovery methods to locate the EWS server.<br><br>Optionally, you can enter a series of name=value pairs separated by commas, where the name designates an email domain and the value designates the URL for the EWS endpoint for that domain. Using this method, administrators can assign multiple users with different EWS endpoints to the same application policy and be able to control where the mail app accesses mail, based on the user's email domain.<br><br>For example:<br><br>• Single value: blackberry.com=http://mail.blackberry.com<br>• Multiple values: blackberry.com=http://mail.blackberry.com,yahoo.com=https://mail.yahoo.com<br><br>**Note:** BlackBerry Access does not validate the entries. All related logs are prefixed by [WEB_MAIL] EWS URL Resolution: at the INFO log level. |
| Enable KCD or PKNIT Support | Windows<br>macOS | This setting specifies whether the mail app can use Kerberos constrained delegation. |
| Use client certificate in place of login/password | Windows<br>macOS | This setting specifies whether users can use SSL certificates instead of using a login and password to authenticate with BlackBerry Work. Depending on your environment, SSL certificates must be uploaded to BlackBerry UEM or Good Control. For more information, see Managing certificates. |
| Disable Notifications | Windows<br>macOS | This setting specifies whether BlackBerry Work displays notifications for mail and calendar events. |

| Setting | Supported OS | Description |
| --- | --- | --- |
| Enable email Classification Markings | Windows<br><br>macOS | This setting specifies whether to enable email classification markings, such as INTERNAL, CONFIDENTIAL, NO FORWARD, and/or NO REPLY. If selected, specify the following sample information in the Classifications and caveats field as required:<br><br>```<br><emailClassificationMarks><br>   <options><br>      <classifications>ON</classifications><br>      <caveats>OFF</caveats><br>      <classificationDefault>INTERNAL</<br>classificationDefault><br>      <caveatDefault>NO FORWARD</<br>caveatDefault><br>   </options><br>   <classifications><br>      <classification><br>         <select>INTERNAL</select><br>         <subject>(INTERNAL)</subject><br>      </classification><br>      <classification><br>         <select>CONFIDENTIAL</select><br>         <subject>[CONFIDENTIAL]</subject><br>      </classification><br>   </classifications><br>   <caveats><br>      <caveat><br>         <select>NO FORWARD</select><br>         <subject>(DO NOT FORWARD)</subject><br>      </caveat><br>      <caveat><br>         <select>NO REPLY</select><br>         <subject>(DO NOT REPLY)</subject><br>      </caveat><br>   </caveats><br></emailClassificationMarks><br>``` |
| Require all emails to have Email Classification | Windows<br><br>macOS | This setting specifies whether users are required to specify one of the classification options that are set in the 'Enable email Classification Markings' policy xml file.<br><br>This setting is valid only if the "Enable email Classification Markings" setting is selected. |
| Display warning while sending message if recipient's email domain is unauthorized | Windows<br><br>macOS | This setting specifies whether to display a warning if the user is sending an email to a recipient in an email domain that is not authorized. If selected, specify email domains you want to authorize in the Authorize email domains field.<br><br>Users will notice that email addresses in untrusted domains appear in purple text. |
| Default signing algorithm | Windows<br><br>macOS | This setting specifies the algorithm to use for signing sent messages. |

| Setting | Supported OS | Description |
| --- | --- | --- |
| Default encryption algorithm | Windows<br>macOS | This setting specifies the algorithm to use for encrypting sent messages. |
| Enable Revocation Checking | Windows<br>macOS | This setting allows you to set revocation checking of all certificates used for signing/encryption and signing verification/decryption of S/MIME messages.<br><br>• When you select this box, **Use AIA extension in certificate if present** is selected by default.<br>• In the **Default OSCP URL** field, specify the web address of the OSCP service. The OCSP URI is used by the S/MIME verification APIs as an OCSP revocation check service if an AIA extension is not present in a certificate or if the **Use AIA extension in certificate if present** check box is not selected. |
| Use Office 365 Modern Authentication | Windows<br>macOS | This setting allows you to configure options for Microsoft Office 365. Modern authentication enables BlackBerry Work to us sign-in features such as Multi-Factor Authentication and SAML-based third-party Identity Providers. If selected, specify the following:<br><br>• In the Entra App ID field, specify the Microsoft Azure app ID for BlackBerry Work.<br><br>  For information on how obtain an Entra app ID, see Obtain an Entra app ID for BlackBerry Work for Windows and macOS.<br>• In the Office 365 Sign On URL field, specify the web address that BlackBerry Work should use when it signs in to Office 365. If you do not specify a value, BlackBerry Work uses https://login.microsoftonline.com during setup.<br>• In the Office 365 Tenant ID field, specify the tenant ID of the Office 365 server that you want BlackBerry Work to connect to during setup.<br>• In the Office 365 Resource field, specify the resource URL of the Office 365 server that you want BlackBerry Work to connect to during setup. If you do not specify a value, BlackBerry Work uses https://outlook.office365.com during setup. |

**BlackBerry Access (Mac and Win)**

| Setting | Supported OS | Description |
| --- | --- | --- |
| Enable WebRTC | Windows<br>macOS | This setting specifies whether to enable access to WebRTC protocol-based destinations such as Citrix VDI browser-based access.<br><br>For information on how to configure BlackBerry Access to support WebRTC, see Configure access to WebRTC-based destinations. |

| Setting | Supported OS | Description |
| --- | --- | --- |
| Enable Microphone Access | Windows<br>macOS | This setting specifies whether BlackBerry Access should display a prompt that allows users to permit websites to use the device's microphone. You can enable it only if WebRTC is enabled. |
| Enable Camera Access | Windows<br>macOS | This setting specifies whether BlackBerry Access should display a prompt that allows users to permit websites to use the device's camera. You can enable it only if WebRTC is enabled. |
| Enable UDP Protocol support | Windows<br>macOS | This setting specifies whether to allow UDP connections initiated by websites. |
| Enable Printing | Windows<br>macOS | This setting specifies whether to allow users to print web pages. |
| Enable embedded PDF viewer | Windows<br>macOS | This setting specifies whether to allow users to view embedded PDFs from within BlackBerry Access. |
| Automatically open PDF and Microsoft Office documents after download | Windows<br>macOS | This setting specifies whether to open PDF and Microsoft Office documents automatically after they are downloaded. |
| Enable Microsoft Office URI support | Windows<br>macOS | Only Microsoft Office URIs that specify online documents are supported. |
| Enable Upgrade Notifications | Windows<br>macOS | This setting specifies whether to push notifications to users when a new upgrade is available.<br><br>If selected, specify the following:<br><br>• In the Min Windows Version field, specify the minimum BlackBerry Access for Windows version. If there are versions available that are later than the version specified in this field, users will be sent an upgrade notification.<br>• In the Min Mac Version field, specify the minimum BlackBerry Access for macOS version. If there are versions available that are later than the version specified in this field, users will be sent an upgrade notification.<br>• In the Win Download URL field, specify the URL for the BlackBerry Access for Windows app.<br>• In the Mac Download URL field, specify the URL for the BlackBerry Access for Windows app.<br>• In the Notification Message, you can create a custom message or leave the default message. |

| Setting | Supported OS | Description |
|---------|--------------|-------------|
| Enable Awingu Extension | Windows<br>macOS | This setting specifies whether to enable the Awingu extension which allows users to store their Awingu credentials. Also, when enabled, an icon is added to the toolbar in BlackBerry Access and users can launch Awingu by clicking the icon in the toolbar.<br><br>If selected, you must specify the following:<br><br>• In the Awingu URL field, specify your organization's Awingu URL. For example, yourcompany.awingu.com<br>• In the Awingu DOMAIN field, specify your organization's Awingu domain. |
| Enable installation of extensions | Windows<br>macOS | This setting specifies whether to allow websites to download extensions for third-party apps.<br><br>If selected, in the Permitted Extension Ids field, specify one more more extension IDs that can be installed. The source can be from any URL.<br><br>**Note:** WebEx and Skype can be enabled either by adding their extension ids or by adding their protocols to the external protocols list.<br><br>In the Chrome app store, users can add only apps that have permitted extensions.<br><br>If an extension is enabled and installed, and the administrator removes its ID, the extension is removed from BlackBerry Access. If the administrator re-adds the extension, the user must restart BlackBerry Access to be able to add the app from the Chrome app store. |
| Enable developer mode | Windows<br>macOS | This setting allows you to enable developer mode in BlackBerry Access. |

**Policy Overrides For Mobile**

These settings allow you to configure separate BlackBerry Access app configuration settings for mobile (iOS and Android) and desktop (Windows and macOS) devices for the same user. When these settings are enabled, the policy choices will override the equivalent policies that are listed in the tables above for iOS and Android devices.

| Setting | Supported OS | Description |
|---------|--------------|-------------|
| Enable policy overrides for iOS and Android Access clients only from clients version 3.5.1.x or later | Android<br>iOS | When this setting is enabled, the selected policies in this table will override any equivalent policy settings that are listed in the tables above for iOS and Android devices. |

| Setting | Supported OS | Description |
|---|---|---|
| Alert user for invalid or expired certificate | Android<br>iOS | This setting specifies whether users will be notified when certificates are invalid or expired. |
| Enforce strict tunnel | Android<br>iOS | This setting specifies whether BlackBerry Access can use only IP addresses and URLs listed in Connectivity profiles. If an IP address or a URL is explicitly defined to route DIRECT, the site is allowed and routes DIRECT.<br><br>External sites that are not explicitly defined in the Connectivity profile are blocked. However, if the default route is configured to use a BlackBerry Proxy cluster, all undefined IP addresses and URLs are allowed. If external sites are not allowed, they are blocked.<br><br>If the default route is set to DIRECT, all sites that are not explicitly allowed are blocked. |
| Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native browser | Android<br>iOS | This setting specifies whether to open webpages from domains that aren't listed in the Connectivity profiles on the device's native browser or BlackBerry Access.<br><br>This setting is valid only if the "Enforce strict tunnel" setting is selected. |
| When user selects apply to all during prompt to open in third party browser, do not prompt again for all the hosts under same domain | Android<br>iOS | This setting specifies whether, when a user selects "Always open links from "<domain> in Safari", the user will not be prompted again for any other hosts they access within same domain.<br><br>When users select "Always open links from "<domain> in Safari", this setting determines if the user will be prompted again for any other hosts they access within same domain.<br><br>This setting is valid only if the "Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native browser" setting is selected. |
| Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native default browser | iOS | This setting determines whether webpages from domains not listed in the device's native browser Connectivity profiles will open in the native browser. By default, the native default browser is Safari. Users also have the option to set a different default browser in their device settings.<br><br>⚠️ **Warning:** You must inform users that if they want to change the default browser in their device settings, they should avoid selecting "Access" or "BlackBerry Access." Selecting these options may lead to unexpected behavior.<br><br>This setting is valid only if the "Enforce strict tunnel" setting is selected. |

| Setting | Supported OS | Description |
|---|---|---|
| Enable Web Proxy | Android<br>iOS | This setting specifies whether BlackBerry Access can communicate through a web proxy server. |
| User Proxy Auto Configuration | Android<br>iOS | PAC files make it easier for users to work with proxy servers by hiding the complexities of authentication from the end user.<br><br>If your organization uses a PAC file to define proxy rules, you can select this setting to use the proxy server settings from the PAC file that you specify.<br><br>Enabling this setting will override static web proxy settings.<br><br>This setting requires BlackBerry Dynamics servers version 1.6 or later.<br><br>This setting is valid only if the "Enable Web Proxy" setting is selected. |
| Enter URL for PAC file location | Android<br>iOS | This setting specifies the URL for the web server that hosts the PAC file, including the PAC file name (for example, http://www.example.com/PACfile.pac).<br><br>**Note:** The PAC file must not be hosted on the same server as Good Control, BlackBerry UEM, or any of its components. This configuration is not supported.<br><br>The limit is 4000 characters.<br><br>This setting is valid only if the "Enable Web Proxy" and "Use Proxy Auto Configuration" settings are selected. |
| Enable PAC proxy check for all the sub-resources | Android<br>iOS | You can use this setting to enforce PAC processing without caching.<br><br>Selecting this setting has an impact on the performance of your organization's environment. You should use this feature for special circumstances only. |
| Use Static Web Proxy | Android<br>iOS | This setting specifies whether communications are enabled only through a single web proxy service.<br><br>This setting is valid only if the "Enable Web Proxy" setting is selected.<br><br>**Note:** Enabling this setting overrides "Enforce strict tunnel" settings. |
| Proxy Host | Android<br>iOS | This setting specifies the the FQDN or IP address of the proxy server.<br><br>This setting is valid only if the "Use Static Web Proxy (Full Tunnel)" setting is selected. |

| Setting | Supported OS | Description |
|---------|--------------|-------------|
| Proxy Port | Android<br>iOS | This setting specifies the port number of the proxy server.<br><br>This setting is valid only if the "Use Static Web Proxy (Full Tunnel)" setting is selected. |
| Use HTTPS web proxy tunnel for above host | Android<br>iOS | The HTTPS proxy can be specified either as a static proxy or through PAC:<br><br>• You can specify the HTTPS proxy using a BlackBerry UEM policy.<br>• Sample code to set an HTTPS proxy:<br><br><pre>function FindProxyForURL(url, host)<br>{<br>    return "HTTPS<br> secureproxy.example.com:443";<br>}</pre> |

**Obtain an Entra app ID for BlackBerry Work for Windows and macOS**

If you are configuring Office 365 settings in the app configuration for BlackBerry Work, you may need to obtain and copy the Entra app ID for BlackBerry Work for Windows and macOS.

**Note:** If you have already created an Entra app ID for BlackBerry Work for iOS and BlackBerry Work for Android, make sure that you do not use the same Entra app ID for for BlackBerry Work for Windows and macOS. BlackBerry Work for Windows and macOS need their own Entra app ID.

