

Borland Search 2009
Administration Guide

StarTeam[®]
and CaliberRM[™]

Borland

Borland Software Corporation
8310 N Capital of Texas Hwy
Bldg 2, Ste 100
Austin, Texas 78731
<http://www.borland.com>

Borland Software Corporation may have patents and/or pending patent applications covering subject matter in this document. Please refer to the product CD or the About dialog box for the list of applicable patents. The furnishing of this document does not give you any license to these patents.

COPYRIGHT © 1995–2009 Borland Software Corporation and/or its subsidiaries. All Borland brand and product names are trademarks or registered trademarks of Borland Software Corporation in the United States and other countries. All other marks are the property of their respective owners.

Part Number ST09-SAG
June 2009
PDF

Contents

Chapter 1		
Preface	1	
Contacting Borland Support	1	
Chapter 2		
Starting and Configuring Borland Search	3	
About This Release	4	
What's New	4	
Documentation	4	
Starting Borland Search	4	
Stopping Borland Search	5	
Configuring StarTeam or CaliberRM Data	5	
Logging in to the Borland Search Console	5	
Selecting the Data Source	6	
Extracting the Data	6	
Indexing the Data	7	
Configuring Borland Search Security	7	
Enabling Security	7	
To Enable StarTeam Security	7	
To Enable CaliberRM Security	8	
To Enable Both StarTeam and CaliberRM Security	9	
Extracting Security Data	9	
Running the Security Extractor File	9	
Extracting Security Data Using the Borland Search Console	9	
Setting Up Authentication	10	
To Set Up StarTeam Authentication	10	
To Set Up CaliberRM Authentication	11	
Enabling CaliberRM Authentication	11	
Identifying the CaliberRM Servers for Authentication	11	
To Set Up LDAP Authentication	12	
Identifying the LDAP Servers to Authenticate	13	
To Set Up Authentication for StarTeam, CaliberRM, and LDAP Simultaneously	13	
Chapter 3		
Using the Borland Search Console	15	
Logging on to the Borland Search Console	15	
Launching the Start Here Wizard	15	
Reviewing System Status	16	
Borland Search System Status	16	
Registered Plug-ins	16	
Available Indices	16	
Unlocking Available Indices	16	
Registered Data Sources	16	
Managing Plug-ins	17	
Adding a New Data Source	17	
Viewing Data Sources	17	
Deleting a Data Source Source	17	
Running the Real Time Indexer	17	
Using the MPX Component	18	
Identifying the Processes to Listen To	18	
Selecting the MPX Component Data Source	18	
Extracting Data	18	
Generating a Schema	19	
Extracting Security Data	19	
Reviewing the Active Processes	19	
Reviewing and Configuring Log Files	20	
Changing Passwords	20	
Signing Off	21	
Chapter 4		
Using Borland Search	23	
Logging on to the Borland Search Page	23	
Entering a Simple Query	23	
Entering an Advanced Query	24	
About the Query Syntax	25	
Useful Query Options	25	
Boolean Operators	25	
Wildcard Searches	25	
Boosting a Term	25	
Grouping	25	
Escaping Special Characters	25	
Field Searches	26	
Using the Query Builder	26	
Using the Grid Search Feature	26	
Signing Off	26	
Index		Index 1

Preface

This manual contains information for Borland Search administrators who will configure and manage StarTeam and CaliberRM servers.

This manual assumes that the Borland Search administrators are familiar with StarTeam and CaliberRM. You may need to refer to the manuals and materials provided with one or both of these products if they are the data source for Borland Search.

Although Borland Search requires authentication and applies existing access rights to StarTeam and CaliberRM query results, sensitive content may be stored within any data source. This data may not be appropriate for use with this product. Borland recommends that you follow the appropriate review and approval processes before any project data is extracted, indexed and made searchable.

Contacting Borland Support

Borland Software Corporation is committed to providing world-class services in the area of consulting and technical support. We have over 15 years of experience in supporting developers and enterprise customers. Our qualified technical support engineers are prepared to handle your support needs on a case-by-case basis or in an ongoing partnership. Borland provides support worldwide, delivering timely, reliable service to ensure every customer's business success.

For more information about Borland's support services, please see our Web site at <http://support.borland.com>. From the Web site, you can also access many newsgroups on which users exchange information, tips, and techniques. See <http://info.borland.com/newsgroups/> for the latest list of free product newsgroups.

When contacting Borland support, be prepared to provide complete information about your environment, the version of the product you are using, and a detailed description of the problem.

For support on third-party tools or documentation, contact the vendor of the tool.

Starting and Configuring Borland Search

Borland Search allows users to perform ad hoc queries across projects. The query results reflect the access rights of the user logged on to Borland Search so information is shared across the organization without compromising security.

Borland Search consists of three main components:

- The Tomcat web server process that must be running on your computer while you use Borland Search.
- A Borland Search Console that is used to configure the data sources you want to search. You can configure as many StarTeam, CaliberRM, and custom data sources as you want.
- A Borland Search Page that is used to define the search criteria and search the selected data sources. This page provides three variations: a simple search, an advanced search, and a search grid.

Both the Borland Search Console and the Borland Search Page are provided as a web-based application.

To use Borland Search, the intended host computer must meet the minimum system requirements listed in the Borland Search Release Notes, have access to a StarTeam server, CaliberRM server or other supported data source, and have Borland Search installed as described in the Borland Search Installation Instructions.

This chapter covers:

- What's new in this version of Borland Search
- How to start and stop Borland Search
- How to prepare your data sources for searches
- How to configure security
- How to set up user authentication

About This Release

What's New

Borland Search provides the following new features and improvements:

- Upgrade to 1.6.0_02 JRE. Only the Java Runtime Environment is required, not the full Java Development Kit.

