# Liferay CIFS
Developer's guide

26.03.2010
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## About the Liferay CIFS project

Liferay CIFS is a project created to provide access via CIFS (SMB) protocol to Liferay Portal document libraries. In other words, it allows working with a document library or its part as with a file server network share.

Liferay CIFS implementation is built using the Alfresco JLAN Framework and is in fact a Liferay-specific implementation of Alfresco JLAN DiskInterface (see Alfresco JLAN developer documentation for more details about DiskInterface).

Liferay CIFS is currently a version 0.2 prototype.

Version 0.1 prototype had the following features available:

- Announce a new SMB network host corresponding to a running instance of Liferay CIFS
- Define any number of network file shares within the network host with each share targeting the document library root or a folder inside a document library of any Liferay Portal instance (shares may target different Liferay instances, the Liferay web service base URL, user ID and password are specified for each share)
- Support getting file & folder list for share or any folder inside the share (navigate through folders)
- Support getting file & folder properties
- Support searching for files and folders by name, including support for wildcards

Version 0.2 added support for the following features:

- Getting file content
- Writing file content
- Deleting files and folders
- Renaming/moving files & folders
- Creating files & folders

The operation for setting file attributes is stubbed in version 0.2 because Liferay does not support file attributes.

Authentication is not fully implemented in version 0.2, the SMB service uses a predefined account to connect to Liferay and has its own userlist to allow or deny access to shares.

This prototype is intended to be used for demonstration purposes and this document is the only piece of documentation provided with the prototype, excluding the Javadocs which come with the code.
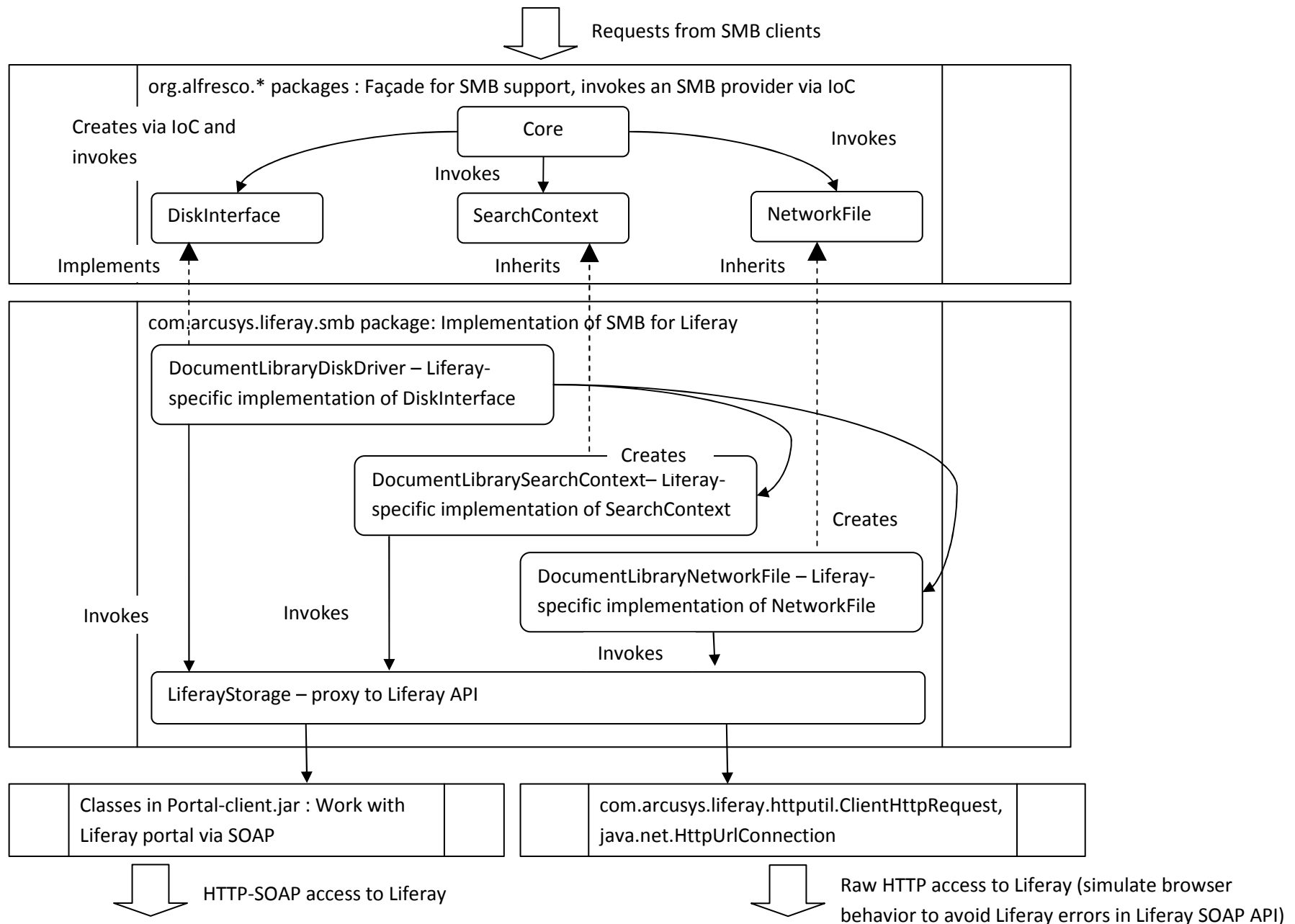