1. Log on to portal.azure.com.
2. In the left column, click **Microsoft Entra ID**.
3. Click **App registrations**.
4. Click **New registration**.
5. In the **Name** field, enter a name for the app. This is the name that users will see.
6. Select a supported account type.
7. In the **Redirect URI** drop-down list, select **Public client (mobile & desktop)**. and enter `chrome-extension://glilhfdenplejncjmngdaojopbobomfa/login.html`
8. Click **Register**.
9. In the **Manage** section, click **API permissions**.
10. Click **Add a permission**.
11. In the **Select an API** section, click the **Microsoft APIs** tab.
12. Select **Exchange**.
13. If your environment is using Office 365 Exchange Online, set the following permissions:
    • Delegated permissions: Access mailboxes as the signed-in user via Exchange Web Services (**EWS > EWS.AccessAsUser.All**).
14. Click **Add permissions**.
15. Click **Microsoft Graph**. If Microsoft Graph is not listed, add Microsoft Graph.
16. Set the following permissions for Microsoft Graph:
    • Delegated permissions

- Sign in and read user profile (**User > User.Read**)
- Send mail as a user (**Mail > Mail.Send**)

**17.** Click one of the following:

- If Microsoft Graph existed in the API permissions list, click **Update permissions**.
- If you needed to add Microsoft Graph, click **Create**.

**18.** Click **Grant Permissions** to apply the permissions for the app. These settings will not be applied to the app until you have granted the updated permissions.

**19.** Click **Yes**.
You can now copy the Application ID for the app that you created. In the **Manage** section, click **Overview**. It is located under the name of the app, in the Application ID field.

# Configuring the BlackBerry Dynamics Launcher

The BlackBerry Dynamics Launcher allows users to access their BlackBerry Dynamics apps in one place. Using the BlackBerry Dynamics Launcher button, users can access things such as BlackBerry Work (mail, calendar, contacts), app catalogs, and downloads, from the BlackBerry Access browser window.

You can configure the BlackBerry Dynamics Launcher in the BlackBerry Enterprise Mobility Server. You can also set a customized icon for the BlackBerry Dynamics Launcher.

For more information, see the BlackBerry Enterprise Mobility Server content.

### Adding the work app catalog to the BlackBerry Dynamics Launcher

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.

For BlackBerry Access for Android devices, when users select the BlackBerry UEM App Catalog icon in the BlackBerry Dynamics Launcher, the work app catalog opens in the BlackBerry UEM Client.

For BlackBerry Access for iOS devices, when users select the BlackBerry UEM App Catalog icon in the BlackBerry Dynamics Launcher, the work app catalog opens in the BlackBerry Access for iOS browser.

# Whitelist the BlackBerry UEM App Catalog in the BlackBerry Dynamics Connectivity profile

The BlackBerry UEM App Catalog feature is configured automatically by BlackBerry UEM and must be able to route through the Internet. If the **Route all traffic** option is not selected in the BlackBerry Dynamics Connectivity profile, you must configure the *.bbsecure.com domain requests to route through Direct. For more information on the BlackBerry Dynamics Connectivity profile, see Setting up network connections for BlackBerry Dynamics apps.

**1.** On the menu bar, click **Policies and Profiles**.

**2.** Click **Networks and connections** > **BlackBerry Dynamics connectivity**.

**3.** Select the connectivity profile that you want to edit.

**4.** In the **Domain** table, click **+**.

**5.** On the **Allowed Domain** screen, enter the following:

a) In the **Domain** field, enter **\*.bbsecure.com**.
b) Select **Direct**.

**6.** Click **Save**.

# Configure single sign-on for BlackBerry Access in Good Control

You can enable single sign-on for BlackBerry Access in an environment that's already set up for Microsoft Office 365 with Microsoft Active Directory Federation Services and single sign-on.

**Before you begin:**

- Configure single sign-on in Office 365 with Active Directory Federation Services version 2.0 or 3.0, relying on Windows Authentication and Kerberos.
- Configure Good Control for Kerberos constrained delegation.
- Verify that the "Identify BlackBerry Access in User Agent" app setting is selected in BlackBerry UEM or Good Control.

1. Verify the SPN for Active Directory Federation Services. For Active Directory Federation Services to use Kerberos, the Active Directory Federation Services service must have registered an SPN. This SPN should already be registered by the prerequisite Active Directory Federation Services configuration in Office 365.

   a) Open a command prompt on a computer with Active Directory RSAT tools installed.
   b) Enter the command: `setspn -q HOST/`*fqdn.of.adfs.server* where *fqdn.of.adfs.server* is the FQDN of your Active Directory Federation Services server.

   This command exposes the name service account that serves Active Directory Federation Services. For a safer form of delegation (HOST allows any protocol, only HTTP is needed) you might want to register the HTTP SPN of the Active Directory Federation Services service account with the following command: `setspn -S HTTP/fqdn.of.adfs.server`*ADFS_service_account*, where *ADFS_service_account* is the name of the Active Directory Federation Services service account shown in the previous command.

2. Enable the User Agent in Active Directory Federation Services. By default, Active Directory Federation Services allows only known user agents to use Windows Authentication. All other user agents are considered external and are served with Forms Based Authentication (FBA) or certificate authentication.

   a) To enable single sign-on in BlackBerry Access you need to add the BlackBerry Access user agent string to Active Directory Federation Services to allow Windows Authentication for BlackBerry Access and Kerberos constrained delegation. For all platforms, the BlackBerry Access user agent string begins with `Mozilla/5.0`.
   b) To verify the Active Directory Federation Services user agents, enter the following command: `Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents`
   c) Edit and run the following script to add the new user agent to Active Directory Federation Services. **$NewUserAgent** must be edited to the value that you will add.

   ```
   $NewUserAgent = "Mozilla/5.0"
   $CurrentUserAgents = Get-ADFSProperties | Select -ExpandProperty
    WIASupportedUserAgents
   $UserAgentAddArray = $CurrentUserAgents + $NewUserAgent
   Set-ADFSProperties -WIASupportedUserAgents $UserAgentAddArray
   ```

   d) To verify that the Active Directory Federation Services user agent has been added, run the **Get-ADFSProperties** command again: `Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents`
   e) Restart the Active Directory Federation Services service.

3. Set delegation on the Kerberos account of Good Control.

   a) Log in to Good Control.
   b) Navigate to the Server Properties tab.
   c) Scroll to find the value of the **gc.krb5.principal.name** property. Set this object name in Microsoft Active Directory.
   d) On your Microsoft Active Directory server, click the **Delegation** tab.

e) Click **ADD** and enter the Active Directory Federation Services service account name that you discovered in step 1.

f) Add the HTTP SPN.

g) Click **OK**.

# Configure single sign-on for BlackBerry Access in BlackBerry UEM

You can enable single sign-on for BlackBerry Access in an environment that's already set up for Microsoft Office 365 with Microsoft Active Directory Federation Services and single sign-on.

**Before you begin:**

• Configure single sign-on in Office 365 with Active Directory Federation Services version 2.0 or 3.0, relying on Windows Authentication and Kerberos.

• Configure BlackBerry UEM for Kerberos constrained delegation.

• Verify that the "Identify BlackBerry Access in User Agent" app setting is selected in BlackBerry UEM.

1. Verify the SPN for Active Directory Federation Services. For Active Directory Federation Services to use Kerberos, the Active Directory Federation Services service must have registered an SPN. This SPN should already be registered by the prerequisite Active Directory Federation Services configuration in Office 365.

   a) Open a command prompt on a computer with Active Directory RSAT tools installed.

   b) Enter the command: `setspn -q HOST/`*fqdn.of.adfs.server* where *fqdn.of.adfs.server* is the FQDN of your Active Directory Federation Services server.

   This command exposes the name service account that serves Active Directory Federation Services. For a safer form of delegation (HOST allows any protocol, only HTTP is needed) you might want to register the HTTP SPN of the Active Directory Federation Services service account with the following command: `setspn -S HTTP/fqdn.of.adfs.server`*ADFS_service_account*, where *ADFS_service_account* is the name of the Active Directory Federation Services service account shown in the previous command.

2. Enable the User Agent in Active Directory Federation Services. By default, Active Directory Federation Services allows only known user agents to use Windows Authentication. All other user agents are considered external and are served with Forms Based Authentication (FBA) or certificate authentication.

   a) To enable single sign-on in BlackBerry Access you need to add the BlackBerry Access user agent string to Active Directory Federation Services to allow Windows Authentication for BlackBerry Access and Kerberos constrained delegation. For all platforms, the BlackBerry Access user agent string begins with `Mozilla/5.0.`.

   b) To verify the Active Directory Federation Services user agents, enter the following command: `Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents`

   c) Edit and run the following script to add the new user agent to Active Directory Federation Services. **$NewUserAgent** must be edited to the value that you will add.

   ```
   $NewUserAgent = "Mozilla/5.0"
   $CurrentUserAgents = Get-ADFSProperties | Select -ExpandProperty
    WIASupportedUserAgents
   $UserAgentAddArray = $CurrentUserAgents + $NewUserAgent
   Set-ADFSProperties -WIASupportedUserAgents $UserAgentAddArray
   ```

   d) To verify that the Active Directory Federation Services user agent has been added, run the **Get-ADFSProperties** command again: `Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents`

   e) Restart the Active Directory Federation Services service.

3. Set delegation on the Kerberos account.

   a) Log in to BlackBerry UEM.

b) Click **Settings** > **BlackBerry Dynamics** > **Properties**.

c) Scroll to find the value of the **gc.krb5.principal.name** property. Set this object name in Microsoft Active Directory.

d) On your Microsoft Active Directory server, click the **Delegation** tab.

e) Click **ADD** and enter the Active Directory Federation Services service account name that you discovered in step 1.

f) Add the HTTP SPN.

g) Click **OK**.

# Setting up a PAC file to manage a proxy infrastructure

A work network can have complex traffic flows between local networks, connected vendor and partner networks, and the Internet. DNS domains are often split between internal and Internet hosts that require complex routing. A PAC file is an efficient way to manage a complex proxy infrastructure.

A PAC file is a JavaScript function definition that determines whether web browser requests (HTTP, HTTPS, and FTP) go directly to the destination or if they are forwarded to a web proxy server. PAC files can support proxy deployments in which clients are configured to send traffic to the web proxy.

The benefits of using a PAC file:

- A PAC file allows you to automatically:

  - Send Internet-bound HTTP, HTTPS, and FTP traffic directly to the proxy
  - Send Intranet traffic directly to the destination
  - Make exceptions for internal or external sites that must be routed or bypass the proxy

- A PAC file locks down the BlackBerry Access LAN egress configuration
- A PAC file provides a flexible, easy-to-maintain, and script-driven method of controlling the routing of web requests
- A PAC file can include code that handles proxy load distribution and failover
- A PAC file can be stored and updated in a central location, instead of distributed on multiple servers and devices; when a PAC file is changed, client browsers retrieve the updated copy the next time BlackBerry Access is launched
- A PAC file can be configured to return DIRECT, NATIVE, BLOCK, or PROXY to have more granular control over browsing

**Note:**

- It is a best practice to keep the PAC file size under 1 MB to ensure proper performance.
- The return values in the PAC file must not contain spaces or newline characters.
- The PAC file must not be hosted on the same server as Good Control or on the same server as BlackBerry UEM or any of its components. This configuration is not supported.

### PAC file example

PAC files should start with a clear and concise coding methodology. You can achieve the same result using several different methods using the PAC file functions that are available and the flexibility of the JavaScript language. The following example shows how to:

- Normalize the requested URL for pattern matching
- Bypass the proxy when the destination is a plain hostname (a hostname that doesn't include a domain)
- Bypass the proxy for a defined set of local domains
- Bypass non-routable addresses (RFC 3330, better known as Special-Use IPv4 Addresses)

- Send remaining HTTP, HTTPS, and FTP traffic to a specific proxy

```
function FindProxyForURL(url, host)

/* Normalize the URL for pattern matching */
{
url = url.toLowerCase();
host = host.toLowerCase();

/* Don't proxy local hostnames */
if (isPlainHostName(host))
{
return 'DIRECT';
}

/* Don't proxy local domains */
if (dnsDomainIs(host, ".example1.com") ||
(host == "example1.com") ||
dnsDomainIs(host, ".example2.com") ||
(host == "example2.com") ||
dnsDomainIs(host, ".example3.com") ||
(host == "example3.com"))
{
return 'DIRECT';
}
/* Don't proxy non-routable addresses (RFC 3330) */
if (isInNet(hostIP, '0.0.0.0', '255.0.0.0') ||
isInNet(hostIP, '10.0.0.0', '255.0.0.0') ||
isInNet(hostIP, '127.0.0.0', '255.0.0.0') ||
isInNet(hostIP, '169.254.0.0', '255.255.0.0') ||
isInNet(hostIP, '172.16.0.0', '255.240.0.0') ||
isInNet(hostIP, '192.0.2.0', '255.255.255.0') ||
isInNet(hostIP, '192.88.99.0', '255.255.255.0') ||
isInNet(hostIP, '192.168.0.0', '255.255.0.0') ||
isInNet(hostIP, '198.18.0.0', '255.254.0.0') ||
isInNet(hostIP, '224.0.0.0', '240.0.0.0') ||
isInNet(hostIP, '240.0.0.0', '240.0.0.0'))
{
return 'DIRECT';
}

/* Don't proxy local addresses.*/
if (false)
{
return 'DIRECT';
}
}

if (url.substring(0, 5) == 'http:' ||
url.substring(0, 6) == 'https:' ||
url.substring(0, 4) == 'ftp:')
{
return 'PROXY xyz1.example.com:8080';
}

return 'DIRECT';
}
```

The following example shows a simple load distribution and failover using DNS:

```
{
if (isInNet(myIpAddress(), "10.1.0.0", "255.255.0.0"))
{ return "PROXY xyz1.example.com:8080; " +
"PROXY xyz2.example.com:8080";
}

if (isInNet(myIpAddress(), "10.2.0.0", "255.255.0.0"))
{ return "PROXY xyz1.example.com:8080; " +
"PROXY xyz2.example.com:8080";
}
if (isInNet(myIpAddress(), "10.3.0.0", "255.255.0.0"))
{ return "PROXY xyz2.example.com:8080; " +
"PROXY xyz1.example.com:8080";
}
if (isInNet(myIpAddress(), "10.4.0.0", "255.255.0.0"))
{ return "PROXY xyz2.example.com:8080; " +
"PROXY xyz1.example.com:8080";
}
else return "DIRECT";
}
```

The following example (new in version 2.9) shows how to specify URLs to open in the native browser and URLs to block:

```
function FindProxyForURL(url, host)
{

if (shExpMatch (url, "*example.org*")){
 return "PROXY example.net:8080; PROXY :3128";
}
if (dnsDomainIs (host, "blackberry.com")){
 return "NATIVE";
}
if (dnsDomainIs (host, ".example.com")){
 return "BLOCK";
}

//redirect on http page
if (shExpMatch (url, "*domain123.example.net*")){
 return "BLOCK http://domain1.example.org/";
}

return "DIRECT";
}
```

## Configure PAC settings in BlackBerry UEM

**Before you begin:** Verify that the PAC file is not hosted on the same server as BlackBerry UEM or any of its components. This configuration is not supported.