Documentation

All documentation for Borland Search 2009, including installation instructions, release notes, and this guide, can be found on the **Start > Borland Search > Documentation** menu.

Starting Borland Search

Before you can begin configuring the data sources for use with Borland Search, you must start the Tomcat web server process. Follow these steps:

Microsoft Windows

For Microsoft Windows install locations:

- 1 From the Windows **Start** menu, select **Programs > Borland Search > Start**.

A Tomcat command window launches and begins listing the startup processes. Borland Search is available for use when the following line appears in the window:

INFO: Server startup in XXXXX ms

The Tomcat command window must remain open while Borland Search is running. Closing this window prevents any users from accessing Borland Search Page or the Borland Search Console. You can minimize the Tomcat command window without interfering with Borland Search access.

Linux/Solaris

For Linux/Solaris install locations:

- 1 Run the following file:
[install location]/bin/startup.sh

Stopping Borland Search

For routine maintenance, updates, or other administrative activities, you might need to stop the Tomcat web server process. This prevents users from accessing the Borland Search Page or the Borland Search Console. Borland recommends that you issue a warning so users are aware that Borland Search will be unavailable for a planned maintenance activity. Follow the steps below to stop the Tomcat web server process.

Microsoft Windows

For Microsoft Windows servers:

- 1 From the Windows **Start** menu, select **Programs > Borland Search > Stop**.

Important

It is recommended that you use the step above to stop the Tomcat web server process. Do not close the Tomcat command window to stop Borland Search. This may leave running processes in an unknown state.

Linux/Solaris

For Linux/Solaris:

- 1 Run the following file:
[install location]/bin/shutdown.sh

Configuring StarTeam or CaliberRM Data

This section gives you an overview of the steps you follow to prepare a StarTeam or CaliberRM data source for searches. This work is done using the Borland Search Console and includes these steps:

- Logging in to the Borland Search Console
- Selecting the data source from which you will obtain your data
- Extracting the data
- Indexing the data

Note that if you want to enable security and authenticate users, the steps below indicate the points at which you would perform the additional steps to set up security and authentication. The detailed steps for performing these tasks are covered later in this chapter.

Logging in to the Borland Search Console

The Borland Search Console is a web application that provides access to and monitoring of your data sources.

- 1 Open an internet browser.
- 2 Enter **http://{your_machine_name}:8080/bss/admin/** where **your_machine_name** is the name or IP address for the machine on which Tomcat is hosting Borland Search.
- 3 Enter logon information.
- 4 If this is the first logon since installation, the default account is:
Logon: Administrator
Password: Administrator

Note: these fields are case sensitive

- 5 Click **Sign In**.

The Borland Search Console is displayed.

Selecting the Data Source

- 1 From the menu in the left pane of the Borland Search Console, select Manage Plugins.
- 2 Select StarTeam or CaliberRM as your data source.
- 3 From the menu in the left pane, select New Source. The **Create Data Source** information screen is displayed.
- 4 Type the information for the type of data source you selected:
For a CaliberRM data source:
 - Name**—Enter a descriptive name for the new data source.
 - Host**—Enter the name of the server hosting the data source.For a StarTeam data source:
 - Name**—Enter a descriptive name for the new data source.
 - Host**—Enter the name of the server hosting the data source.
 - Port**—For StarTeam only, enter the port number for the server.
 - Protocol**—Choose TCP/IP (Sockets).
 - Encryption**—Choose None.
 - Compress Data**—Choose Yes.
- 5 Click **Save**. The current list of data sources for the selected product is displayed with the new data source added.
- 6 If you want to enable security (this is recommended), follow the steps in “Configuring Borland Search Security” on page 7.
- 7 If you want to set up user authentication (this is recommended), follow the steps in “Setting Up Authentication” on page 10.
- 8 If you want to generate a schema for the data source, follow the steps in “Generating a Schema” on page 19.

Extracting the Data

After you have selected the data source and generated a schema (if desired), you are ready to extract data from the data source.

For CaliberRM, data for all default requirements are extracted. If you generated a schema, user-defined attributes are also extracted.

For StarTeam, data for all default fields are extracted for the File, Change Request, Task, and Topic components as well as StarTeam Server and StarTeam user fields. If you generated a schema, custom fields are also extracted.

Important Although Borland Search requires authentication and applies existing access rights to StarTeam and, if configured, CaliberRM query results, sensitive content may be stored within any data source. This data may not be appropriate for use with this product. Borland recommends that you follow the appropriate review and approval processes before any project data is extracted, indexed and made searchable.

- 1 Select Extractor from the left pane under Start Components.
- 2 Select the radio button next to the data source you just defined. Click **Next**.
- 3 Enter the login and password information for the selected data source. Click **Next**.

Important Borland recommends that the logon information used to access a data source be an administrator level account because the data extracted is limited by access rights.

Using an account that is not an administrator would limit the scope of the extracted data.

4 Check all boxes next to the data sources from which you want to extract data. Click **Next**.

5 Select the types of items you want to extract. Click **Next**.

Borland Search runs the extraction process and displays the Active processes list with your new extraction process at the bottom of the list.

The process Status initially shows as “Inactive” although Borland Search is actually starting and running the process. The screen will update in one minute to show a new status. Notice that the amount of time before the next screen refresh appears in the lower left corner of window status bar. You can also press F5 to refresh the window immediately.

6 When the Status shows “Completed”, click **Stop**.

Note The first extraction from a data source takes the longest as all selected data is extracted. Subsequent extractions are considered to be “delta” extractions as Borland Search retrieves only data that has changed since the previous extraction.

Indexing the Data

After you have extracted the data from the data source, you need to index the data.

Important You must not run multiple Real Time Indexer processes at the same time. If a new data source is created or an existing data source is updated while a Real Time Indexer process is running, you must stop and restart the Real Time Indexer.

