

This page last changed on Jun 23, 2008 by [ghostar](#).

1. Scope

1.1 Overview

The Search Builder component provides an API for both simple and complex searches against a persistence data store (LDAP, database). The component allows a user to programmatically create searches and will translate them into the appropriate query string for the data store, execute the query against the configured data store connection and return the result set to the user for further processing. **This version adds functionality to search a Hibernate data store using HQL..**

1.2 Version

1.4

1.2 Logic Requirements

1.2.1 New SearchStrategy

A new SearchStrategy implementation must be provided to support searching through HQL, named HibernateSearchStrategy. This new implementation must be usable with the SearchBundle class.

1.2.2 Return value

The return value of HibernateSearchStrategy.search must be a List of matching objects that are created as a result of the search.

1.2.2 New SearchFragmentBuilders

This component must support all current filter types, so new SearchFragmentBuilder implementations must be provided to handle the filters properly. Look to the database and LDAP implementations for a reference of how this can be don.

1.3 Required Algorithms

- None

1.4 Example of the Software Usage

Newer entity components have taken to using Hibernate to provide persistence, and we still need the ability to search those entities, so this component provides that support.

1.5 Future Component Direction

None

2. Interface Requirements

2.1.1 Graphical User Interface Requirements

None

2.1.2 External Interfaces

None

2.1.3 Environment Requirements

- Development language: Java 1.5+
- Deployment: Java 1.5+

2.1.4 Package Structure

com.topcoder.search.builder

3. Software Requirements

3.1 Administration Requirements

3.1.1 What elements of the application need to be configurable?

None

3.2 Technical Constraints

3.2.1 Are there particular frameworks or standards that are required?

Hibernate HQL: http://www.hibernate.org/http://www.hibernate.org/hib_docs/reference/en/html/queryhql.html

3.2.2 TopCoder Software Component Dependencies:

None

**Please review the TopCoder Software component catalog for existing components that can be used in the design.

3.2.3 Third Party Component, Library, or Product Dependencies:

Hibernate: <http://www.hibernate.org/>

3.2.4 QA Environment:

- Windows XP / Vista
- Mac OS X 10.4+

3.3 Design Constraints

The component design and development solutions must adhere to the guidelines as outlined in the TopCoder Software Component Guidelines. Modifications to these guidelines for this component should be detailed below.

3.4 Required Documentation

3.4.1 Design Documentation

- Use-Case Diagram
- Class Diagram
- Sequence Diagram
- Component Specification

3.4.2 Help / User Documentation

- Design documents must clearly define intended component usage in the 'Documentation' tab of the TC UML Tool.