1. In the BlackBerry UEM management console, on the menu bar, click **Apps**.
2. Click the BlackBerry Access app.
3. On the BlackBerry Dynamics tab, in the **App configuration** table, click the app configuration that you want to edit.
4. Click the **Network** tab.

5. Select the **Enable Web Proxy** option.

6. Select the **Use Proxy Auto Configuration** option.

7. In the **Enter URL for PAC file location** field, type the fully qualified PAC file location.

8. Click the **Security** tab.

9. Select the **Enforce strict tunnel** option.

10. Click **Save**.

11. For the BlackBerry Dynamics subsystem to route traffic to a proxy resolved by the PAC file, every proxy server and the PAC location must be allowed access through BlackBerry Proxy. Perform the following actions:

    a) Click **Policies and profiles**.
    b) Expand **Connectivity (BlackBerry Dynamics)**.
    c) Click **Default**.
    d) Click ✏ .
    e) In the **Allowed Domains** table, click ＋.
    f) Enter the domain and select the BlackBerry Proxy instances to use with the proxy server that you included in the PAC file .
    g) Click **Save**.
    h) Click ＋ to add more PAC hosts.

## Configure PAC settings in Good Control

**Before you begin:** Verify that the PAC file is not hosted on the same server as Good Control. This configuration is not supported.

1. In to the Good Control console, in the navigator, click **Policy Sets**.

2. Select the BlackBerry Access policy that you want to configure.

3. Click the **Edit** icon.

4. Click the **Application Policies** tab.

5. Click **Good Access**.

6. Click the **Network** tab.

7. Select the **Enable Web Proxy** option and enter the fully qualified PAC file location.

8. In the **Enter URL for PAC file location** field, type the fully qualified PAC file location.

9. For on-premises deployments, click the **Security** tab and make sure that the **Enforce strict tunnel** option is selected. For cloud deployments, Strict Tunnel must be disabled or you will block access to external sites.

10. Click **Update**.

11. For the BlackBerry Dynamics subsystem to route traffic to a proxy resolved by the PAC file, every proxy server and the PAC location must be allowed access through Good Proxy. Perform the following actions:

    a) In the navigator, under **Policies**, click **Connectivity Profiles**.
    b) Click **Master Connection Profile**.
    c) Beside **Allowed Domains**, click **Edit**.
    d) Enter the domain and select the Good Proxy instances to use with the proxy server that you included in the PAC file.
    e) Click **Add** to include more entries.
    f) Click **Save** to save these settings.

12. For on-premises deployments, verify that Strict Tunnel is enabled by repeating Steps 1 and 2 above and then clicking the **Security** tab. For cloud deployments, Strict Tunnel must be disabled or you will block access to external sites.

## Test a PAC configuration

When you test PAC configurations, it's recommended that you enable debugging and detailed logging to accurately capture the sequence of operations. When detailed logging is enabled from the app, BlackBerry Access logs proxy-related errors to a special console found in device settings. To view this console, you can open BlackBerry Access on the device, tap **Settings** > **Console**.

BlackBerry Access also provides network utilities that can be used to debug a PAC file policy. To view these network utilities from the device, you can tap **Settings** > **Advanced – Network Utilities**, select **PAC Resolve**, and enter an IP or Hostname to check how the currently applied PAC file resolves it.

## Refreshing PAC configuration on devices

You can ensure that the latest PAC configuration has been pushed to all devices by forcing a policy refresh of the BlackBerry Access policies and PAC settings in either BlackBerry UEM or Good Control.

### Force a policy and PAC file refresh in BlackBerry UEM

If you have changed a policy and want to force BlackBerry UEM to send updates, including refreshing the PAC files on devices, perform the following steps in BlackBerry UEM:

1. On the menu bar, click **Apps**.
2. Click the BlackBerry Access app.
3. On the BlackBerry Dynamics tab, in the **App configuration** table, click the app configuration that you want to edit.
4. On the **General** tab, scroll to the **To force policy update to device, enter current date and time and click update** field.
5. Enter the date and time in either 24 hour format or 12 hour format. For example, 02-16-2017 12:04AM (12-hour) and 02-16-2017 0004 (24-hour).
6. Click **Save**.

### Force a policy and PAC file refresh in Good Control

The Good Control server sends policy updates to all client devices when the policies have been changed.

If you have changed a policy and want to force Good Control to send updates, including refreshing the PAC files on devices, perform the following steps in Good Control:

1. Click **Policy Sets**.
2. Click the policy set that you want to configure.
3. Click the **Apps** tab.
4. Expand the **App Specific Policies** section.
5. Scroll to find the entry for **BlackBerry Access** and click to expand.
6. Click the **General** tab.
7. Scroll to the **To force policy update to device, enter current date and time and click update** field.
8. Enter the date and time in either 24 hour format or 12 hour format. For example, 02-16-2017 12:04AM (12-hour) and 02-16-2017 0004 (24-hour).
9. Click **Update**.

## PAC file FAQ

**What happens when a PAC file can't be downloaded?**

If a PAC policy is mentioned but the PAC file can't be downloaded, BlackBerry Access doesn't allow the browser to navigate to any web sites, and users see the following message: "Invalid web proxy configuration". Users can try reloading the page to restart the PAC file download so that BlackBerry Access can try to download the PAC file again.

**When is a PAC file downloaded and how long is it cached?**

The PAC file is downloaded at the time the user tries to load a webpage, when the app is cold-started, when the BlackBerry Access policy is updated, or the app is unlocked. When the BlackBerry Access policy comes to the app, the download sequence starts. When the device starts receiving the PAC file, the previous PAC file is replaced with the new one. When it's downloaded, the PAC data is persisted in the secure container, with an expiration time of 24 hours, and is not downloaded again until the policy is updated or the app is restarted. The PAC file is downloaded again when a user accesses a webpage after restarting the device or when a new policy is pushed by Good Control/UEM. The cached PAC file is reused until the PAC file is refreshed by a policy change or when the app is restarted.

**Is there a cache timeout that controls whether the client will download PAC regularly?**

There's no cache timeout for PAC files. The client doesn't download a new configuration unless it meets the criteria described in the previous question.

**How can you force clients to update PAC files if the PAC URL is the same but the PAC content has changed?**

Due to a limitation in Good Control, you cannot apply the policy without changing one of the fields in the policy.

You can force a refresh of BlackBerry Access policies, including PAC configuration, on user's devices.

**Why do users see an "Invalid Web Proxy Configuration" error message and how can users diagnose the problem?**

This error message is displayed due to various conditions related to PAC files or the proxy server. Users can go to the console in BlackBerry Access to see more details. This error message can be displayed for the following reasons:

- The PAC script couldn't be executed because of a JavaScript error. Unfortunately, BlackBerry Access can't detect JavaScript errors. It's recommended that you first test the PAC file in a browser on a computer and then deploy it to devices. A PAC tester tool is available to test the PAC here: https://code.google.com/p/pactester/.
- The PAC file returns an empty value. In the case of computer browsers, they fall back to a connection without a web proxy. However, for security reasons, BlackBerry Access doesn't fall back and displays an error message instead.
- None of the web proxies returned by the PAC files are whitelisted in Good Control client connections. For more information, see Configure PAC settings in Good Control.
- The PAC URL is invalid, is not whitelisted, or the PAC URL couldn't be connected to. For more information, see Configure PAC settings in Good Control.
- Manual proxy is set but the proxy details haven't been configured. For more information, see Configure PAC settings in Good Control.

# Configure RSA SecurID soft token authentication

BlackBerry Access for iOS and Android devices supports RSA SecurID soft token authentication. The software consists of an app and a separately installed, software-based security token that transfers password protection and authentication delegation to Good for Enterprise.

BlackBerry Access contains an embedded RSA SecurID authenticator that can generate and display a 6-digit or 8-digit tokencode at 30 or 60 second intervals.

1. To start a user's RSA SecurID software authenticator, provision an RSA SecurID software token seed record and send it to the user in an email so that they can import the seed record into BlackBerry Access.
2. Configure an RSA SecurID application policy in BlackBerry UEM or Configure an RSA SecurID application policy in Good Control. The policy includes the email address of an  RSA Authentication Manager administrator who is responsible for assigning and delivering software token seed records.
3. Generate the Compressed Token Format URL with the  RSA Authentication Manager. Replace the protocol portion of the URL to send an HTTP URL to Good for Enterprise so that it can import the RSA token into BlackBerry Access:

   - Change the **com.rsa.securid://ctf?ctfData=numeric_string** or **custom_url_scheme://ctf?ctfData=numeric_string** to **http://ctf?ctfData=numeric_string**.

     The URL is case sensitive: **ctfData** must be mixed case, as shown.
4. The seed record must be delivered in an .sdtid file or a Compressed Token Format URL. The user imports the seed record into BlackBerry Access.
5. A user that has BlackBerry Access already activated on their device opens the email message and clicks the RSA token to install it in BlackBerry Access.

**After you finish:**

- The RSA administrator assigns a software token to the user, binds it to the user's device ID, and sends the seed record to the user in a Compressed Token Format URL format.
- The user opens the seed record in BlackBerry Access.
- BlackBerry Access imports the seed record and instantiates the RSA SecurID authenticator.

## Configure an RSA SecurID application policy in BlackBerry UEM

1. In the BlackBerry UEM console, click **Apps**.
2. Click the BlackBerry Access app.
3. On the BlackBerry Dynamics tab, in the **App configuration** table, click the app configuration that you want to edit.
4. Click the **RSA** tab.
5. Select the **Enable RSA SecurID** checkbox.
6. BlackBerry Access must prompt a PINPAD software token user to enter their PIN in order to generate an RSA SecurID passcode. If you want BlackBerry Access to prompt users each time they request a passcode, select the **Prompt PIN for PINPAD Token** check box. Otherwise, BlackBerry Access will cache the PIN.
7. Enter your  RSA Authentication Manager administrator's email address in the **RSA Administrator Email Address** field. Good Control will send all token seed record requests to this address.
8. If you want to CC a recipient each time a BlackBerry Access user requests an RSA SecurID seed record, enter the recipient's email address in the **RSA Administrator CC Email Address** field.
9. Click **Save**.

**Configure an RSA SecurID application policy in Good Control**

1. In the Good Control console, click **Policy Sets**.
2. Locate the policy set that you want to configure in the **Policy Sets** table and click the edit icon in the Action column.
3. Click the **Apps** tab.
4. In the **App Specific Policies** section, expand the BlackBerry Access policy.
5. Click the **RSA** tab.
6. Select the **Enable RSA SecurID** checkbox.
7. BlackBerry Access must prompt a PINPAD software token user to enter their PIN in order to generate an RSA SecurID passcode. If you want BlackBerry Access to prompt users each time they request a passcode, select the **Prompt PIN for PINPAD Token** check box. Otherwise, BlackBerry Access will cache the PIN.
8. Enter your  RSA Authentication Manager administrator's email address in the **RSA Administrator Email Address** field. Good Control will send all token seed record requests to this address.
9. If you want to CC a recipient each time a BlackBerry Access user requests an RSA SecurID seed record, enter the recipient's email address in the **RSA Administrator CC Email Address** field.
10. Click **Update**.

# Kerberos authentication support

BlackBerry Access fully supports Kerberos authentication. Kerberos authentication is an integral part of Microsoft Active Directory implementations that has increasingly become a centerpiece of enterprise-level interoperability. It provides secure user authentication through the Active Directory domain controller, which maintains the user account and login information necessary to access your organization's network.

The Kerberos protocol governs three system participants:

1. A KDC
2. The client device
3. The server it wants to access

The KDC is installed as part of the domain controller and performs two service functions: the Authentication Service and the TGS.

When they log in to your network, users must negotiate access by providing a login name and password that's verified by the AS portion of the KDC within their domain. The KDC has access to the Active Directory user account information. After a user is authenticated, the user is granted a TGT that's valid for the local domain. The TGT is cached on the device, which uses it to request sessions with services throughout the network. You can configure the TGT's default expiration.

In addition, BlackBerry Access is certified for Kerberos Constrained Delegation, a BlackBerry Dynamics platform feature that lets domain administrators restrict the network resources that a service trusted for delegation can access by limiting the scope where application services can act on a user's behalf. When configured, Kerberos Constrained Delegation restricts which front-end service accounts can delegate to their back-end services. By supporting constrained delegation across domains, services can be configured to use constrained delegation to authenticate to servers in other domains rather than using unconstrained delegation. This provides authentication support for across-domain service solutions by using an existing Kerberos infrastructure without needing to trust front-end services to delegate to any service.

## Mapping domains to Kerberos realms

When a client attempts to access a service running on a particular server, it knows the name of the service (host) and the name of the server (for example, server01.example.com), but because more than one Kerberos realm may be deployed on your network, it must guess the name of the realm in which the service resides.

By default, the name of the realm is taken to be the DNS domain name of the server in uppercase letters.

| Example Domain Name | EXAMPLE Kerberos REALM NAME |
| --- | --- |
| server01.example.org | EXAMPLE.ORG |
| server01.example.com | EXAMPLE.COM |
| server01.hq.example.com | HQ.EXAMPLE.COM |

In many configurations, this is sufficient, but in others, the derived realm name might not be the name of a valid realm. In these cases, the mapping from the server's DNS domain name to the name of its realm must be specified, as shown below.

For BlackBerry Access domain-to-realm mapping, you can record a list of comma-separated equivalencies in which the first mapping in the list is treated as the default domain mapping. It will be used if the user has left the domain field empty, as well as when the server requires NTLM or Kerberos authentication.

Another frequent use of this mapping is to equate a NetBiOS name that users might be familiar with to a Kerberos realm name that becomes more recognizable.

**Note:** Do not hard code URLs that use IP addresses. If users can manually enter a URL, instruct users to avoid URLs that use an IP address. Otherwise, when the app tries to access a web page using an IP address, after the user enters their credentials, the web page does not load as expected and the user is prompted for their credentials again in a loop.