1 Select Real Time Indexer from the left pane under Start Components.

Borland Search runs the indexing process and displays the Active processes list with your indexing process at the bottom of the list.

2 View the process output and press F5 to refresh the Status.

3 When the Status shows “Completed”, click **Stop**.

When the selected data source extraction is complete, and the harvested data indexed, it is available for users to search as described in “Using Borland Search” on page 23. To add additional data sources or launch additional extraction or MPX Component processes, please see “Using the Borland Search Console” on page 15.

Configuring Borland Search Security

To configure Borland Search security, you must first enable security, then extract the security data from the data source.

Enabling Security

You enable security for StarTeam and Caliber by editing the security-config.xml file. The steps to do this vary depending on if you’re doing it for StarTeam only, CaliberRM only, or both StarTeam and CaliberRM as described in the sections below.

To Enable StarTeam Security

- 1 Navigate to the security-config.xml file using the path specified when you extracted the file.
- 2 Open the security-config.xml for editing.

- 3 Locate and copy the line that reads:

```
<Factory className="com.borland.gantry.components.starteam.security.CachedSecurityProviderFactory"/>
```

- 4 At the bottom of the page, locate the following code:

```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="security-config.xsd">
  <Factories>
    <Factory className="com.borland.gantry.core.security.DefaultSecurityProviderFactory$Grant"/>
  </Factories>
</Security>
```

Note: You can see by the code: DefaultSecurityProviderFactory\$Grant" that everyone is granted access rights, regardless of the data source. To set security so that no one has access rights, regardless of the data source, change Grant to Deny.

- 5 Paste the line you copied into the Factories code so that it appears as follows.

```
<Factories>
  <Factory className="com.borland.gantry.components.starteam.security.CachedSecurityProviderFactory"/>
  <Factory className="com.borland.gantry.core.security.DefaultSecurityProviderFactory$Deny"/>
</Factories>
```

To Enable CaliberRM Security

- 1 Navigate to the security-config.xml file in the following location:

[apache-tomcat install location]/webapps/bss/config/security-config.xml

- 2 Open the security-config.xml for editing.

- 3 Locate and copy the line that reads:

```
<Factory className="com.borland.gantry.components.caliberrm.security.CachedSecurityProviderFactory"/>
```

- 4 At the bottom of the page, locate the following code:

```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="security-config.xsd">
  <Factories>
    <Factory className="com.borland.gantry.core.security.DefaultSecurityProviderFactory$Grant"/>
  </Factories>
</Security>
```

Note: You can see by the code: DefaultSecurityProviderFactory\$Grant" that everyone is granted access rights, regardless of the data source. To set security so that no one has access rights, regardless of the data source, change Grant to Deny.

- 5 Paste the line you copied into the Factories code so that it appears as follows.

```
<Factories>
  <Factory className="com.borland.gantry.components.caliberrm.security.CachedSecurityProviderFactory"/>
</Factories>
```

```
<Factory className="com.borland.gantry.core.security.Default
SecurityProviderFactory$Deny"/>
```

```
</Factories>
```

6 Save the security-config.xml file.

To Enable Both StarTeam and CaliberRM Security

1 Edit the security-config.xml file so that it combines both StarTeam and Caliber factory statements as follows:

```
<Factories>
```

```
<Factory className="com.borland.gantry.components.starteam.security
.CachedSecurityProviderFactory"/>
```

```
<Factory className="com.borland.gantry.components.caliberrm.security
.CachedSecurityProviderFactory"/>
```

```
<Factory className="com.borland.gantry.core.security.Default
SecurityProviderFactory$Deny"/>
```

```
</Factories>
```

2 Save the security-config.xml file.

Extracting Security Data

Before you can extract the security data, you need to start Borland Search and create the data source in the Borland Search Console if you haven't done so already. Then you can complete the configuring security by extracting the security data. You can extract the security data using one of two methods:

- Running the appropriate security extractor file.
- Use the Security Extractor command in the Borland Search Console.

Running the Security Extractor File

For StarTeam, you can extract the security data by running the file for your operating system:

- Microsoft Windows—
[apache-tomcat install location]/webapps/bss/bin/windows/st_security.bat
- Linux/Solaris—
[apache-tomcat install location]/webapps/bss/bin/unix/st_security.sh

For CaliberRM, you can extract the security data by running the file:

- Microsoft Windows—
[apache-tomcat install location]/webapps/bss/bin/windows/cal_security.bat
- Linux/Solaris—
[apache-tomcat install location]/webapps/bss/bin/unix/cal_security.sh

Extracting Security Data Using the Borland Search Console

When using the Borland Search Console to extract the security data, you can only set security when extracting a new data source. You do this by exporting the security profiles. If you previously extracted a data source without exporting the security profiles, you can only set security for that data source by editing the security-config.xml file (see the previous section).

Note You must have already created a data source as described in "Selecting the Data Source" on page 6 prior to performing the steps below.

To set security through the Borland Search Console:

- 1 Open the Borland Search Console.
- 2 Select the Manage Plug-ins option from the menu in the left pane.
- 3 Choose one of the registered plugins from the list.
- 4 Extract the security data by clicking the Security Extractor link.

Borland Search displays the Active processes list with the new process to extract security data at the bottom of the list. To see the current job status, press F5.

Setting Up Authentication

Authentication lets the system administrator authenticate Borland Search users against an existing StarTeam or CaliberRM installation. By default, all authentication is turned off, allowing all users access to Borland Search and the ability to run queries against any extracted and indexed data. Borland recommends that authentication be required.

Setting up for authentication and identifying which servers you want to authenticate against can only be accomplished by editing specific .xml files. The following sections detail which files to edit and how to edit them.

