

# BlackBerry Web Services for Enterprise Administration

BlackBerry Enterprise Server  
Version: 5.0.4



# Feature and Technical Overview



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# Overview

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The BlackBerry Web Services for Enterprise Administration are a collection of document-style web services that you can use to create applications to manage your organization's BlackBerry Enterprise Server. You can use the BlackBerry Web Services to automate many of the tasks that administrators typically perform using the BlackBerry Administration Service. For example, you can create an application that automates the process of adding and activating user accounts on the BlackBerry Enterprise Server.

The BlackBerry Web Services are installed automatically when you install the BlackBerry Enterprise Server.

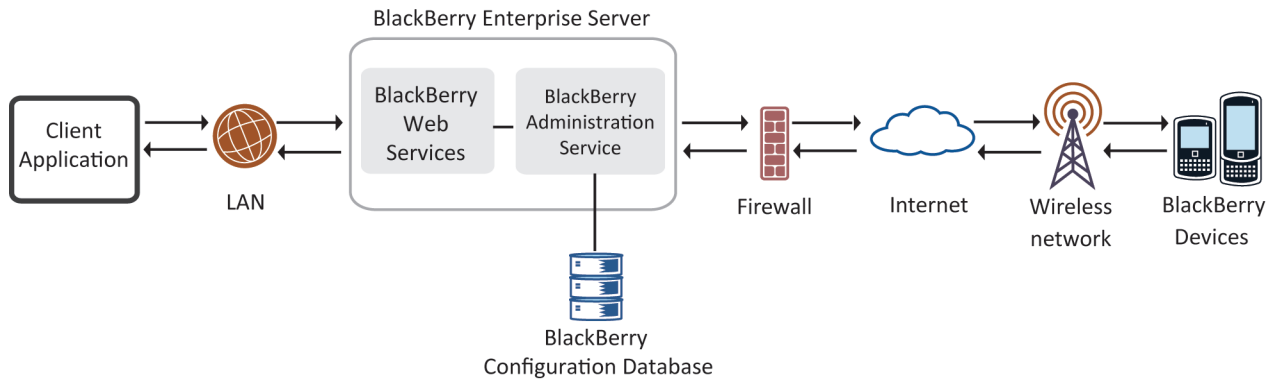
The BlackBerry Web Services use abstracted data objects, which allow your applications to be compatible with different versions of the BlackBerry Enterprise Server. The BlackBerry Web Services emphasize compatibility, ease-of-use, and flexibility, giving you the option to build your applications using various development languages and web service frameworks.

To use the BlackBerry Web Services, you should be proficient in one of the supported programming languages and in the use of common web services concepts such as XML, SOAP, and WSDL. You should be familiar with the configuration and administration of the BlackBerry Enterprise Server, including the management of user accounts, groups, IT policies, software configurations, and security settings.

The BlackBerry Web Services offer a subset of the functionality that is available in the BlackBerry Administration API. Going forward, the BlackBerry Web Services are the primary web services solution for the BlackBerry Enterprise Server. While the BlackBerry Administration API is still supported, you should consider using the BlackBerry Web Services when creating new applications, or consider modifying your existing applications to use the BlackBerry Web Services. Before you create or modify your applications, check the BlackBerry Web Services API reference to verify that the BlackBerry Web Services support the functionality that your application requires.

For more information about the BlackBerry Enterprise Server, visit [www.blackberry.com/go/serverdocs](http://www.blackberry.com/go/serverdocs) to read the *BlackBerry Enterprise Server Feature and Technical Overview* and the *BlackBerry Enterprise Server Administration Guide*.

# Architecture: BlackBerry Web Services



Component	Description
Client application	<p>The custom applications that you can develop and integrate with the BlackBerry Web Services to manage your organization's BlackBerry Enterprise Server, BlackBerry devices, and user accounts.</p> <p>Your applications use the login credentials of a BlackBerry Administration Service administrator account to authenticate with the BlackBerry Administration Service and BlackBerry Web Services. After an application is authenticated, the BlackBerry Web Services are initialized, and the BWS and BWSUtil web services are ready to receive API calls from the application.</p>
BlackBerry Web Services	<p>A collection of document-style web services that you can use to perform administrative tasks on your organization's BlackBerry Enterprise Server. For example, you can create an application that uses the BlackBerry Web Services to automate the process of adding and activating user accounts on the BlackBerry Enterprise Server.</p>
BlackBerry Administration Service	<p>The web-based administration console that administrators log into and use to monitor and manage the BlackBerry Enterprise Server, devices, and user accounts. The BlackBerry Web Services give your applications access to the management capabilities of the BlackBerry Administration Service.</p>
BlackBerry Configuration Database	<p>The database that is created when you install the BlackBerry Enterprise Server. The BlackBerry Configuration Database stores data about server settings, devices, and user accounts. The BlackBerry Administration Service accesses the BlackBerry Configuration Database to use and make changes to this data.</p>