**Map domains to Kerberos realms in BlackBerry UEM**

1. In the BlackBerry UEM console, click **Apps**.
2. Click the BlackBerry Access app.
3. On the BlackBerry Dynamics tab, in the **App configuration** table, click the app configuration that you want to edit.
4. Click the **Network** tab.
5. In the field provided, enter the list of comma-separated values, using this syntax:`domain=KERBEROS_REALM_NAME`

   The value of *KERBEROS_REALM_NAME* must always be in uppercase letters.

   Example: **eastdomain=EAST.EXAMPLE.CORP**
6. Click **Save**.

**Map domains to Kerberos realms in Good Control**

1. In the Good Control console, click **Policy Sets**.
2. Locate the policy set that you want to configure in the **Policy Sets** table and click the edit icon in the **Action** column.
3. Click the **Apps** tab.
4. In the **App Specific Policies** section, expand the BlackBerry Access policy.

5. Click the **Network** tab.
6. In the field provided, enter the list of comma-separated values, using this syntax:`domain=KERBEROS_REALM_NAME`

   The value of *KERBEROS_REALM_NAME* must always be in uppercase letters.

   Example: **eastdomain=EAST.EXAMPLE.CORP**
7. Click **Update**.

# Managing certificates

BlackBerry UEM and Good Control support the use of public and private key (PKCS #12) certificates for signing email and client authentication.

The following section explains how to allow users to use certificates with BlackBerry Access. It assumes that you have already set up your environment to communicate with your CA. If you have not completed this step, refer to the following instructions, depending on your environment:

- Connect BlackBerry UEM to your organization's BlackBerry Dynamics PKI Connector
- In the Good Control online help, see the Certificates Definitions Tab section.

For more information on setting up your environment to use certificates, refer to the following:

- For Good Control, see the Certificates section in the Good Control online help.
- For BlackBerry UEM, see the Certificates section in the BlackBerry UEM administration content.

### Verify that BlackBerry Access can use certificates in BlackBerry UEM

By default, the BlackBerry Work and BlackBerry Access apps are allowed to the use PKCS#12 certificates. For other BlackBerry Dynamics apps, you must allow them to use certificates. To verify that BlackBerry Access can use certificates, complete the following steps.

1. In the BlackBerry UEM console, click **Apps**.
2. Click the BlackBerry Access app.
3. On the BlackBerry Dynamics tab, in the **User certificates** section, make sure that the **Allow BlackBerry Dynamics apps to use user certificates, SCEP profiles, and user credential profiles** option is selected.
4. Click **Save**.

### Verify that BlackBerry Access can use certificates in Good Control

By default, the BlackBerry Work and BlackBerry Access apps are allowed to the use PKCS#12 certificates. You must add any other apps that you want to allow to the App Usage tab in Good Control. To veryify that BlackBerry Access can use certificates, complete the following steps.

1. Navigate to the **Certificates > App Usage** tab.
2. To add an app, click  **Add App**.
3. In the dialog box, find the app that you want to add and select it. Click **OK**.
4. To remove an application, scroll through the list to find the app to remove.
5. Click **X** beside the app.
6. Click **OK** to remove the app or **Cancel** to retain it.

## Upload certificates for users in BlackBerry UEM

The client certificate must have a .pfx or .p12 file name extension. You can send more than one client certificate to devices.

1. On the menu bar, click **Users**.
2. Search for a user account.
3. In the search results, click the name of a user account.
4. In the **IT policy and profiles** section, click ✛.
5. Click **User certificate**.
6. Type a description for the certificate.
7. In the **Certificate file** field, click **Browse** to locate the certificate file.
8. Click **Add**.

## Upload certificates for users in Good Control

You can upload PKCS#12 certificate files for users in Good Control.

**Before you begin:** The certificate files must have either a .p12 or .pfx file extension.

1. Navigate to **Users and Groups.**
2. Select a user to edit and click **User Actions** > **Edit User**.
3. Click the **Certificates** tab.
4. Click **Upload**.
5. Navigate to the PKCS#12 certificate file on your computer.
6. Select or open the file.
7. Follow the instructions on the screen to upload the certificate file.

Good Control displays the date of the upload. Good Control can't display more information about the certificate until the user uses the certificate at least once by entering the password to the certificate file. Until the password is entered, the certificate is encrypted and details can't be obtained from it.

## Delete certificates for users in BlackBerry UEM

You can delete PKCS #12 certificate files for users in BlackBerry UEM.

1. On the menu bar, click **Users**.
2. Search for a user account.
3. In the search results, click the name of a user account.
4. In the **BlackBerry Dynamics user certificates** table, click ✕ beside the certificate that you want to delete.

## Delete certificates for users in Good Control

You can delete PKCS#12 certificate files for users in Good Control.

1. Navigate to **Users and Groups.**
2. Select a user to edit and click **User Actions** > **Edit User**.
3. Click the **Certificates** tab.
4. Select the certificate that you want to delete.
5. Click **Delete**.

# Security features

BlackBerry Access is built using the BlackBerry Dynamics SDK and provides users with access to your organization's network behind your firewall. For more information about security and the BlackBerry Dynamics SDK, including how data-at-rest and data-in-transit is secured, cryptography details, and policy enforcement, see the BlackBerry Dynamics Security White Paper.

BlackBerry Access protects data with anti-debugging techniques, method integrity checking, and source code obfuscation of security-sensitive code on all platforms. Unlike users on iOS and Android platforms, users on aWindows and macOS platforms have administrator privileges. BlackBerry Access for Windows and BlackBerry Access for macOS do not have compliance rules that detect whether a device is jailbroken or rooted. BlackBerry Access for Windows and BlackBerry Access for macOS have an additional compliance policy to check for the presence of antivirus software.

The following are some additional security features that are specific to BlackBerry Access:

- All browser data stored in a secure container
- Support for PAC files
- Connectivity profiles that define the network connections, Internet domains, IP address ranges, and app servers that devices can connect to when using BlackBerry Access
- DLP policy enforcement
- Support for various authentication methods, including client certificates, Kerberos, and more
- Separate BlackBerry Dynamics certificate store
- Support for S/MIME in BlackBerry Work for Windows and BlackBerry Work for macOS
- Secure file downloads and secure file viewer
- Policy that specifies which extensions can be downloaded in BlackBerry Access

## Remote data wipe

Wiping data is a process that allows you to remotely erase data from a user's device when a violation or breach of security policy is detected, a user's network permissions are changed or revoked, or the user's employment is terminated. When data is wiped, the secure container on the device where files and folders that the organization owns are located is physically rewritten with zeros to prevent data recovery. This is different from an ordinary file deletion, where only the pointer to the file in the file allocation table is deleted.

## Send device commands to BlackBerry Access in BlackBerry UEM

After BlackBerry Access, or any other BlackBerry Dynamics app, has been installed on a device, you can perform actions on the apps. 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 Dynamics app to manage.
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. |

**8.** Confirm whether you want to complete the action.

## Send device commands to BlackBerry Access in Good Control

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

**1.** Navigate to **Users and Groups** > *select a user* > **Edit** > **Devices and Apps** > *select a device* > **Installed Apps**.
**2.** Check the checkboxes for the applications you want to change.
**3.** In the search results, click the name of the user account.
**4.** Using the **App Actions** menu on the right, 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. |

| Task | Description |
|---|---|
| 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. |

**5.** Confirm whether you want to complete the action.

## Secure storage of browsing activity

All BlackBerry Access browsing activity, including browser data, the cache, and cookies are encrypted and stored in a secure container on devices. The secure container ensures that work data is stored separately from personal data on devices.

## SSL and TLS

SSL transmission protocol employs a cryptographic system that uses two keys to encrypt data: a public key known to everyone and a private, or secret, key known only to the recipient of the message. TLS is the successor to SSL.

Both protocols use X.509 certificates and asymmetric cryptography to identify the counterparty with whom they are talking, and to exchange a symmetric key. This session key is then used to encrypt data flowing between the parties, providing data and message confidentiality, along with message authentication codes for message integrity and message authentication. An important characteristic is PFS, so the short term session key cannot be derived from the long-term asymmetric secret key.

## NTLMv2 authentication

NTLMv2 is a challenge-response authentication protocol and a cryptographically strengthened replacement for NTLMv1. Kerberos, which is the preferred authentication protocol for Windows and Microsoft Active Directory domains, is used when a server belongs to a Windows Server domain or if a trust relationship with a Windows Server domain is established in some other way, such as Linux to Microsoft Active Directory authentication.

NTLMv2 sends two 16-byte responses to an 8-byte server challenge. The two responses are:

- The HMAC-MD5 hash of the server challenge, which is a randomly generated client challenge
- An HMAC-MD5 hash of the user's password and other identifying information

The formula that is used begins with the NT Hash, that is stored in the SAM or Active Directory, and continues to hash in the username and domain name, using HMAC-MD5.

## HTTP basic authentication

HTTP basic authentication implementation is the simplest technique for enforcing access controls to web resources because it doesn't require cookies, session identifiers, or login pages. Instead, HTTP basic authentication uses static, standard HTTP headers, which means that no handshakes have to be done in anticipation.

However, the basic authentication mechanism provides no confidentiality protection for the transmitted credentials. They are merely encoded with BASE64 in transit, but not encrypted or hashed. Basic authentication should therefore only be used over HTTPS.

## User passwords

Users can change their passwords in the BlackBerry Access settings.

# Video support

BlackBerry Access for iOS devices supports many video formats. YouTube videos aren't supported because they are served with non-compliant tags that can't be replaced or rewritten by BlackBerry Access. You must open YouTube videos in a native browser instead. BlackBerry Access for iOS devices support the same video formats that Apple does, except for the following legacy formats: M2V, 3GP, and 3GP-2.

To securely play videos on web sites, the HTML5 *\<video\>* tag with the *\<source\>* element's src attribute is required at the time the page is loaded in the browser. If BlackBerry Access can't detect a *\<video\>* tag, the video playback isn't secured. The following is a sample of the tags:

```
<video width="320" height="240" controls>
        <source src="test.mp4" type="video/mp4">
        <source src="test.ogg" type="video/ogg">
        Your browser does not support the video tag.
      </video>
```

Web servers that serve videos must be configured for byte streaming so that BlackBerry Access can play them. The web server must support the HTTP header 206 Partial Content. Otherwise, videos are downloaded to the device, and the user must play them manually.

## Video support FAQ

**Q. What are the limitations in BlackBerry Access capability to trap all video elements and in the website and stream securely through BlackBerry Dynamics?**

Because BlackBerry Access uses Apple's webkit to render the HTML data, it isn't possible to catch all video elements and redirect them through the BlackBerry Dynamics network. Instead, BlackBerry Access will run some additional Java scripts after the page is loaded to replace the video elements with custom URL which will make the native player call back to BlackBerry Access application logic when it needs to fetch data so that the video data can be streamed through BlackBerry Dynamics. There are few limitations due to the fact that BlackBerry Access translates video elements after the page is loaded:

- While a page is being loaded (not fully loaded), if the user taps on any of video elements, the player may request data directly and not go through BlackBerry Dynamics. The video playback may not work if the HTTP server that hosts video can't be reached directly. Users must wait for the page to load completely, and the video icons must be replaced by BlackBerry Access playback icons.
- Some of the pages have logic to dynamically create video elements based on user action after the page is loaded. These dynamically inserted video elements may not be playable through BlackBerry Access secured streaming.
- Custom javascript players and HTML elements are not supported.

**Q. What are the requirements for video to be streamed and played in BlackBerry Access through BlackBerry Dynamics?**

BlackBerry Access supports secure streaming of video files hosted within corporate intranet through HTTP based video streaming over BlackBerry Dynamics based secured connection. The current solution requires the following setup to work seamlessly:

- The HTTP server hosting video has to support range requests. Otherwise the video can't be played back.
- The network over which the device is connected to should be able to support the minimum bitrate needed by video files. The bitrate differs based on resolution of video, not meeting this rate will either not play back the video or will have a lot of pauses while the player is trying to buffer the data.
- It is recommended to have BlackBerry Access connected to the Good Proxy server using BlackBerry Dynamics Direct Connect instead of through the BlackBerry Dynamics NOC for less latency and better video playback.

**Q. What video files are supported by BlackBerry Access?**

BlackBerry Access uses iOS native video player and should support most of audio/video codecs and containers supported by the native player. BlackBerry Access has been tested for video and audio encoded with AAC, MP3, MPEG 4, H.264, and MP4 contained in video containers. BlackBerry Access doesn't support 3GP.

**Q. What is maximum size of video file supported?**

BlackBerry Access uses 32 bit values to keep track of video offset, so it can support up to 2 GB of data. Only video files up to 700 MB have been tested.

**Q. Where are video files buffered and what are limitations with buffering?**

BlackBerry Access has a limited amount of buffering in RAM (volatile program memory). The memory is capped at 20 MB currently, and no video data is stored in the file. Because caching doesn't persist in the file, the video player may have to fetch the same data repeatedly depending on how the user plays the video.

**Q. Why does it take lot of time to start video playback when I go forward or back in a video?**

Because seeking requires BlackBerry Access to fetch data from the network by issuing new connections and requesting a new data range, it takes time for the connection request and fetch depending on the current bandwidth and latency. Also, because of limited non-persistent buffering, BlackBerry Access may not have previously played data when user seeks back while watching video and must request the data from server again.

**Q. How do I download video file and watch it later?**

The download option is available only for the video files.Whole locations are referred in the link tag (href) or when the video URL is entered in the address bar. BlackBerry Access doesn't support download to file for videos that are embedded in HTML files using <video> tags.

**Q. Why does my BlackBerry Access application lock while watching video?**

This because of a security restriction in BlackBerry Dynamics and the IT policy. The video player doesn't reset the idle timeout, so the device can lock while user is watching video. You may have to tap the screen now and then to reset the idle timeout.

**Q. Is Apple's HTTP live streaming supported?**

Yes.

# Configuring allowed Internet domains

You can configure default and allowed Internet domains for users to use in BlackBerry Access. This allows users to reach servers by typing the unqualified domain name instead of the FQDN. For example, if your organization has an internal server running knowledge base software with an FQDN of kb.example.com, you can configure domain information so that users can reach that server by simply typing "kb" in the browser.

You use connectivity profiles to specify allowed Internet domains in either BlackBerry UEM or Good Control. You can set up configurations that apply to your entire user base or configurations that apply only to specific user groups.

For more information, see one of the following, depending on your environment:

- If you are using BlackBerry UEM, see Create a BlackBerry Dynamics connectivity profile in the BlackBerry UEM Administration content..
- If you are using Good Control, see the Good Control Help content.