To Set Up StarTeam Authentication

- 1 Stop the Borland Search server.
- 2 Navigate to the authentication-config.xml file located at:
[apache-tomcat install location]/webapps/bss/config/authentication-config.xml
- 3 Open the authentication-config.xml file for editing.
- 4 Under the To Enable StarTeam Authentication section, copy the line that reads:
- 5 At the bottom of the page, locate the following code:

```
<Factory className="com.borland.gantry.components.starteam.security
.StarTeamAuthenticator"/>
```

```
<Security xmlns:jaxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://
www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="security-config.xsd">
```

```
<Factories>
```

```
<Factory className="com.borland.gantry.core
.security.pam.GrantAuthenticator"/>
```

```
</Factories>
```

```
</Security>
```

Note: To deny authentication, replace the Factory className line above with:

```
<Factory className="com.borland.gantry
.core.security.pam.DenyAuthenticator"/>
```

- 6 Paste the line you copied into the Factories code so that it appears as follows:

```
<Security xmlns:jaxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://
www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="security-config.xsd">
```

```
<Factories>
```

```
<Factory className="com.borland.gantry.components.starteam.security
.StarTeamAuthenticator"/>
```

```
<Factory className="com.borland.gantry.core
.security.pam.DenyAuthenticator"/>
```

```
</Factories>
```

```
</Security>
```

- 7 Save the authentication-config.xml file.

To Set Up CaliberRM Authentication

When setting up CaliberRM for authentication you must first enable authentication, then identify which servers you want to authenticate.

Enabling CaliberRM Authentication

- 1 Stop the Borland Search server.
- 2 Navigate to the authentication-config.xml file located at:
[apache-tomcat install location]/webapps/bss/config/authentication-config.xml
- 3 Open the authentication-config.xml file for editing.
- 4 Under the To Enable CaliberRM Authentication section, copy the line that reads:

```
<Factory className="com.borland.gantry.components  
.caliberrm.security.Authenticator"/>
```

- 5 At the bottom of the page, locate the following code:

```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://  
www.w3.org/2001/XMLSchema-instance"  
xsi:noNamespaceSchemaLocation="security-config.xsd">
```

```
<Factories>
```

```
<Factory className="com.borland.gantry.core  
.security.pam.GrantAuthenticator"/>
```

```
</Factories>
```

```
</Security>
```

Note: To deny authentication, replace the Factory className line above with:

```
<Factory className="com.borland.gantry  
.core.security.pam.DenyAuthenticator"/>
```

- 6 Paste the line you copied into the Factories code so that it appears as follows:

```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://  
www.w3.org/2001/XMLSchema-instance"  
xsi:noNamespaceSchemaLocation="security-config.xsd">
```

```
<Factories>
```

```
<Factory className="com.borland.gantry.components  
.caliberrm.security.Authenticator"/>
```

```
<Factory className="com.borland.gantry.core  
.security.pam.DenyAuthenticator"/>
```

```
</Factories>
```

```
</Security>
```

- 7 Save the authentication-config.xml file.

Identifying the CaliberRM Servers for Authentication

- 1 Navigate to the caliberrmServer-config.xml file at:

```
[apache-tomcat install location]\webapps\bss\config\caliber\caliberrmServer-  
config.xml
```

- 2 Open the calibermServer-config.xml file in a text editor for editing.
- 3 Locate the code block at the bottom of the file that reads:


```
<CaliberRMServers>
  <CaliberRMServer name="{server name or ip address}"/>
</CaliberRMServers>
```
- 4 Remove the comment tags <!-- and -->.
- 5 Replace the code {server name or ip address} with the actual name or IP address of the server against which you want authentication.
- 6 Create a new line entering the name or IP address for each server against which you want authentication.
- 7 Save the file.

To Set Up LDAP Authentication

When setting up LDAP for authentication you must first enable authentication, then identify which servers you want to authenticate.

- 1 Stop the Borland Search server.
- 2 Navigate to the authentication-config.xml file located at:


```
[apache-tomcat install location]/webapps/bss/config/authentication-config.xml
```
- 3 Open the authentication-config.xml file for editing.
- 4 Under the To Enable LDAP Authentication section, copy the line that reads:


```
<Factory className="com.borland.gantry.core.security.Ildap.Authenticator"/>
```
- 5 At the bottom of the page, locate the following code:


```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://
www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="security-config.xsd">
  <Factories>
    <Factory className="com.borland.gantry.core
.security.pam.GrantAuthenticator"/>
  </Factories>
</Security>
```

Note: To deny authentication, replace the Factory className line above with:

```
<Factory className="com.borland.gantry
.core.security.pam.DenyAuthenticator"/>
```
- 6 Paste the line you copied into the Factories code so that it appears as follows:


```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://
www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="security-config.xsd">
  <Factories>
    <Factory className="com.borland.gantry.core.security.Ildap.Authenticator"/>
    <Factory className="com.borland.gantry.core
Borland Search .security.pam.DenyAuthenticator"/>
  </Factories>
</Security>
```
- 7 Save the authentication-config.xml file.

Identifying the LDAP Servers to Authenticate

- 1 Navigate to the ldapservice-config.xml file at:
[apache-tomcat install location]\webapps\bss\config\ldapservice-config.xml
- 2 Open the ldapservice-config.xml file in a text editor for editing.
- 3 Locate the server information code block that reads:

```
<LDAPServerInfo>
  <!-- LDAP Host -->
  <Host></Host>
  <!-- LDAP Listen port 389 is the default -->
  <Port>389</Port>
  <!-- Base for searching -->
  <SearchBase></SearchBase>
  <!-- dn for default user -->
  <DefaultUser></DefaultUser>
  <!-- encrypted password for default user -->
  <DefaultUserPassword></DefaultUserPassword>
  <!-- Search pattern -->
  <SearchPattern>(&amp;(objectCategory=person)(objectClass=user)
    (sAMAccountName=%s))</SearchPattern>
  <!-- Network delays -->
  <Delay>1</Delay>
</LDAPServerInfo>
```

- 4 Enter the appropriate information for the server where required. For example, enter the host name or IP address in the Host tags:

```
<Host>host name or IP address</Host>
```
- 5 Create a new block of code for each server against which you want authentication.
- 6 Save the file.