## Code structure

Alfresco JLAN source code is included in Liferay CIFS source code (all packages starting with org.alfresco).

All external dependencies are included in Lifera CIFS as source code or external jar files.

The code for Liferay CIFS itself resides in the com.arcusys.liferay.smb package.

The following diagram illustrates relations between the project's main classes. Please refer to the Javadoc for more detail.

Requests from SMB clients

**org.alfresco.* packages : Façade for SMB support, invokes an SMB provider via IoC**

Creates via IoC and invokes

Core

Invokes

Invokes

DiskInterface

SearchContext

NetworkFile

Implements

Inherits

Inherits

**com.arcusys.liferay.smb package: Implementation of SMB for Liferay**

DocumentLibraryDiskDriver – Liferay-specific implementation of DiskInterface

Creates

DocumentLibrarySearchContext– Literay-specific implementation of SearchContext

Creates

DocumentLibraryNetworkFile – Liferay-specific implementation of NetworkFile

Invokes

Invokes

Invokes

LiferayStorage – proxy to Liferay API

Classes in Portal-client.jar : Work with Liferay portal via SOAP

com.arcusys.liferay.httputil.ClientHttpRequest, java.net.HttpUrlConnection

HTTP-SOAP access to Liferay

Raw HTTP access to Liferay (simulate browser behavior to avoid Liferay errors in Liferay SOAP API)

# Deployment

All Alfresco JLAN & Liferay CIFS codes are deployed as a single jar file typically named LiferayCIFS.jar. The folder for the application also contains a configuration file named jlanConfig.xml and a script to start the CIFS server named runsrv.bat or runsrv.sh. All external dependencies reside in a lib subfolder.

jlanConfix.xml is a standard Alfresco JLAN configuration files. You should pay attention to the following sections when deploying Liferay CIFS:

- **SMB\host** – provide host name, host description, domain name and network broadcast address as described in Alfresco JLAN documentation
- **shares** – for each share create a **diskshare** section here, specifying name, comment, com.arcusys.liferay.smb.DocumentLibraryDiskDriver as driver class, Liferay shared folder name (delimited with bacbkslashes, with a without tailing backslash, no leading backslash), Liferay URL, Liferay user ID, name & password to access Liferay (see example below).