**Prompt users to open unauthorized domains in Safari**

As of the BlackBerry Access for iOS 3.0 release, when a user opens a link that was not specified as an allowed domain in the BlackBerry Dynamics connectivity profile settings, the user will be prompted with the following options:

- **Open in Safari**: The unauthorized domain link will be opened in a Safari view controller (users can click on the Safari icon in the bottom right to open the Safari app) only once.
- **Always open in Safari**: The unauthorized domain link and all URLs under the same domain will open in a Safari view controller (users can click on the Safari icon in the bottom right to open the Safari app) by default.

The SFSafariViewController UI is shown in the BlackBerry Access app, but the network is routed natively through the Safari app. For more information, see SFSafariViewController in the Apple documentation.

This logic is only available if the following requirements are configured by the administrator:

- The following policies must be turned on in the BlackBerry Access app configuration settings:
  - Enforce strict tunnel
  - Allow URL not in Allowed Domains of Connectivity Profiles to be loaded in native browser
  - When user selects apply to all during prompt to open in third party browser, do not prompt again for all the hosts under same domain
- The "Route all traffic" BlackBerry Dynamics connectivity profile setting must be turned off.

# Changing communications protocols

Using BlackBerry UEM or Good Control, you can allow certain secure communications protocols, such as TLSv1.0 or TLSv2, for communication with client devices.

You should be careful when you disable protocols. Check with your organization's IT staff to find out which protocols can be safely disabled. Otherwise, you might disable a protocol that's used on your network, and this can disrupt the secure handshake that's required between BlackBerry UEMor Good Control and users' devices, and users may receive a "Page Not Found" message.

BlackBerry Access for iOS has its own application policy that controls which communications protocol to use.

For more information, see one of the following, depending on your environment:

- If you are using BlackBerry UEM, see Configuring BlackBerry UEM to make TLS/SSL connections to Exchange ActiveSync in the BlackBerry UEM Configuration content.
- If you are using Good Control, see the Good Control Help content.

# Configure access to WebRTC-based destinations

You can configure BlackBerry Access for macOS  and BlackBerry Access for Windows to allow communication using WebRTC protocol-based web clients such as Citrix VDI browser-based access.

**Note:**  To allow Windows users to share their screens, ensure that the BlackBerry Dynamics policy in BlackBerry UEM allows screen captures.

WebRTC traffic can often have high bandwidth demands. For this reason, BlackBerry recommends routing this traffic directly.

**Route WebRTC traffic directly**

If the WebRTC destination is accessible directly over the internet, use the following routing configuration:

- On the **Security** tab of the BlackBerry Access app configuration policy, clear the **Enforce Strict Tunnel** checkbox to disable strict tunnel.
- Optionally, for improved performance, you can enable UDP protocol support. On the **BlackBerry Access (Mac and Win)** tab of the BlackBerry Access app configuration policy, select the **Enable UDP Protocol support** checkbox.
- Configure the BlackBerry Dynamics Connectivity profile to route traffic directly to the WebRTC destination, as follows:
    - For BlackBerry UEM version 12.11 and later: Add the WebRTC destination URL to the **Additional servers** section and specify **Direct connectivity**. This allows the connection to route directly even if the default route is set to use a BlackBerry Proxy cluster.
    - For BlackBerry UEM version 12.10 and earlier and Good Control: Disable **Route All**. Ensure that existing internal domains or servers are configured to route through BlackBerry Proxy clusters. Do not add the WebRTC destination to the BlackBerry Dynamics Connectivity profile. This will allow the connection to route directly.

    **Note:** The BlackBerry Dynamics Connectivity profile and strict tunnel configuration have no effect on UDP connections. UDP connections route directly to the WebRTC destination through the local internet connection.

**Route WebRTC traffic through BlackBerry Proxy**

If the WebRTC destination is not directly accessible over the internet, or the traffic is required to route through a BlackBerry Proxy cluster, take the following items into consideration:

- To route WebRTC traffic through BlackBerry Proxy clusters, all BlackBerry Proxy clusters must be configured to use Direct Connect. For more information, see the Direct Connect content.

    **Note:** If you do not configure the BlackBerry Proxy clusters with Direct Connect, the WebRTC destination does not load. For more information, visit support.blackberry.com/community to read article 62766.
- Ensure that enough BlackBerry Proxy servers are installed to handle the load generated by the WebRTC traffic.
- This configuration supports only TCP-based WebRTC connections. BlackBerry Proxy servers support only TCP protocol.

# Allow users to open custom URL schemes

By default, BlackBerry Access opens only HTTP and HTTPS URL schemes. You can use the "Enable 3rd Party Applications" and "Enter comma separated URL schemes" app settings in BlackBerry UEM or Good Control to allow users to open custom URL schemes supported by third-party apps. For more information about these app settings, see BlackBerry Access app configuration settings.

You must add the third-party URL scheme names in the "Enter comma separated URL schemes" app setting, or users are blocked from accessing the third-party apps. You can find the names of blocked third-party URL schemes in the BlackBerry Access console log.

**Before you begin:** Verify that detailed logging is enabled in BlackBerry Access.

1. In BlackBerry Access, click the URL to access the third-party application.
2. Wait until BlackBerry Access returns the following error message: `URL scheme is blocked.`
3. Go to the BlackBerry Access console.
4. Look for the error message for the blocked URL scheme.
5. In BlackBerry UEM or Good Control, add the name of the URL scheme to the "Enable 3rd Party Applications" app setting.

# Allow users to securely edit files within an app in BlackBerry Access on Windows or macOS

To allow users to securely edit files within an app in BlackBerry Access on Windows or macOS, add the Secure Document Editing app to the user's allowed apps in BlackBerry UEM. This requires the "Secure Editing of Office Documents (Word, PPT and Excel)" license. Contact BlackBerry Sales for more information.For more information, see Assign an app to a user account in the BlackBerry UEM Administration content.

## Identifying BlackBerry Access in user agent

When a BlackBerry Access user visits a website, BlackBerry Access sends its user agent string to the server that hosts the website. The user agent string contains tokens that provide information, such as the browser description, operating system, and current browser mode, in the HTTP request headers. The website server may use this information in the user agent string to provide content tailored to mobile browsers.

The user agent string does not include any identifiable tokens to indicate that the browser is BlackBerry Access. To add "GoodAccess" or "Good Access" and the version information of the BlackBerry Access app to the user agent string, enable the "Identify BlackBerry Access in User Agent" setting on the General tab of the BlackBerry Access app config in BlackBerry UEM or in the App Specific Policy of the assigned Policy Set in Good Control.

The following are examples of user agent strings when the setting is not enabled:

- BlackBerry Access for Android:

```
Mozilla/5.0 (Linux; Android 8.1.0; BBF100-2) AppleWebKit/537.36 (KHTML, like
  Gecko) Chrome/71.0.3578.99 Mobile Safari/537.36
```

- BlackBerry Access for iOS:

```
Mozilla/5.0 (iPhone; CPU iPhone OS 11_2_6 like Mac OS X) AppleWebKit/604.5.6
  (KHTML, like Gecko) Version/11.0 Mobile/15D100 Safari/604.5.6
```

- BlackBerry Access for Windows:

```
Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.36 (KHTML, like Gecko)
  Chrome/61.0.3163.91 Safari/537.36
```

- BlackBerry Access for macOS:

```
Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5) AppleWebKit/537.36 (KHTML, like
  Gecko) Chrome/61.0.3163.91 Safari/537.36
```

The following are examples of user agent strings when the setting is enabled:

- BlackBerry Access for Android:

```
Mozilla/5.0 (Linux; Android 4.1.1; SAMSUNG-SGH-I747/JRO03L) AppleWebKit/537.36
  (KHTML, like Gecko) Chrome/28.0.1500.45 Mobile Safari/537.36 GoodAccess/<app
  version>
```

- BlackBerry Access for iOS:

```
Mozilla/5.0 (iPhone; CPU iPhone OS 11_2_6 like Mac OS X) AppleWebKit/604.5.6
  (KHTML, like Gecko) Version/11.0 Mobile/15D100 Safari/604.5.6 GoodAccess/<app
  version>
```

- BlackBerry Access for Windows:

```
Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.36 (KHTML, like Gecko)
  Chrome/61.0.3163.91 Safari/537.36 Good Access/<app version>
```

- BlackBerry Access for macOS:

```
Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5) AppleWebKit/537.36 (KHTML, like
  Gecko) Chrome/61.0.3163.91 Safari/537.36 Good Access/<app version>
```

# Good Control cloud deployments and intranet servers

When you use BlackBerry Access with the Good Control cloud configuration, intranet servers (resources on your internal network) aren't accessible.

In on-premises instances of Good Control, you have access to a Good Proxy server, which must be configured to allow access from outside your organization's firewall. However, in Good Control Cloud, there's no administrator-accessible Good Proxy server because you don't configure servers, ports, web proxies, or other the hardware or network settings. You can't configure access to an intranet in Good Control Cloud because there are multiple distributed intranets that belong to different organizations. For security reasons, these intranets can't be part of the shared cloud configuration.

# Using BlackBerry Analytics to collect app data

You can enable the BlackBerry Analytics feature for your users if you want to capture events in BlackBerry Dynamics apps, such as when the user starts the BlackBerry Dynamics apps, the user's platform, and when the app goes into the background. You can view and analyze the metrics by logging in to the BlackBerry Dynamics web-based system and accessing the Analytics dashboard. For more information about BlackBerry Analytics, visit BlackBerry Help and Manuals: BlackBerry Analytics.

# Configure a compliance rule for Windows antivirus detection in Good Control

You can use a compliance rule to check if antivirus software is installed and running on Windows.

1. On the menu bar, click **Policy Sets**.
2. Click the name of the policy that you want to assign to users.
3. Click the **COMPLIANCE POLICIES** tab.
4. Expand **ANTIVIRUS STATUS (WIN32 ONLY)**.
5. For **Checks Antivirus Status**, select **Enable**.
6. For **Failure Action**, select the action to take if users are not compliant.
7. Click **Update**.

# Configure support for FQDN resolution in Good Control

In Good Control, you can configure support for FQDN resolution for Kerberos authentication.

1. On the menu bar, click **GP Server Properties**.
2. On the **DEFAULT GP SERVER PROPERTIES** tab, select the check box for **gp.gps.unalias.hostname**.
3. Click **Submit**.

# Troubleshooting

## Diagnostics

If a user is reporting an issue, you can ask them to perform app diagnostics.

You can use diagnostic tools to check the connection between BlackBerry Access and BlackBerry Proxy and other target servers.

BlackBerry Access for iOS also has a "Collect network summary" option that you can use to collect and display a summary of your internet usage. The summary, which can be used for diagnostics, displays information such as delays in connections, authentication handshakes, and proxy resolution.

### Generate a diagnostics report on iOS devices

You can ask users to generate a diagnostics report and then email the results.

**Before you begin:** Provide the following instructions to users:

1. Tap to open the BlackBerry Dynamics Launcher.
2. Tap ✿.
3. In the Support section, tap **Run Diagnostics**.
4. Tap **Start Diagnostic**.
5. Click **Start**.
6. When the diagnostics complete, click **Share logs** to send an email with the report details.

### Generate a diagnostics report on Android devices

You can ask users to generate a diagnostics report and then email the results.

**Before you begin:** Provide the following instructions to users:

1. Tap to open the BlackBerry Dynamics Launcher.
2. Tap ✿.
3. In the Support section, tap **Run Diagnostics**.
4. Tap **Start Diagnostics**.
5. When the diagnostics complete, click **Share Results** to send an email with the report details.

## Troubleshoot issues using the BlackBerry Access console

You can use the BlackBerry Access console to help users find possible causes of issues that they might encounter.

Provide the following instructions to users:

1. Tap to open the BlackBerry Dynamics Launcher.
2. Tap ✿.
3. Tap **Settings**.
4. Tap **Console**.

**5.** Look at the displayed messages to see if they indicate what the problem is.

# Upload log files to BlackBerry Support

If requested by BlackBerry Support, you can upload log files to help troubleshoot issues that your users are having with BlackBerry Dynamics apps.

Provide the following instructions to users:

**1.** Tap ![icon] to open the BlackBerry Dynamics Launcher.
**2.** Tap ✿.
**3.** In the **Advanced** section, click **Logs**.
**4.** Click **Upload Logs**.

# Troubleshoot connectivity issues

If users are reporting connectivity issues, you can ask them to perform connectivity tests. These tests also help you troubleshoot proxy servers and PAC file configurations. Tests are performed on the connections between the device, other servers, and the BlackBerry Dynamics NOC, and do not go through the BlackBerry Proxy (if using BlackBerry UEM) or Good Proxy (if using Good Control).

Provide the following instructions to users:

**1.** Tap ![icon] to open the BlackBerry Dynamics Launcher.
**2.** Tap ✿.
**3.** In the **Advanced** section, choose one of the following:
   - On iOS devices, click **Network Utilities**.
   - On Android devices, click **Net Tools**.
**4.** Provide the URL or IP address that you want to test to users and tell them to enter it.
**5.** Depending on what you want to test, tell users to select either **Ping**, **Trace**, or **Lookup**.

# Troubleshoot routing issues

The tables in this section provide details about how BlackBerry Access routes traffic depending on whether a manual proxy or proxy autoconfiguration (PAC) is used. You can use this information to troubleshoot browsing issues related to traffic routing.

**Note:** The table does not describe the situation where a target URL is configured to be blocked by either the BlackBerry Dynamics Connectivity Profile or the PAC file because the URL is always blocked no matter which other configurations are in place.

**Legend**

- **No proxy:** The proxy server is not specified in the BlackBerry Access app configuration.
- **Manual proxy:** A web proxy server is manually specified in the BlackBerry Access app configuration. When a web proxy is specified in this way, BlackBerry Access attempts to route all traffic through the web proxy.