To Set Up Authentication for StarTeam, CaliberRM, and LDAP Simultaneously

The authentication process is order specific. The first Factory entry in the list is used first, then down the list, until the list is exhausted. The last entry should be either the "DenyAuthenticator" or the "GrantAuthenticator" depending upon whether or not you want to deny or grant access with or without authentication.

When enabling authentication, Borland recommends that the "DenyAuthenticator" be the last entry in the Factories list. This will prevent non-authorized users from accessing the repositories.

- 1 Stop the Borland Search server.
- 2 Navigate to the authentication-config.xml file located at:
[apache-tomcat install location]/webapps/bss/config/authentication-config.xml
- 3 Open the authentication-config.xml file for editing.
- 4 Under the To Enable StarTeam Authentication, To Enable CaliberRM Authentication, and To Enable LDAP Authentication sections, copy the appropriate lines for each:

```
<Factory className="com.borland.gantry.components.starteam.security
.StarTeamAuthenticator"/>
```

```
<Factory className="com.borland.gantry.components
.caliberrm.security.Authenticator"/>
```

```
<Factory className="com.borland.gantry.core.security.Ildap.Authenticator"/>
```

- 5 At the bottom of the page, locate the following code:

```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://  
www.w3.org/2001/XMLSchema-instance"  
xsi:noNamespaceSchemaLocation="security-config.xsd">
```

```
<Factories>
```

```
<Factory className="com.borland.gantry.core  
.security.pam.GrantAuthenticator"/>
```

```
</Factories>
```

```
</Security>
```

- Note:** To deny authentication, replace the Factory className line above with:

```
<Factory className="com.borland.gantry  
.core.security.pam.DenyAuthenticator"/>
```

- 6 Paste the line you copied into the Factories code so that it appears as follows:

```
<Security xmlns:jxb="http://java.sun.com/xml/ns/jaxb" xmlns:xsi="http://  
www.w3.org/2001/XMLSchema-instance"  
xsi:noNamespaceSchemaLocation="security-config.xsd">
```

```
<Factories>
```

```
<Factory className="com.borland.gantry.components.starteam.security  
.StarTeamAuthenticator"/>
```

```
<Factory className="com.borland.gantry.components  
.caliberm.security.Authenticator"/>
```

```
<Factory className="com.borland.gantry.core.security.Ildap.Authenticator"/>
```

```
<Factory className="com.borland.gantry.core  
.security.pam.DenyAuthenticator"/>
```

```
</Factories>
```

```
</Security>
```

- 7 Save the authentication-config.xml file.

Using the Borland Search Console

Borland Search includes the Borland Search Console for controlling the data sources, schema generation, extractions, and indexing that provides searchable data to the end users. This console provides real-time status information as well as monitoring and configuration tools.

The Borland Search Console requires a logon with specific access rights and is intended for use by an administrative level user.

Logging on to the Borland Search Console

To access the Borland Search Console, you must first log on using the appropriate account information.

- 1 Open an Internet browser.
- 2 Enter **http://{your_machine_name}:8080/bss/admin/login.jsp** where **your_machine_name** is the name or IP address for the host computer.
- 3 Enter your account information (the default username is **Administrator** and the default password is **Administrator**.)
- 4 Click **Sign In**.
- 5 When your logon has been authenticated, the console screen is displayed.

Launching the Start Here Wizard

The **Start Here Wizard** link launches an introductory wizard that guides you through establishing a data source, extracting data, and indexing the data. The wizard does not include generating a schema and thus includes only the default requirements (for a CaliberRM data source) or default fields (for StarTeam data source).

Reviewing System Status

For real-time status information, you can click the **Status** link and review valuable data related to configuration and management of Borland Search.

Borland Search System Status

The top portion of the Status screen provides information about the Java Version, installation location, Borland Search version and the Service state. This information is view-only configuration information that is available as a reference.

Registered Plug-ins

The second section of the **Status** screen provides a list of Registered Plug-ins. Plug-ins are defined product types from which Borland Search can extract data. Each listed plug-in is also a link which launches the related **Plug-in Configuration** screen. You can also access the **Plug-in Configuration** screens using the **Manage Plug-ins** screen. See “Managing Plug-ins” below for more information.

Available Indices

A list of **Available Indices** is provided on the lower portion of the screen. This list displays all indices that return query results to Borland Search end users. There should be an index listed for each data source against which an extraction and index process have been run.

Unlocking Available Indices

To unlock an available index, click the **Unlock** option on the **Status** screen. You can update an unlocked index with new extractor processes or MPX Component processes. The index data is still searchable regardless of the lock status.

Registered Data Sources

The bottom of the **Status** screen provides a list of the registered servers and custom data sources. These servers have been previously entered as data sources and are available for extraction. This list provides read-only status information for each server.

Managing Plug-ins

The **Manage Plug-ins** screen allows you to add new plug-in data sources, view existing plug-in data sources and start component processes.

- 1 Click the **Manage Plug-ins** link for the list of registered plug-ins.
- 2 Select the plug-in with which you would like to work.

Important By default, all users are able to access Borland Search and run queries against any extracted and indexed data. Borland recommends that Borland Search require user security.

For more information on how to set up Borland Search with StarTeam and CaliberRM user security, please see “Configuring Borland Search Security” on page 6.

Adding a New Data Source

Click the **New Source** link to create a new data source for the selected plug-in type.

- 1 Enter all required information. Verify that all information is entered correctly or the extraction process will not be able to access the desired data source.
- 2 Click **Save**.