Example of a configuration file with four shares:

```xml
<?xml version="1.0" standalone="no"?>
<!-- <!DOCTYPE jlanserver SYSTEM "jlanserver.dtd"> -->

<jlanserver>
  <servers>
    <SMB/>
    <noFTP/>
    <noNFS/>
  </servers>

  <SMB>
    <host name="JLANSRV" domain="ALFRESCO">
      <broadcast>192.168.0.255</broadcast>
      <smbdialects>LanMan,NT</smbdialects>
      <comment>Alfresco JLAN Server</comment>

      <Win32NetBIOS/>
      <Win32Announce interval="5"/>

      <!-- Requires running the server using the root account -->
      <netBIOSSMB platforms="linux,macosx,solaris"/>
      <tcpipSMB platforms="linux,macosx,solaris"/>

      <!-- To run the server using a non-root account on linux, Mac OS X, Solaris -->
      <!--
      <netBIOSSMB sessionPort="1139" namePort="1137" datagramPort="1138"
platforms="linux,macosx,solaris"/>
      <tcpipSMB port="1445" platforms="linux,macosx,solaris"/>
      -->

      <hostAnnounce interval="5"/>
    </host>
    <sessionDebug flags="Negotiate,Socket,Tree"/>

      <authenticator type="local"/>
  </SMB>

  <debug>
    <output>
      <class>org.alfresco.jlan.debug.ConsoleDebug</class>
      <logFile>jlansrv.log</logFile>
      <append/>
    </output>
  </debug>
```

```xml
<shares>
        <diskshare name="JLAN" comment="Test share">
            <driver>
                <class>com.arcusys.liferay.smb.DocumentLibraryDiskDriver</class>
                <LiferaySharedFolder></LiferaySharedFolder>
                <LiferayURL>http://localhost:6666</LiferayURL>
                <LiferayUser>test@liferay.com</LiferayUser>
                <LiferayUserId>10144</LiferayUserId>
                <LiferayPassword>test</LiferayPassword>
            </driver>
        </diskshare>
        <diskshare name="TestShare" comment="Test share">
            <driver>
                <class>com.arcusys.liferay.smb.DocumentLibraryDiskDriver</class>
                <LiferaySharedFolder>TestRootFolder</LiferaySharedFolder>
                <LiferayURL>http://localhost:6666</LiferayURL>
                <LiferayUser>test@liferay.com</LiferayUser>
                <LiferayUserId>10144</LiferayUserId>
                <LiferayPassword>test</LiferayPassword>
            </driver>
        </diskshare>
       <diskshare name="TestRootId" comment="Test share">
            <driver>
                <class>com.arcusys.liferay.smb.DocumentLibraryDiskDriver</class>
                <LiferaySharedFolder>TestRootFolder\subfolder\</LiferaySharedFolder>
                <LiferayURL>http://localhost:6666</LiferayURL>
                <LiferayUser>test@liferay.com</LiferayUser>
                <LiferayUserId>10144</LiferayUserId>
                <LiferayPassword>test</LiferayPassword>
            </driver>
        </diskshare>
        <diskshare name="TestRootId2" comment="Test share">
            <driver>
                <class>com.arcusys.liferay.smb.DocumentLibraryDiskDriver</class>
                <LiferaySharedFolder>TestRootFolder\another_subfolder
</LiferaySharedFolder>
                <LiferayURL>http://localhost:6666</LiferayURL>
                <LiferayUser>test@liferay.com</LiferayUser>
                <LiferayUserId>10144</LiferayUserId>
                <LiferayPassword>test</LiferayPassword>
            </driver>
        </diskshare>

  </shares>

  <security>
    <JCEProvider>cryptix.jce.provider.CryptixCrypto</JCEProvider>
    <authenticator>
      <class>org.alfresco.jlan.server.auth.LocalAuthenticator</class>
      <mode>USER</mode>
      <allowGuest/>
    </authenticator>

    <users>
      <user name="jlansrv">
        <password>jlan</password>
        <comment>System administrator</comment>
        <administrator/>
      </user>
      <user name="normal">
        <password>normal</password>
      </user>
    </users>
  </security>
</jlanserver>
```