- **PAC:** A PAC file is specified in the BlackBerry Access app configuration. When a PAC is configured, BlackBerry Access follows the rules specified in the PAC to determine whether to send traffic through the web proxy. Specifies the result of the PAC file check against the target host (DIRECT, PROXY, BLOCK, NATIVE).
- **Host route = BBP:** The specified target URL is configured to route through a BlackBerry Proxy cluster based on the BlackBerry Dynamics Connectivity Profile. This URL is explicitly defined, or is under the Default Route or an Allowed domains rule.
- **Host route = DIRECT:** The specified target URL is configured to route directly based on the BlackBerry Dynamics Connectivity Profile. This URL is explicitly defined or is under the Default Route.
- **Web Proxy Route = BBP:** The proxy server's URL is configured to route through a BlackBerry Proxy cluster based on the BlackBerry Dynamics Connectivity Profile. This URL is explicitly defined, or is under the Default Route or an Allowed domains rule.
- **Web proxy route = DIRECT:** The proxy server's URL is configured to route directly based on the BlackBerry Dynamics Connectivity Profile. This URL is explicitly defined or is under the Default Route.

| | Strict tunnel on | Strict tunnel off |
| --- | --- | --- |
| No proxy<br><br>Host route = BBP | BlackBerry Access routes traffic through the BlackBerry Proxy cluster. | BlackBerry Access routes traffic through the BlackBerry Proxy cluster. |
| No proxy<br><br>Host route = DIRECT | The host is blocked because of strict tunnel. | BlackBerry Access routes traffic directly to the host. |
| Manual proxy<br><br>Host route = BBP<br><br>Web proxy route = BBP | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy. | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy. |
| Manual proxy<br><br>Host route = DIRECT<br><br>Web proxy route = BBP | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy. | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy.<br><br>**Note:** Even though the host does not resolve in the BlackBerry Dynamics Connectivity Profile, the web proxy does resolve. Therefore all traffic through the web proxy goes through the BlackBerry Proxy cluster. |
| Manual proxy<br><br>Host route = BBP<br><br>Web proxy route = DIRECT | The web proxy server is blocked because of strict tunnel. | BlackBerry Access routes traffic directly to the web proxy and then to the host.<br><br>**Note:** Even though the host resolves in the BlackBerry Dynamics Connectivity Profile, because the web proxy configured as DIRECT, all traffic through that web proxy is direct. |

|  | Strict tunnel on | Strict tunnel off |
|---|---|---|
| Manual proxy<br><br>Host route = DIRECT<br><br>Web proxy route = DIRECT | Both the host and the web proxy server are blocked because of strict tunnel. | BlackBerry Access routes traffic directly to the web proxy and then to the host. |
| PAC returns DIRECT<br><br>Host route = BBP | The host is blocked because of strict tunnel. | BlackBerry Access routes traffic directly to the host. |
| PAC returns PROXY<br><br>Host route = BBP<br><br>Web proxy route = BBP | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy. | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy.<br><br>**Note:** Even though the host does not resolve in the BlackBerry Dynamics Connectivity Profile, the web proxy does resolve. Therefore all traffic through the web proxy goes through the BlackBerry Proxy cluster. |
| PAC returns PROXY<br><br>Host route = DIRECT<br><br>Web proxy route = BBP | BlackBerry Access routes traffic though the BlackBerry Proxy cluster and then through the web proxy. | BlackBerry Access routes traffic directly to the web proxy and then to the host.<br><br>**Note:** Even though the host resolves in the BlackBerry Dynamics Connectivity Profile, because the web proxy configured as DIRECT, all traffic through that web proxy is direct. |
| PAC returns PROXY<br><br>Host route = BBP<br><br>Web proxy route = DIRECT | The web proxy is blocked because of strict tunnel. | BlackBerry Access routes traffic directly to the web proxy and then to the host. |
| PAC returns PROXY<br><br>Host route = DIRECT<br><br>Web proxy route = DIRECT | The host is blocked because of strict tunnel. | BlackBerry Access routes traffic directly to the web proxy and then to the host. |

**Behavior of myIPAddress and DNSResolve**

Depending on the routing configuration, the DNS resolution and the source IP address will differ. The following table describes which endpoint makes the DNS calls and which endpoint is considered the source IP address when connecting to a target host.

|  | DNSResolve during PAC computation | DNSResolve for socket connection | MyIPAddress for PAC |
| --- | --- | --- | --- |
| Host route = BBP<br><br>Strict tunnel = On | The BlackBerry Proxy resolves the IP address of the host. | The BlackBerry Proxy resolves the IP address of the host. | The IP address of the BlackBerry Proxy is used. |
| Host route = BBP<br><br>Strict tunnel = Off | The BlackBerry Proxy resolves the IP address of the host. | The BlackBerry Proxy resolves the IP address of the host. | The IP address of the BlackBerry Proxy is used. |
| Host route = DIRECT<br><br>Strict tunnel = On | The BlackBerry Proxy resolves the IP address of the host. | DNSResolve is blocked or there is no DNS resolution. | The IP address of the BlackBerry Proxy is used. |
| Host route = DIRECT<br><br>Strict tunnel = Off | The BlackBerry Proxy resolves the IP address of the host. | The device resolves the IP address of the host. | The IP address of the device is used. |

# Feature support

| Feature | Description | Applies to |
|---|---|---|
| Cookies | • Persistent cookies<br>• Nonpersistent cookies | • BlackBerry Access for Android<br>• BlackBerry Access for iOS<br>• BlackBerry Access for Windows<br>• BlackBerry Access for macOS |
| JavaScript engine | Uses native WKWebView for rendering | • BlackBerry Access for iOS |
| | Uses Google's open source V8 JavaScript engine for rendering. | • BlackBerry Access for Android |
| HTML attachments | Navigation return to HTML attachment | • BlackBerry Access for Android |
| | Maximum size of attachment is 3 MB | • BlackBerry Access for Android<br>• BlackBerry Access for iOS |
| | Long tap on attachment | • BlackBerry Access for iOS |
| | No support for child pages or resources (relative links from the parent page) | • BlackBerry Access for Android<br>• BlackBerry Access for iOS |
| Audio | Support for the same audio formats that Apple supports.<br><br>To securely play audio on web sites, the HTML5 *\<audio\>* tag is required at the time the page is loaded in the browser. If BlackBerry Access can't detect an *\<audio\>* tag, the audio playback isn't secured. | • BlackBerry Access for iOS |
| Fingerprint authentication | Samsung Pass for user authentication using fingerprints. You can use the same application policies that you use to manage Android fingerprint authentication for Samsung Pass. | • BlackBerry Access for Android |

| Feature | Description | Applies to |
|---|---|---|
| Languages supported by BlackBerry Access controls | English, Danish, Dutch, French, German, Italian, Japanese, Korean, Simplified Chinese, Spanish, and Swedish | • BlackBerry Access for Android<br>• BlackBerry Access for iOS |
| | English, Dutch, French, Japanese, Korean, Simplified Chinese, and Swedish | • BlackBerry Access for Windows<br>• BlackBerry Access for macOS |
| File types | Unsupported file types:<br><br>• .msg: Microsoft Outlook message format<br>• .zip: Compressed file archive | • BlackBerry Work for Windows<br>• BlackBerry Work for macOS |
| Plugins | • Adobe Flash: Not supported<br>• Applets: Not supported<br>• Microsoft ActiveX: Not supported<br>• WebSockets: Supported only for BlackBerry Access for iOS, BlackBerry Access for macOS, and BlackBerry Access for Windows. WebSockets are not secured by BlackBerry Access for Android. | • BlackBerry Access for Android<br>• BlackBerry Access for iOS<br>• BlackBerry Access for Windows<br>• BlackBerry Access for macOS |
| SAML and ADAL | Supported | • BlackBerry Access for Android<br>• BlackBerry Access for iOS<br>• BlackBerry Access for Windows<br>• BlackBerry Access for macOS |

# Browser support for HTML5 and CSS3

## BlackBerry Access for Android HTML and CSS3 support

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| Score | | 464 of 555 |
| Parsing rules | | |
| | <!DOCTYPE html> triggers standards mode | Supported |
| | HTML5 tokenizer | Supported |
| | HTML5 tree building | Supported |
| | SVG in text/html | Supported |
| | MathML in text/html | Supported |
| Video | | |
| | video element | Supported |
| | Subtitle Supported | Supported |
| | Poster image Supported | Supported |
| | MPEG-4 Supported | Unsupported |
| | H.264 Supported | Supported |
| | Ogg Theora Supported | Unsupported |
| | WebM Supported with VP8 Supported | Supported |
| | WebM Supported with VP9 Supported | Unsupported |
| Audio | | |
| | audio element | Supported |
| | PCM audio Supported | Supported |
| | AAC Supported | Supported |
| | MP3 Supported | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | Ogg Vorbis Supported | Supported |
| | Ogg Opus Supported | Unsupported |
| | WebM Supported | Supported |
| Elements | | |
| | Embedding custom non-visible data | Supported |
| | **New or modified elements** | |
| | section element | Supported |
| | section element | Supported |
| | nav element | Supported |
| | article element | Supported |
| | aside element | Supported |
| | hgroup element | Supported |
| | header element | Supported |
| | footer element | Supported |
| | **Grouping content elements** | |
| | figure element | Supported |
| | figcaption element | Supported |
| | reversed attribute on the ol element | Supported |
| | **Text-level semantic elements** | |
| | download attribute on the a element | Supported |
| | ping attribute on the a element | Supported |
| | mark element | Supported |
| | ruby, rt and rp elements | Supported |
| | time element | Unsupported |
| | wbr element | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | **Interactive elements** | |
| | details element | Supported |
| | summary element | Supported |
| | menu element of type toolbar | Unsupported |
| | menu element of type popup | Unsupported |
| | dialog element | Unsupported |
| | **Global attributes or methods** | |
| | hidden attribute | Supported |
| | **Dynamic markup insertion** | |
| | outerHTML property | Supported |
| | insertAdjacentHTML function | Supported |
| Forms | | |
| | **Field types** | |
| | input type=text | Supported |
| | Minimal element Supported | Supported |
| | Selection Direction | Supported |
| | input type=search | Supported |
| | Minimal element Supported | Supported |
| | input type=tel | Supported |
| | Minimal element Supported | Supported |
| | input type=url | Supported |
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=email | Supported |
| | Minimal element Supported | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | Field validation | Supported |
| | input type=datetime | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | min attribute | Unsupported |
| | max attribute | Unsupported |
| | step attribute | Unsupported |
| | stepDown() method | Unsupported |
| | stepUp() method | Unsupported |
| | valueAsDate()mothen | Unsupported |
| | valueAsNumber() method | Unsupported |
| | input type=month | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=week | Unsupported |
| | Minimal element Supported | Unsupported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | min attribute | Unsupported |
| | max attribute | Unsupported |
| | step attribute | Unsupported |
| | stepDown() method | Unsupported |
| | stepUp() method | Unsupported |
| | valueAsDate()mothen | Unsupported |
| | valueAsNumber() method | Unsupported |
| | input type=time | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=datetime-local | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=number | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | Field validation | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=range | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | valueAsNumber() method | Supported |
| | input type=color | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Supported |
| | input type=checkbox | Supported |
| | Minimal element Supported | Supported |
| | indeterminate property | Supported |
| | input type=image | Supported |
| | Minimal element Supported | Supported |
| | width property | Supported |
| | height property | Supported |
| | input type=file | Supported (except for Android SB) |
| | Minimal element Supported | Supported |
| | files property | Supported |
| | textarea | Supported |
| | Minimal element Supported | Supported |
| | maxlength attribute | Supported |
| | wrap attribute | Supported |
| | select | Supported |
| | Minimal element Supported | Supported |
| | required attribute | Supported |
| | fieldset | Supported |
| | Minimal element Supported | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | elements attribute | Supported |
| | disabled attribute | Supported |
| | datalist | Unsupported |
| | Minimal element Supported | Unsupported |
| | list attribute for fields | Unsupported |
| | keygen | Supported |
| | Minimal element Supported | Supported |
| | challenge attribute | Supported |
| | keytype attribute | Supported |
| | output | Supported |
| | Minimal element Supported | Supported |
| | progress | Supported |
| | Minimal element Supported | Supported |
| | meter | Supported |
| | Minimal element Supported | Supported |
| Fields | | |
| | Field validation | Supported |
| | pattern attribute | Supported |
| | required attribute | Supported |
| | Association of controls and forms | Supported |
| | control property on labels | Supported |
| | form property on fields | Supported |
| | formAction property on fields | Supported |
| | formEnctype property on fields | Supported |
| | formMethod property on fields | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | formNoValidate property on fields | Supported |
| | formTarget property on fields | Supported |
| | labels property on fields | Supported |
| | Other attributes | Supported |
| | autofocus attribute | Supported |
| | autocomplete attribute | Supported |
| | placeholder attribute | Supported |
| | multiple attribute | Supported |
| | dirName attribute | Supported |
| | CSS selectors | Supported |
| | :valid selector | Supported |
| | :invalid selector | Supported |
| | :optional selector | Supported |
| | :required selector | Supported |
| | :in-range selector | Supported |
| | :out-of-range selector | Supported |
| | :read-write selector | Supported |
| | :read-only selector | Supported |
| | Events | Supported |
| | oninput event | Supported |
| | onchange event | Supported |
| | oninvalid event | Supported |
| | Forms | Supported |
| | Form validation | Supported |
| | checkValidity method | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | noValidate attribute | Supported |
| User interaction | | |
| | Drag and drop | |
| | Attributes | Unsupported |
| | draggable attribute | Unsupported |
| | dropzone attribute | Unsupported |
| | Events | Unsupported |
| | ondrag event | Unsupported |
| | ondragstart event | Unsupported |
| | ondragenter event | Unsupported |
| | ondragover event | Unsupported |
| | ondragleave event | Unsupported |
| | ondragend event | Unsupported |
| | ondrop event | Unsupported |
| | **HTML editing** | |
| | Editing elements | Supported |
| | contentEditable attribute | Supported |
| | isContentEditable property | Supported |
| | Editing documents | Supported |
| | designMode attribute | Supported |
| | CSS selectors | Unsupported |
| | APIs | Supported |
| | execCommand method | Supported |
| | queryCommandEnabled method | Supported |
| | queryCommandIndeterm method | Supported |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | queryCommandState method | Supported |
| | queryCommandsupporteded method | Supported |
| | queryCommandValue method | Supported |
| | Spellcheck | Supported |
| | spellcheck attribute | Supported |
| History and navigation | | |
| | Session history | Supported |
| Microdata | | |
| | Microdata | Unsupported |
| Web applications | | |
| | Application Cache | Supported |
| | Custom scheme handlers | Unsupported |
| | Custom content handlers | Unsupported |
| | Custom search providers | Supported |
| Security | | |
| | Sandboxed iframe | Supported |
| | Seamless iframe | Unsupported |
| | iframe with inline contents | Supported |
| Various | | |
| | Scoped style element | Unsupported |
| | Asyncronous script execution | Supported |
| | Runtime script error reporting | Supported |
| | Base64 encoding and decoding | Supported |
| Related specifications | | |
| Location and Orientation | | |

| Feature list | Tags | BlackBerry Access for Android |
|---|---|---|
| | Device Orientation | Supported |
| Communication | | |
| | **Cross-document messaging** | |
| | Server-Sent Events | Supported |
| | XMLHttpRequest Level 2 | Supported |
| | Upload files | Supported |
| | Text response type | Supported |
| | Document response type | Supported |
| | Array buffer response type | Supported |
| | Blob response type | Supported |
| Files | | |
| | File API | Supported |
| | File API : Directories and System | Supported |
| Storage | | |
| | Session Storage | Unsupported |
| | Secure Local Storage wit persistence | Supported |
| | IndexedDB | Unsupported |
| | Web SQL Database | Unsupported |
| Workers | | |
| | Web Workers | Supported |
| | Shared Workers | Supported |
| Local multimedia | | |
| | Access the webcam | Unsupported |
| Notifications | | |

| Feature list | Tags | BlackBerry Access for Android |
| --- | --- | --- |
| | Web Notifications | Unsupported |
| Other | | |
| | Page Visibility | Supported |
| | Text selection | Supported |
| | Scroll into view | Supported |
| | Mutation Observer | Supported |
| Experimental | | |
| Audio | | |
| | Web Audio API | Unsupported |
| Video and Animation$_1$ | | |
| | Full screen Supported | Supported |
| | Pointer Lock Supported | Supported |
| | window.requestAnimationFrame | Supported |

$_1$ These media formats may be rendered by invoking native device players when device is connected to corporate Wi-Fi network.

