

Requirements Specification

1. Scope

1.1 Overview

The LDAP SDK Interface component provides a means to perform standard LDAP functions through a consistent API regardless of the underlying SDK. Initially, only an interface to the Netscape Directory SDK will be provided, but will be possible to develop plugins for other SDKs and configure the LDAP SDK Interface without changing client code.

1.2 Logic Requirements

1.2.1 *Provides a consistent interface to underlying LDAP SDKs*

The component adds a layer of abstraction to accessing any SDK. Each plugin will be required to implement a single interface for use by the client. The component will include a plugin for use with the Netscape Directory SDK.

1.2.2 *Configure interface construction*

The user can configure the component such that it constructs and returns the correct plugin implementation for the given SDK.

1.2.3 *Business Logic*

Initially the component will provide a limited set of functionality. It is expected that future versions of the component will provide a more robust API, allowing the client to perform more complex tasks. The following functions are supported in this version of the component.

- Function to disconnect
- Create an LDAP Connection
- Provide authentication request (Support simple, ssl and sasl)
- Support ability to connect anonymously and anonymous binding
- Provide standard LDAP errors
- Bind to an LDAP server
- Bind to a tree
- Searching a bound tree
- Reading entries
- Adding entries
- Updating existing entries
- Deleting entries
- Renaming entries

1.3 Required Algorithms

None.

1.4 Example of the Software Usage

An identity management application would use this component to gather and update employee profile information from the company LDAP server.

1.5 Future Component Direction

Add plugins for additional LDAP SDKs.

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 1.3
- Compile Targets: Java 1.3, Java 1.4

2.1.4 Package Structure

com.topcoder.util.net.ldap.sdkinterface

3. Software Requirements

3.1 Administration Requirements

3.1.1 What elements of the application need to be configurable?

Plugin to support the underlying LDAP SDK.

3.2 Technical Constraints

3.2.1 Are there particular frameworks or standards that are required?

None

3.2.2 TopCoder Software Component Dependencies:

Base Exception

****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:

None

3.2.4 QA Environment:

- Solaris 7
- Redhat Linux 7.1
- Windows 2000

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
- Test Plan

3.4.2 *Help / User Documentation*

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