Viewing Data Sources

Click the **Manage Data Sources** or **View Sources** link to review a list of all sources for the selected plug-in type. If you do not see a data source that should be listed, verify that you selected the correct plug-in type from the Manage Plug-ins list.

Deleting a Data Source Source

You can delete a data source from the Borland Search Console.

Important Deleting a data source from the Borland Search Console does not delete the source CaliberRM or StarTeam server data.

- 1 Click the **Manage Data Sources** or **View Sources** link to review a list of all sources for the selected plug-in type.
- 2 Click the **Delete** checkbox for the data source you want to delete.

Borland Search immediately deletes the data source from the Borland Search Console.

Running the Real Time Indexer

Real time indexer puts data into Borland Search by periodically monitoring a directory for new files in the .RDF XML format (see note below). These files are collected and indexed. Additional data may be collected from StarTeam or other datasources based on the contents of these files.

Important Only one indexer process can be run at a time.

Indexing large data sources can be time-consuming. You can tell if the indexer process is still running by monitoring the current IndexerComponent[#].log file size located in [apache-tomcat install location]\webapps\bss\logs. If the index file is growing, the indexer is still running.

Note: The RDF format is used as an interchange mechanism to interface with disparate data sources. It is possible for advanced users to add other types of data sources.

Using the MPX Component

Note: Listening to MPX events is memory intensive. It is recommended that you configure MPX to listen to only your most active views or projects to make updates immediately available. You can use delta indexing to collect data on other, less urgent updates to your data sources.

For StarTeam, when you want to use the MPX Component, you must first edit the `mpx.properties` file to identify which processes you want to listen to, then select the data source for which you want the MPX Component to run.

Identifying the Processes to Listen To

Important You must identify the processes for which you want to listen. If you don't identify the processes, the system will listen to all active processes and may cause server performance problems.

- 1 Navigate to the `mpx.properties` file at:
`[apache-tomcat install location]\webapps\bss\config\starteam\mpx.properties`
- 2 Follow the instructions in the file to identify the processes for which you want to listen.
- 3 Save the file.

Selecting the MPX Component Data Source

To use MPX for keeping the Borland Search data as up-to-date as possible, enter and start an MPX Component process:

- 1 Click the **MPX Component** link.
- 2 Select the option button next to the data source for which you want the MPX Component to run.
- 3 Click **Next**.
- 4 Enter the correct data source logon information. Borland recommends that this logon be an administrative user so that MPX is able to refresh all data and not a subset of the data accessible to a user's access rights.

A new MPX Component process will be started for this data source.

Extracting Data

To collect the data from a defined data source for a selected plug-in type:

- 1 Click the **Extractor** link.
- 2 Select a data source from the list of sources for the selected plug-in type. Select the option button next to the data source from which you want to extract data. Click **Next**.
- 3 Enter the correct data source logon information.

A new extraction process is started for the data source. The second time an extraction is run against a data source, the system does a delta extraction. To do a complete extraction, you must delete and re-add the data source.

Important When an extractor is run against a data source that has been previously extracted, files previously harvested that have since had a name change or been deleted are not removed from the index. When a user searches against data that has been indexed after such data source changes, it is possible the search results will include a file that is no longer on the server due to a deletion, or is no longer stored on the server under the name returned with the query results.

Generating a Schema

For more complete data searches, you can generate a schema for the data source which gives you access to the user-defined data elements in the data source.

Generating a schema is optional. However, if you do not generate a schema, you only have access to the default data elements. In the case of a CaliberRM data source, generating schema gives you access to the user-defined attributes (UDAs). Generating schema for a StarTeam data source gives you access to the user-defined custom fields.

Note that schema generation:

- Should be done before extracting data.
- Is performed on one data source at a time.
- Is typically done only once, but if new fields are added to the data source, the schema should be regenerated.

To generate a schema:

- 1 Click the **Schema Generator** link.
- 2 Select the data source for which you want to generate a schema. Click **Next**.
- 3 Enter the correct data source logon information. Click **Next**.

Borland Search generates the schema and presents the schema input fields in a new window. Note that only the user-defined fields are displayed; the default fields are not displayed.

- 4 Check the box next to all of the input fields you want to retrieve. Click **Next**.

Borland Search runs the data retrieval process and displays the Active processes list with the new process added at the bottom.

- 5 When the Status for the schema generation process shows “Completed”, click **Stop**.

Extracting Security Data

The Security Extractor option automates the process of extracting the security data. That is, instead of running the `st/cal_security.bat` or `st/cal_security.sh` file as described in “Extracting Security Data” on page 9, you can click the Security Extractor link in the Borland Search Console. In both cases, Borland Search retrieves the user permissions for each object in the data source.

Reviewing the Active Processes

Note The Borland Search Console is not aware of processes started by Command Line and cannot review them. Only processes started by the Borland Search Console can be reviewed using the Borland Search Console.

The Borland Search Console provides a complete list of running processes that were started by using the Borland Search Console. This list includes any Extracting, Indexing or MPX Component processes. Borland recommends that only 3 to 4 processes, including only one indexer at a time, run on the same Borland Search. This

reduces any risk of performance impact on the user's searching and the user's access to the data sources.

- 1 Click the **Active Processes** link to review the list.
- 2 Check the **Status** column to see the current state of any process. Possible statuses are:
 - **Inactive:** The process has been created and allocated on the server, but the plug-in has not been started. Every process goes through this stage when it is started.
 - **In Progress:** The actual plug-in is running.
 - **Completed:** The plug-in has finished running and not reported any errors. The process is still running. It is necessary to click **Stop** to reallocate the server resources and kill the process.
 - **Completed--Error:** The plug-in has stopped running and has reported an error. See the log file in [apache-tomcat install location]\webapps\bss\logs for information.
 - **Shell Error:** The sub process could not be created and the plug-in was not started.
 - **Unknown:** The process exited without a clear indication of the problem.
- 3 Use the **Stop** link to end the listed process.