## BlackBerry Access for iOS HTML and CSS3 support

| Feature list | Tags | BlackBerry Access for iOS |
| --- | --- | --- |
| Score | | 410 |
| Parsing rules | | 10 |
| | <!DOCTYPE html> triggers standards mode | Supported |
| | HTML5 tokenizer | Supported |
| | HTML5 tree building | Supported |
| | SVG in text/html | Supported |
| | MathML in text/html | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| Canvas | | 20 |
| | canvas element | Supported |
| | 2D context | Supported |
| | Text | Supported |
| Video | | 21/30 |
| | video element | Supported |
| | Subtitle Supported | Unsupported |
| | Poster image Supported | Supported |
| | MPEG-4 Supported | Supported |
| | H.264 Supported | Supported |
| | Ogg Theora Supported | Unsupported |
| | WebM Supported | Unsupported |
| | WebM Supported with VP9 Supported | Unsupported |
| Audio | | 20 |
| | audio element | Supported |
| | PCM audio Supported | Supported |
| | AAC Supported | Supported |
| | MP3 Supported | Supported |
| | Ogg Vorbis Supported | Unsupported |
| | Ogg Opus Supported | Unsupported |
| | WebM Supported | Unsupported |
| Elements | | 29/35 |
| | Embedding custom non-visible data | Supported |
| | **New or modified elements** | |
| | section element | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
| --- | --- | --- |
| | section element | Supported |
| | nav element | Supported |
| | article element | Supported |
| | aside element | Supported |
| | hgroup element | Supported |
| | header element | Supported |
| | footer element | Supported |
| | Grouping content elements | Supported |
| | figure element | Supported |
| | figcaption element | Supported |
| | reversed attribute on the ol element | Supported |
| | Text-level semantic elements | partially Supported |
| | download attribute on the a element | Unsupported |
| | ping attribute on the a element | Supported |
| | mark element | Supported |
| | ruby, rt and rp elements | Supported |
| | time element | Unsupported |
| | wbr element | Supported |
| | Interactive elements | partially Supported |
| | details element | Supported |
| | summary element | Supported |
| | command element | Unsupported |
| | menu element of type list | Supported |
| | menu element of type toolbar | Unsupported |
| | menu element of type context | Unsupported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | **Global attributes or methods** | |
| | hidden attribute | Supported |
| | Dynamic markup insertion | Supported |
| | outerHTML property | Supported |
| | insertAdjacentHTML function | Supported |
| Forms | | 102/115 |
| | **Field types** | |
| | input type=text | Supported |
| | Minimal element Supported | Supported |
| | Selection Direction | Supported |
| | input type=search | Supported |
| | Minimal element Supported | Supported |
| | input type=tel | Supported |
| | Minimal element Supported | Supported |
| | input type=url | Supported |
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=email | Supported |
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=datetime | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=date | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=month | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=time | partially Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=time | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | input type=datetime-local | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=number | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | Field validation | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=range | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=color | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | input type=checkbox | Supported |
| | Minimal element Supported | Supported |
| | indeterminate property | Supported |
| | input type=image | Supported |
| | Minimal element Supported | Supported |
| | width property | Supported |
| | height property | Supported |
| | input type=file | Supported |
| | Minimal element Supported | Supported |
| | files property | Supported |
| | textarea | Supported |
| | Minimal element Supported | Supported |
| | maxlength attribute | Supported |
| | wrap attribute | Supported |
| | select | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | Minimal element Supported | Supported |
| | required attribute | Supported |
| | fieldset | partially Supported |
| | Minimal element Supported | Supported |
| | elements attribute | Unsupported |
| | disabled attribute | Supported |
| | datalist | Unsupported |
| | Minimal element Supported | Unsupported |
| | list attribute for fields | Unsupported |
| | keygen | Supported |
| | Minimal element Supported | Supported |
| | challenge attribute | Supported |
| | keytype attribute | Supported |
| | output | Supported |
| | Minimal element Supported | Supported |
| | progress | Unsupported |
| | Minimal element Supported | Unsupported |
| | meter | Unsupported |
| | Minimal element Supported | Unsupported |
| Fields | | |
| | Field validation | Supported |
| | pattern attribute | Supported |
| | required attribute | Supported |
| | Association of controls and forms | Supported |
| | control property on labels | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | form property on fields | Supported |
| | formAction property on fields | Supported |
| | formEnctype property on fields | Supported |
| | formMethod property on fields | Supported |
| | formNoValidate property on fields | Supported |
| | formTarget property on fields | Supported |
| | labels property on fields | Supported |
| | Other attributes | Supported |
| | autofocus attribute | Supported |
| | autocomplete attribute | Supported |
| | placeholder attribute | Supported |
| | multiple attribute | Supported |
| | dirName attribute | Supported |
| | CSS selectors | Supported |
| | :valid selector | Supported |
| | :invalid selector | Supported |
| | :optional selector | Supported |
| | :required selector | Supported |
| | :in-range selector | Supported |
| | :out-of-range selector | Supported |
| | :read-write selector | Supported |
| | :read-only selector | Supported |
| | Events | Supported |
| | oninput event | Supported |
| | onchange event | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
| --- | --- | --- |
| | oninvalid event | Supported |
| | Forms | Supported |
| | Form validation | Supported |
| | checkValidity method | Supported |
| | noValidate attribute | Supported |
| User interaction | 20 | 20 |
| | Drag and drop | Unsupported |
| | Attributes | Unsupported |
| | draggable attribute | Unsupported |
| | dropzone attribute | Unsupported |
| | Events | Unsupported |
| | ondrag event | Unsupported |
| | ondragstart event | Unsupported |
| | ondragenter event | Unsupported |
| | ondragover event | Unsupported |
| | ondragleave event | Unsupported |
| | ondragend event | Unsupported |
| | ondrop event | Unsupported |
| | **HTML editing** | |
| | Editing elements | Supported |
| | contentEditable attribute | Supported |
| | isContentEditable property | Supported |
| | Editing documents | Supported |
| | designMode attribute | Supported |
| | APIs | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | execCommand method | Supported |
| | queryCommandEnabled method | Supported |
| | queryCommandIndeterm method | Supported |
| | queryCommandState method | Supported |
| | queryCommandsupporteded method | Supported |
| | queryCommandValue method | Supported |
| | **Spellcheck** | |
| | spellcheck attribute | Supported |
| History and navigation | | 10 |
| | Session history | Supported |
| Microdata | | 0/15 |
| | Microdata | Unsupported |
| Web applications | | 15/20 |
| | Application Cache | Supported |
| | Custom scheme handlers | Unsupported |
| | Custom content handlers | Unsupported |
| | Custom search providers | Unsupported |
| Security | | 15/20 |
| | Sandboxed iframe | Supported |
| | Seamless iframe | Unsupported |
| | iframe with inline contents | Supported |
| Various | | 5/10 |
| | Scoped style element | Unsupported |
| | Asyncronous script execution | Supported |
| | Runtime script error reporting | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | Base64 encoding and decoding | Supported |
| Related specifications | | |
| Location and Orientation | | 20 |
| | Device Orientation | Supported |
| WebGL | | 10/25 |
| | 3D context | Unsupported |
| | Native binary data | Supported |
| | ArrayBuffer | Supported |
| | Int8Array | Supported |
| | Uint8Array | Supported |
| | Int16Array | Supported |
| | Uint16Array | Supported |
| | Int32Array | Supported |
| | Uint32Array | Supported |
| | Float32Array | Supported |
| | Float64Array | Supported |
| | DataView | Supported |
| Communication | | 33/35 |
| | Cross-document messaging | Supported |
| | Server-Sent Events | Supported |
| | XMLHttpRequest Level 2 | partially Supported |
| | Upload files | Supported |
| | Text response type | Supported |
| | Document response type | Supported |
| | Array buffer response type | Supported |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | Blob response type | Unsupported |
| Files | | 10 |
| | File API | Supported |
| | File API：Directories and System | Unsupported |
| Storage | | 15/25 |
| | Session Storage | Supported |
| | Secure Local Storage without persistence | Supported |
| | IndexedDB | Unsupported |
| | Web SQL Database | Unsupported |
| Workers | | 15 |
| | Web Workers | Supported |
| | Shared Workers | Supported |
| Local multimedia | | 0/10 |
| | Access the webcam | Unsupported |
| Notifications | | 0/10 |
| | Web Notifications | Unsupported |
| Other | | 8/10 |
| | Page Visibility | Unsupported |
| | Text selection | Supported |
| | Scroll into view | Supported |
| | Mutation Observer | Supported |
| Experimental | | |
| Audio | | 5 |
| | Web Audio API | Supported |
| Video and Animation[1] | | 3/10 |

| Feature list | Tags | BlackBerry Access for iOS |
|---|---|---|
| | Full screen Supported | Unsupported |
| | Pointer Lock Supported | Unsupported |
| | window.requestAnimationFrame | Supported |

[1] These media formats may be rendered by invoking native device players when device is connected to corporate Wi-Fi network.