# Features of the BlackBerry Web Services

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Feature	Description
Programmatic access to the BlackBerry Administration Service	You can develop applications that automate and combine various administrative tasks for the BlackBerry Enterprise Server.
Installed automatically	The BlackBerry Web Services are installed automatically when you install the BlackBerry Administration Service.
Ability to assign BlackBerry device users to multiple groups	You can share administrative roles, IT policies, and other configuration settings among similar user accounts so that properties can be set once and used for each user.
Backward and forward compatibility	The BlackBerry Web Services use abstracted data objects, which allow for a greater level of backward and forward compatibility with new or existing applications.
Platform independent	The BlackBerry Web Services are independent of any operating system or programming platform, which means that they are compatible with any of the messaging servers that the BlackBerry Enterprise Server supports.
Security features	The BlackBerry Web Services communicate with the BlackBerry Administration Service using the HTTPS protocol.
Events logging	The BlackBerry Web Services write data to the BlackBerry Administration Service Application Server (BBAS-AS) log file.

## Programmatic access to the BlackBerry Administration Service

You can use the BlackBerry Web Services to develop applications that enhance your ability to manage the BlackBerry Enterprise Server, BlackBerry devices, and user accounts. You can develop applications that automate and combine several tasks that administrators would typically perform using the BlackBerry Administration Service.

The BlackBerry Web Services use SOAP to communicate with authenticated applications. SOAP is platform-independent, which can make it easier to integrate your new applications with existing applications.

To access and use the available APIs, an application must first authenticate with the BlackBerry Web Services. The application uses the login credentials of one or more BlackBerry Administration Service administrator accounts to authenticate with and initialize the BlackBerry Web Services. When authentication completes, the BlackBerry Web Services are ready to accept API calls. The roles and permissions that are associated with the administrator account determine what APIs the application can use, and what management tasks the application can perform. For example, if you create an application to add user accounts to the BlackBerry Enterprise Server, the administrator account that the application uses must have a role with the Create a user permission.

An application that uses the BlackBerry Web Services must be able to make calls and receive responses from the BlackBerry Administration Service. Any computer with authenticated access to the computer that hosts the BlackBerry Administration Service can access the BlackBerry Web Services. This supports a secure, scalable model for programmatic access and flexibility.

## Backward and forward compatibility using abstracted data objects

The BlackBerry Web Services use abstracted data objects. Abstracted data objects make application development easier because they separate the implementation of data elements from the interface. Applications that use the abstracted data objects of the BlackBerry Web Services have the added benefit of not requiring any changes when you install a new version of the BlackBerry Enterprise Server.

## Platform independence

The BlackBerry Web Services are platform-independent, so you can integrate new applications that use the BlackBerry Web Services with existing applications and experience fewer compatibility issues. The BlackBerry Web Services are fully scalable, so it is easier to integrate your applications with different versions of the BlackBerry Enterprise Server and troubleshoot compatibility issues, regardless of the messaging server.

## Security features

The BlackBerry Web Services use HTTPS to communicate with the BlackBerry Administration Service. Using HTTPS provides encrypted communication, which helps protect your organization's environment from passive and active network attacks while you perform administrative tasks.

# Event logging

The BlackBerry Web Services write messages about API activity to the BlackBerry Administration Service Application Server (BBAS-AS) log file. By default, the BBAS-AS log file is located at `<drive>:\Program Files (x86)\Research In Motion\BlackBerry Enterprise Server\Logs\<date>`.

You can review log messages for diagnostic and debugging purposes. The BlackBerry Administration Service log files are important because the BlackBerry Web Services rely on the BlackBerry Administration Service to perform administrative tasks.