Note: If a running extraction is stopped, it is necessary to restart the extraction to guarantee that all data is accessible for searching. Borland recommends that MPX Components and the Indexer process remain up and running as much as possible to ensure that the data being searched is up-to-date.

Reviewing and Configuring Log Files

Each Java process started by Borland Search will have a corresponding log file. The naming is automatic and corresponds to the process that started it. These files are located in the Borland Search logging directory at:

[Borland Search install location]\apache-tomcat-5.5.23\webapps\bss\logs

The Borland Search log files are never automatically deleted.

All logging is configured by editing the cl.log-4j.xml file. This configuration file includes documentation within the file and can be found at:

[Borland Search install location]\apache-tomcat-5.5.23\webapps\bss\config\
cl.log4j.xml

For more information, see this web site:

<http://logging.apache.org/log4j/docs/index.html>

Changing Passwords

Borland Search is intended for use by administrator-level users. You should keep access to the Borland Search Console secure. To do so, password changes may be required.

To change your existing password:

- 1 While you are logged on to the Borland Search Console, click the **Change Password** link.
- 2 Enter your old password in the required file.

- 3 Enter a new password in both the **New Password** and **Confirm Password** fields.
 - 4 Click **Save**.
- Your password is updated immediately.

Signing Off

To end your Borland Search Console session, click the **Sign Off** link. You will be returned to the logon screen. Borland Search will still be accessible to users for searching and started processes will continue to run even though your Borland Search Console session has ended.

Using Borland Search

Borland Search provides unparalleled search and query capabilities that span multiple projects and products. The browser interface makes it easy to search across all development assets such as CaliberRM Requirements, StarTeam Change Requests, StarTeam Tasks, and StarTeam Files.

When you perform a search, you can:

- Enter a simple query to search all data sources.
- Enter an advanced query, selecting specific items and data sources.
- Format the search results in a table by doing a grid search.
- Use the query builder to define a query.

Logging on to the Borland Search Page

To access the Borland Search Page, you must first log on using the appropriate account information.

- 1 Open an Internet browser.
- 2 Enter **http://{your_machine_name}:8080/bss/search/login.jsp** where **your_machine_name** is the name or IP address for the host computer.
- 3 Enter your account information (the default username is **blank** and the default password is **blank**.)
- 4 Click **Sign In**.
- 5 When your logon has been authenticated, the Borland Search Page is displayed with the Basic Search window selected.

Entering a Simple Query

Use the Basic Search window to enter a simple query. Borland Search then searches all currently defined and indexed data sources. To limit the search to a particular data source or set of data sources, you must use the Advanced Search option as described in the next section.

- 1 Enter the relevant query words into the search field.
You need only enter the text that you want to search for; no “select” or “where” statements are necessary. Borland Search converts the text you enter into a query using Lucene query syntax. You can enter Lucene query syntax in the search field if you so desire by following the Lucene query conventions. See “About the Query Syntax” on page 25 for more information.
 - 2 Optionally, click **Builder** to use the Query Builder to construct a more refined query and let Borland Search construct the Lucene query syntax for you. See “Using the Query Builder” on page 26 for more information.
 - 3 Select the number of results to display per page.
 - 4 Select the checkbox to include historical revisions if that is desired.
 - 5 Click **Find**.
 - 6 When the results are returned, review them from top to bottom and select whether you want to review each item or scan for the results you want.
- Note:** All search results are limited in scope according to your account access rights.

Entering an Advanced Query

Use the Advanced Search window to enter a complex query. The Advance Search window lets you:

- Select the specific data items to be searched.
- Limit the search to a particular data source or set of data sources.

To enter an advanced query:

- 1 Click the **Advanced Search** link.
- 2 Select the specific items you want to include from the **Searchable Items** list on the left.
- 3 Select the specific projects you want to include from the **Data Sources** list on the right.
- 4 Enter the relevant query words into the search field.
You need only enter the text that you want to search for; no “select” or “where” statements are necessary. Borland Search converts the text you enter into a query using Lucene query syntax. You can enter Lucene query syntax in the search field if you so desire by following the Lucene query conventions. See “About the Query Syntax” on page 25 for more information.
- 5 Optionally, click **Builder** to use the Query Builder to construct a more refined query and let Borland Search construct the Lucene query syntax for you. See “Using the Query Builder” on page 26 for more information.
- 6 Select the number of results to display per page.
- 7 Select the checkbox to include historical revisions if that is desired.
- 8 Click **Find**.
- 9 When the results are returned, review them from top to bottom and select whether you want to review each item or scan for the results you want.

Note: All search results are limited in scope according to your account access rights.

Click the **Basic Search** link to return to the simpler search screen.

About the Query Syntax

Borland Search installs and utilizes an open source full-featured search engine called Apache Lucene. When you enter query text, Borland Search converts it to a query using Lucene query syntax.

You can enter complex query strings in the edit box by following the Lucene query syntax conventions. The section below summarizes some of the most useful query components. A full description of the query syntax for Apache Lucene can be found at:

<http://lucene.apache.org/java/docs/queryparsersyntax.html>

Useful Query Options

Boolean Operators

The following boolean operators are available: AND, +, OR, NOT, -. You must enter the operator in upper case letters in the entry field. For example, to search for authentication tests you would enter:

```
test AND authentication
```

Wildcard Searches

To perform a single character wildcard search, use the question mark symbol. To perform a multiple character wildcard search, use the asterisk symbol. For example, to search for "text" or "test" you would enter:

```
te?t
```

To search for all content that starts with the letters "te" you would enter:

```
te*
```

Boosting a Term

To indicate that one of the terms being searched for is of greater importance than the other terms entered, you can boost the term. To boost a term, add a caret symbol (^) with a numerical boost factor after the term you are searching. The higher the boost factor, the more the term indicates the relevance of the search results. For example to indicate that apache is the key term of relevance you would enter:

```
borland starteam^4
```

If you do not enter a number following the caret, the boost factor defaults to 1.