# BlackBerry Access for macOS HTML and CSS3 support

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| Score | | 504 of 555 |
| Parsing rules | | |
| | <!DOCTYPE html> triggers standards mode | Supported |
| | HTML5 tokenizer | Supported |
| | HTML5 tree building | Supported |
| | SVG in text/html | Supported |
| | MathML in text/html | Supported |
| Video | | |
| | video element | Supported |
| | Audio track selection | Unsupported |
| | Video track selection | Unsupported |
| | Subtitle Supported | Supported |
| | Poster image Supported | Supported |
| | MPEG-4 Supported | Unsupported |
| | H.264 Supported | Unsupported |
| | H.265 Supported | Unsupported |
| | Ogg Theora Supported | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | WebM Supported with VP8 Supported | Supported |
| | WebM Supported with VP9 Supported | Supported |
| Audio | | |
| | audio element | Supported |
| | PCM audio Supported | Supported |
| | AAC Supported | Unsupported |
| | MP3 Supported | Supported |
| | Ogg Vorbis Supported | Supported |
| | Ogg Opus Supported | Supported |
| | WebM Supported | Supported |
| Elements | | |
| | Embedding custom non-visible data | Supported |
| | **New or modified elements** | |
| | section element | Supported |
| | section element | Supported |
| | nav element | Supported |
| | article element | Supported |
| | aside element | Supported |
| | hgroup element | Supported |
| | header element | Supported |
| | footer element | Supported |
| | **Grouping content elements** | |
| | figure element | Supported |
| | figcaption element | Supported |
| | reversed attribute on the ol element | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | **Text-level semantic elements** | |
| | download attribute on the a element | Supported |
| | ping attribute on the a element | Supported |
| | mark element | Supported |
| | ruby, rt and rp elements | Supported |
| | time element | Unsupported |
| | wbr element | Supported |
| | **Interactive elements** | |
| | details element | Supported |
| | summary element | Supported |
| | menu element of type toolbar | Unsupported |
| | menu element of type popup | Unsupported |
| | dialog element | Unsupported |
| | **Global attributes or methods** | |
| | hidden attribute | Supported |
| | **Dynamic markup insertion** | |
| | outerHTML property | Supported |
| | insertAdjacentHTML function | Supported |
| Forms | | |
| | **Field types** | |
| | input type=text | Supported |
| | Minimal element Supported | Supported |
| | Selection Direction | Supported |
| | input type=search | Supported |
| | Minimal element Supported | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | input type=tel | Supported |
| | Minimal element Supported | Supported |
| | input type=url | Supported |
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=email | Supported |
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=datetime | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | min attribute | Unsupported |
| | max attribute | Unsupported |
| | step attribute | Unsupported |
| | stepDown() method | Unsupported |
| | stepUp() method | Unsupported |
| | valueAsDate()mothen | Unsupported |
| | valueAsNumber() method | Unsupported |
| | input type=month | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=week | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | min attribute | Unsupported |
| | max attribute | Unsupported |
| | step attribute | Unsupported |
| | stepDown() method | Unsupported |
| | stepUp() method | Unsupported |
| | valueAsDate()mothen | Unsupported |
| | valueAsNumber() method | Unsupported |
| | input type=time | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=datetime-local | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=number | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | Field validation | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=range | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=color | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Supported |
| | input type=checkbox | Supported |
| | Minimal element Supported | Supported |
| | indeterminate property | Supported |
| | input type=image | Supported |
| | Minimal element Supported | Supported |
| | width property | Supported |
| | height property | Supported |
| | input type=file | Supported (except for Android SB) |
| | Minimal element Supported | Supported |
| | files property | Supported |
| | textarea | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | Minimal element Supported | Supported |
| | maxlength attribute | Supported |
| | wrap attribute | Supported |
| | select | Supported |
| | Minimal element Supported | Supported |
| | required attribute | Supported |
| | fieldset | Supported |
| | Minimal element Supported | Supported |
| | elements attribute | Unsupported |
| | disabled attribute | Supported |
| | datalist | Unsupported |
| | Minimal element Supported | Unsupported |
| | list attribute for fields | Unsupported |
| | keygen | Supported |
| | Minimal element Supported | Supported |
| | challenge attribute | Supported |
| | keytype attribute | Supported |
| | output | Supported |
| | Minimal element Supported | Supported |
| | progress | Supported |
| | Minimal element Supported | Supported |
| | meter | Supported |
| | Minimal element Supported | Supported |
| Fields | | |
| | Field validation | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
| --- | --- | --- |
| | pattern attribute | Supported |
| | required attribute | Supported |
| | Association of controls and forms | Supported |
| | control property on labels | Supported |
| | form property on fields | Supported |
| | formAction property on fields | Supported |
| | formEnctype property on fields | Supported |
| | formMethod property on fields | Supported |
| | formNoValidate property on fields | Supported |
| | formTarget property on fields | Supported |
| | labels property on fields | Supported |
| | Other attributes | Supported |
| | autofocus attribute | Supported |
| | autocomplete attribute | Supported |
| | placeholder attribute | Supported |
| | multiple attribute | Supported |
| | dirName attribute | Supported |
| | CSS selectors | Supported |
| | :valid selector | Supported |
| | :invalid selector | Supported |
| | :optional selector | Supported |
| | :required selector | Supported |
| | :in-range selector | Supported |
| | :out-of-range selector | Supported |
| | :read-write selector | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
| --- | --- | --- |
| | :read-only selector | Supported |
| | Events | Supported |
| | oninput event | Supported |
| | onchange event | Supported |
| | oninvalid event | Supported |
| | Forms | Supported |
| | Form validation | Supported |
| | checkValidity method | Supported |
| | noValidate attribute | Supported |
| User interaction | | |
| | **Drag and drop** | |
| | Attributes | Unsupported |
| | draggable attribute | Unsupported |
| | dropzone attribute | Unsupported |
| | Events | Unsupported |
| | ondrag event | Unsupported |
| | ondragstart event | Unsupported |
| | ondragenter event | Unsupported |
| | ondragover event | Unsupported |
| | ondragleave event | Unsupported |
| | ondragend event | Unsupported |
| | ondrop event | Unsupported |
| | **HTML editing** | |
| | Editing elements | Supported |
| | contentEditable attribute | Supported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | isContentEditable property | Supported |
| | Editing documents | Supported |
| | designMode attribute | Supported |
| | CSS selectors | Unsupported |
| | APIs | Supported |
| | execCommand method | Supported |
| | queryCommandEnabled method | Supported |
| | queryCommandIndeterm method | Supported |
| | queryCommandState method | Supported |
| | queryCommandsupported method | Supported |
| | queryCommandValue method | Supported |
| | Spellcheck | Supported |
| | spellcheck attribute | Supported |
| History and navigation | | |
| | Session history | Supported |
| Microdata | | |
| | Microdata | Unsupported |
| Web applications | | |
| | Application Cache | Supported |
| | Custom scheme handlers | Unsupported |
| | Custom content handlers | Unsupported |
| | Custom search providers | Supported |
| Security | | |
| | Sandboxed iframe | Supported |
| | Seamless iframe | Unsupported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | iframe with inline contents | Supported |
| Various | | |
| | Scoped style element | Unsupported |
| | Asyncronous script execution | Supported |
| | Runtime script error reporting | Supported |
| | Base64 encoding and decoding | Supported |
| Related specifications | | |
| Location and Orientation | | |
| | Device Orientation | Supported |
| Communication | | |
| | **Cross-document messaging** | |
| | Server-Sent Events | Supported |
| | XMLHttpRequest Level 2 | Supported |
| | Upload files | Supported |
| | Text response type | Supported |
| | Document response type | Supported |
| | Array buffer response type | Supported |
| | Blob response type | Supported |
| Files | | |
| | File API | Supported |
| | File API : Directories and System | Supported |
| Storage | | |
| | Session Storage | Unsupported |
| | Secure Local Storage with persistence | Supported |
| | IndexedDB | Unsupported |

| Feature list | Tags | BlackBerry Access for macOS |
|---|---|---|
| | Web SQL Database | Unsupported |
| Workers | | |
| | Web Workers | Supported |
| | Shared Workers | Supported |
| Local multimedia | | |
| | Access the webcam | Unsupported |
| Notifications | | |
| | Web Notifications | Unsupported |
| Other | | |
| | Page Visibility | Supported |
| | Text selection | Supported |
| | Scroll into view | Supported |
| | Mutation Observer | Supported |
| Experimental | | |
| Audio | | |
| | Web Audio API | Unsupported |
| Video and Animation[1] | | |
| | Full screen Supported | Supported |
| | Pointer Lock Supported | Supported |
| | window.requestAnimationFrame | Supported |

[1] These media formats may be rendered by invoking native device players when device is connected to corporate Wi-Fi network.

# BlackBerry Access for Windows HTML and CSS3 support

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| Score | | 504 of 555 |
| Parsing rules | | |
| | <!DOCTYPE html> triggers standards mode | Supported |
| | HTML5 tokenizer | Supported |
| | HTML5 tree building | Supported |
| | SVG in text/html | Supported |
| | MathML in text/html | Supported |
| Video | | |
| | video element | Supported |
| | Audio track selection | Unsupported |
| | Audio track selection | Unsupported |
| | Subtitle Supported | Supported |
| | Poster image Supported | Supported |
| | MPEG-4 Supported | Unsupported |
| | H.264 Supported | Unsupported |
| | H.265 Supported | Unsupported |
| | Ogg Theora Supported | Supported |
| | WebM Supported with VP8 Supported | Supported |
| | WebM Supported with VP9 Supported | Supported |
| Audio | | |
| | audio element | Supported |
| | PCM audio Supported | Supported |
| | AAC Supported | Unsupported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | MP3 Supported | Supported |
| | Ogg Vorbis Supported | Supported |
| | Ogg Opus Supported | Supported |
| | WebM Supported | Supported |
| Elements | | |
| | Embedding custom non-visible data | Supported |
| | **New or modified elements** | |
| | section element | Supported |
| | section element | Supported |
| | nav element | Supported |
| | article element | Supported |
| | aside element | Supported |
| | hgroup element | Supported |
| | header element | Supported |
| | footer element | Supported |
| | **Grouping content elements** | |
| | figure element | Supported |
| | figcaption element | Supported |
| | reversed attribute on the ol element | Supported |
| | **Text-level semantic elements** | |
| | download attribute on the a element | Supported |
| | ping attribute on the a element | Supported |
| | mark element | Supported |
| | ruby, rt and rp elements | Supported |
| | time element | Unsupported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | wbr element | Supported |
| | **Interactive elements** | |
| | details element | Supported |
| | summary element | Supported |
| | menu element of type toolbar | Unsupported |
| | menu element of type popup | Unsupported |
| | dialog element | Unsupported |
| | **Global attributes or methods** | |
| | hidden attribute | Supported |
| | **Dynamic markup insertion** | |
| | outerHTML property | Supported |
| | insertAdjacentHTML function | Supported |
| Forms | | |
| | **Field types** | |
| | input type=text | Supported |
| | Minimal element Supported | Supported |
| | Selection Direction | Supported |
| | input type=search | Supported |
| | Minimal element Supported | Supported |
| | input type=tel | Supported |
| | Minimal element Supported | Supported |
| | input type=url | Supported |
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=email | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | Minimal element Supported | Supported |
| | Field validation | Supported |
| | input type=datetime | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | min attribute | Unsupported |
| | max attribute | Unsupported |
| | step attribute | Unsupported |
| | stepDown() method | Unsupported |
| | stepUp() method | Unsupported |
| | valueAsDate()mothen | Unsupported |
| | valueAsNumber() method | Unsupported |
| | input type=month | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=week | Unsupported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Unsupported |
| | min attribute | Unsupported |
| | max attribute | Unsupported |
| | step attribute | Unsupported |
| | stepDown() method | Unsupported |
| | stepUp() method | Unsupported |
| | valueAsDate()mothen | Unsupported |
| | valueAsNumber() method | Unsupported |
| | input type=time | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsDate()mothen | Supported |
| | valueAsNumber() method | Supported |
| | input type=datetime-local | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=number | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | Field validation | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=range | Supported |
| | Minimal element Supported | Supported |
| | Custom user-interface | Supported |
| | Value sanitization | Supported |
| | min attribute | Supported |
| | max attribute | Supported |
| | step attribute | Supported |
| | stepDown() method | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | stepUp() method | Supported |
| | valueAsNumber() method | Supported |
| | input type=color | Unsupported |
| | Minimal element Supported | Unsupported |
| | Custom user-interface | Unsupported |
| | Value sanitization | Supported |
| | input type=checkbox | Supported |
| | Minimal element Supported | Supported |
| | indeterminate property | Supported |
| | input type=image | Supported |
| | Minimal element Supported | Supported |
| | width property | Supported |
| | height property | Supported |
| | input type=file | Supported (except for Android SB) |
| | Minimal element Supported | Supported |
| | files property | Supported |
| | textarea | Supported |
| | Minimal element Supported | Supported |
| | maxlength attribute | Supported |
| | wrap attribute | Supported |
| | select | Supported |
| | Minimal element Supported | Supported |
| | required attribute | Supported |
| | fieldset | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | Minimal element Supported | Supported |
| | elements attribute | Unsupported |
| | disabled attribute | Supported |
| | datalist | Unsupported |
| | Minimal element Supported | Unsupported |
| | list attribute for fields | Unsupported |
| | keygen | Supported |
| | Minimal element Supported | Supported |
| | challenge attribute | Supported |
| | keytype attribute | Supported |
| | output | Supported |
| | Minimal element Supported | Supported |
| | progress | Supported |
| | Minimal element Supported | Supported |
| | meter | Supported |
| | Minimal element Supported | Supported |
| Fields | | |
| | Field validation | Supported |
| | pattern attribute | Supported |
| | required attribute | Supported |
| | Association of controls and forms | Supported |
| | control property on labels | Supported |
| | form property on fields | Supported |
| | formAction property on fields | Supported |
| | formEnctype property on fields | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | formMethod property on fields | Supported |
| | formNoValidate property on fields | Supported |
| | formTarget property on fields | Supported |
| | labels property on fields | Supported |
| | Other attributes | Supported |
| | autofocus attribute | Supported |
| | autocomplete attribute | Supported |
| | placeholder attribute | Supported |
| | multiple attribute | Supported |
| | dirName attribute | Supported |
| | CSS selectors | Supported |
| | :valid selector | Supported |
| | :invalid selector | Supported |
| | :optional selector | Supported |
| | :required selector | Supported |
| | :in-range selector | Supported |
| | :out-of-range selector | Supported |
| | :read-write selector | Supported |
| | :read-only selector | Supported |
| | Events | Supported |
| | oninput event | Supported |
| | onchange event | Supported |
| | oninvalid event | Supported |
| | Forms | Supported |
| | Form validation | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | checkValidity method | Supported |
| | noValidate attribute | Supported |
| User interaction | | |
| | **Drag and drop** | |
| | Attributes | Unsupported |
| | draggable attribute | Unsupported |
| | dropzone attribute | Unsupported |
| | Events | Unsupported |
| | ondrag event | Unsupported |
| | ondragstart event | Unsupported |
| | ondragenter event | Unsupported |
| | ondragover event | Unsupported |
| | ondragleave event | Unsupported |
| | ondragend event | Unsupported |
| | ondrop event | Unsupported |
| | **HTML editing** | |
| | Editing elements | Supported |
| | contentEditable attribute | Supported |
| | isContentEditable property | Supported |
| | Editing documents | Supported |
| | designMode attribute | Supported |
| | CSS selectors | Unsupported |
| | APIs | Supported |
| | execCommand method | Supported |
| | queryCommandEnabled method | Supported |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | queryCommandIndeterm method | Supported |
| | queryCommandState method | Supported |
| | queryCommandsupported method | Supported |
| | queryCommandValue method | Supported |
| | Spellcheck | Supported |
| | spellcheck attribute | Supported |
| History and navigation | | |
| | Session history | Supported |
| Microdata | | |
| | Microdata | Unsupported |
| Web applications | | |
| | Application Cache | Supported |
| | Custom scheme handlers | Unsupported |
| | Custom content handlers | Unsupported |
| | Custom search providers | Supported |
| Security | | |
| | Sandboxed iframe | Supported |
| | Seamless iframe | Unsupported |
| | iframe with inline contents | Supported |
| Various | | |
| | Scoped style element | Unsupported |
| | Asyncronous script execution | Supported |
| | Runtime script error reporting | Supported |
| | Base64 encoding and decoding | Supported |
| Related specifications | | |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| Location and Orientation | | |
| | Device Orientation | Supported |
| Communication | | |
| | **Cross-document messaging** | |
| | Server-Sent Events | Supported |
| | XMLHttpRequest Level 2 | Supported |
| | Upload files | Supported |
| | Text response type | Supported |
| | Document response type | Supported |
| | Array buffer response type | Supported |
| | Blob response type | Supported |
| Files | | |
| | File API | Supported |
| | File API : Directories and System | Supported |
| Storage | | |
| | Session Storage | Unsupported |
| | Secure Local Storage with persistence | Supported |
| | IndexedDB | Unsupported |
| | Web SQL Database | Unsupported |
| Workers | | |
| | Web Workers | Supported |
| | Shared Workers | Supported |
| Local multimedia | | |
| | Access the webcam | Unsupported |
| Notifications | | |

| Feature list | Tags | BlackBerry Access for Windows |
|---|---|---|
| | Web Notifications | Unsupported |
| Other | | |
| | Page Visibility | Supported |
| | Text selection | Supported |
| | Scroll into view | Supported |
| | Mutation Observer | Supported |
| Experimental | | |
| Audio | | |
| | Web Audio API | Unsupported |
| Video and Animation$_1$ | | |
| | Full screen Supported | Supported |
| | Pointer Lock Supported | Supported |
| | window.requestAnimationFrame | Supported |

$_1$ These media formats may be rendered by invoking native device players when device is connected to corporate Wi-Fi network.

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BlackBerry Limited
2200 University Avenue East
Waterloo, Ontario
Canada N2K 0A7

BlackBerry UK Limited
Ground Floor, The Pearce Building, West Street,
Maidenhead, Berkshire SL6 1RL
United Kingdom

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