# New in this release

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To view the API reference for the latest version of the BlackBerry Web Services, visit <http://docs.blackberry.com/BWS>.

## Key issues

In the BlackBerry Web Services released with the BlackBerry Enterprise Server for Novell GroupWise 5.0.4, the BWS.assignUsersToGroup method and the BWS.unassignUsersFromGroup method did not function as expected. As a result, applications that called these methods, such as the BlackBerry Directory Sync Tool, could not assign user accounts to groups or remove user accounts from groups. (DT 5974875)

In the BlackBerry Web Services released with the BlackBerry Enterprise Server for Novell GroupWise 5.0.4 MR1, the BWS.assignUsersToGroup method and the BWS.unassignUsersFromGroup method function as expected.

## New fields in classes

The following fields are new in the BlackBerry Web Services 5.0.4:

Class	New fields
GetMailStoreUsersSearchCriteria	<ul style="list-style-type: none"><li>externalUserId</li><li>mailboxID</li></ul>
GetUsersSearchCriteria	<ul style="list-style-type: none"><li>externalUserId</li></ul>
GetUsersSortBy	<ul style="list-style-type: none"><li>deviceactivecarrier</li></ul>
MailStoreUser	<ul style="list-style-type: none"><li>externalUserId</li></ul>
User	<ul style="list-style-type: none"><li>externalUserId</li></ul>
UserDetail	<ul style="list-style-type: none"><li>externalUserId</li></ul>

## Changes to error codes

The NULL\_REQUEST error code has been added to all BWS and BWSUtil APIs.

Methods	Description of change
BWS.createUsers	The CANNOT_ADD_AUTHENTICATOR error code has been changed to CANNOT_ADD_AUTHENTICATOR_TO_USER.

# Related resources

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To view the API reference for the latest version of the BlackBerry Web Services, and to read the BlackBerry Web Services documentation, visit <http://docs.blackberry.com/BWS>.

To read the documentation for the BlackBerry Enterprise Server, visit [blackberry.com/go/serverdocs](http://blackberry.com/go/serverdocs).

Resource	Information
<i>BlackBerry Web Services for Enterprise Administration - API Reference</i>	<ul style="list-style-type: none"> <li>• Details for all available web services</li> <li>• Code samples</li> </ul>
<i>BlackBerry Web Services for Enterprise Administration - Getting Started Guide for Java developers</i>	<ul style="list-style-type: none"> <li>• System requirements</li> <li>• Instructions for configuring the BlackBerry Enterprise Server and your development environment</li> <li>• Instructions for generating proxy files</li> <li>• Sample application</li> </ul>
<i>BlackBerry Web Services for Enterprise Administration - Getting Started Guide for Microsoft .NET developers</i>	<ul style="list-style-type: none"> <li>• System requirements</li> <li>• Instructions for configuring the BlackBerry Enterprise Server and your development environment</li> <li>• Instructions for generating proxy files</li> <li>• Sample application</li> </ul>
<i>BlackBerry Web Services for Enterprise Administration - Release Notes</i>	<ul style="list-style-type: none"> <li>• Description of new and changed APIs and classes</li> <li>• Fixed issues</li> <li>• Known issues</li> </ul>
<i>BlackBerry Enterprise Server Feature and Technical Overview</i>	<ul style="list-style-type: none"> <li>• BlackBerry Enterprise Server features</li> <li>• System architecture</li> <li>• Data and process flows</li> </ul>

Resource	Information
<i>BlackBerry Enterprise Server Installation and Configuration Guide</i>	<ul style="list-style-type: none"><li>• System requirements</li><li>• Installation instructions</li></ul>
<i>BlackBerry Enterprise Server Administration Guide</i>	<ul style="list-style-type: none"><li>• System configuration and management</li></ul>

# Glossary

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<b>API</b>	application programming interface
<b>HTTPS</b>	Hypertext Transfer Protocol over Secure Sockets Layer
<b>IT policy</b>	An IT policy consists of various IT policy rules that control the security features and behavior of BlackBerry smartphones, BlackBerry PlayBook tablets, the BlackBerry Desktop Software, and the BlackBerry Web Desktop Manager.
<b>SOAP</b>	Simple Object Access Protocol
<b>SSL</b>	Secure Sockets Layer
<b>WSDL</b>	Web Services Description Language
<b>XML</b>	Extensible Markup Language

# Legal notice

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