Grouping

You can use parentheses to group clauses to form sub-queries. This can be very useful if you want to control the boolean logic for a query. For example, to search for either "borland" or "starteam" and "website" you would enter:

```
(borland OR starteam) AND website
```

Escaping Special Characters

You can escape special characters that are part of the query syntax. The current list of special characters is:

```
+ - && || ! ( ) { } [ ] ^ " ~ * ? : \
```

To escape any of these characters use a backslash \ before the character.

For example, to search for (1+1):2 you would enter:

```
\(1\+1\)\:2
```

Field Searches

When performing a search you can specify a field. To search any field, type the field name followed by a colon and then the term you are looking for. For example to search for a document titled "System Requirements" that contained the text "Windows" you would enter:

```
title:"System Requirements" AND text:Windows
```

Note: The field search is only valid for the term directly after the colon. In the example above, any content that came after "text:Windows" would not be included in the field search.

Please refer to the online help for a list of available fields.

Using the Query Builder

Borland Search provides a query builder that helps you define queries for your searches.

The query builder is available from all of the search pages via the **Builder** button. When you click this button, the Query Builder dialog displays.

To construct a query using the Query Builder:

- 1 In any of the search windows, click the **Builder** button.

Borland Search displays the Query Builder window.

- 2 Select a field from the drop-down list.
- 3 Enter the search text in the edit field.

For fields that have a limited set of values, are numeric, or dates, a field helper button can be used:

- a Click the Field Helper button to the right of the edit box.

A new List Helper window opens.

- b Choose the option you want and click **Save**.

The option appears in the edit box.

- 4 Click the **Add** button.

The query formatted in Lucene query syntax is added to the large edit window.

- 5 Click **Save** to save the query in the search field.
- 6 Click **Find** to view the search results.

Using the Grid Search Feature

The Grid Search feature displays the search results in a table. At the top of the search results, a summary table displays the number of hits for each item type. The hit value is a link that you can drill down on to limit the search results to only those in that category.

As in the Basic Search, the Grid Search searches all items and data sources.

Signing Off

To exit the Borland Search Page, click the **Sign Off** link.

Index

A

- active processes
 - log files 20
 - reviewing 19
- admin console logon 15, 23
- advanced find 24
- advanced query 24
- advanced search 24
- Apache Lucene 25
- authentication 10
 - CaliberRM 11
 - LDAP 12
 - StarTeam 10
- available indices 16

B

- boolean operators 25
- boosting a term 25
- Borland Search Console
 - logging on 15, 23
- Borland Search console 15
- building queries 26

C

- CaliberRM
 - default requirements 6
 - user-defined attributes 19
- CaliberRM authentication 11
- change password 20
- changing passwords 20
- cl.log4j.xml file 20
- completed status 20
- completed--error status 20
- component
 - extractor 18
 - MPX 18
 - real time indexer 17
- components
 - start 17
- components extracted 6
- configure Borland Search 14
- configuring log files 20
- constructing a query 26
- custom fields 19

D

- data source
 - delete 17
 - extractor 18
 - new 17
 - selecting the MPX Component 18
- default fields 6
- default requirements 6
- defining queries 26
- delete source 17
- developer support 1

E

- enter advanced search 24
- enter find 23
- enter search 23
- error
 - active processes 20
- escape special characters 25
- exit 21, 26
- extracting data 19
- extractor 18

F

- field helper 26
- field searches 25, 26
- file
 - mpx.properties 18
- find 23

G

- generating a schema 19
- Grid Search 26
- grouping 25
- grouping query items 25

H

- hit value 26

I

- identifying the process to listen to with MPX 18
- in progress status 20
- inactive status 20
- index
 - unlock 16
- indexer 17
- indexing log file 17
- indices 16

L

- launching the Start Here Wizard 15
- LDAP authentication 12
- limitations
 - indexing 17
- limiting the search results 26
- list
 - available indices 16
 - registered plugins 16
- listening to processes 18
- log file
 - indexing 17
- log files 20
 - active processes 20
- log out 21, 26
- login on to the Borland Search Console 15, 23
- logon
 - admin console 15, 23
- Lucene query syntax 25

M

manage plugins 17
MPX component 18
MPX Component data source 18
mpx.properties file 18

N

new data source 17
new source 17

P

password
 change 20
passwords 20
plugins 16
 manage 17
process error 20
process status
 completed 20
 completed--error 20
 in progress 20
 inactive 20
 shell error 20
 unknown 20
product support 1

Q

Query Builder 26
query syntax 25
query tips 25

R

ranking search items 25
real time indexer 17
real time indexer component 17
registered plugins 16
review
 extractions 19
 indices 19
 MPX Component 19
review active processes 19
review system status 16
reviewing active processes 19
reviewing log files 20

S

schema generation 19
search 23, 24
search options 24
Security Extractor option 19
selecting the MPX Component data source 18
setting up authentication 10
setup Borland Search 14
shell error status 20
shutdown Borland Search 5
sign off 21, 26
simple query 23
simple search 23
source
 data source 17
 delete 17

 indexing 17
 new 17
 view 17
special characters 25
start components 17
Start Here Wizard 15
StarTeam
 components extracted 6
 custom fields 19
 default fields 6
StarTeam authentication 10
StarTeam MPX 18
starting Borland Search 4
stop Borland Search 5
stopping Borland Search 5
sub queries 25
summary search results 26
support 1
system status
 reviewing 16

T

technical support 1
timing
 indexing 17
 schema generation 19

U

unknown process status 20
unlock index 16
update password 20
user-defined attributes 6, 19

V

view data source 17
view source 17

W

wildcard search 25