



ADEPTIA

*Manage, Automate and Optimize
Business Processes.*

J-Integra for Exchange Setup Guide

Version 1.1

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Adeptia Inc.
443 North Clark Ave,
Suite 350
Chicago, IL 60610, USA
Phone: (312) 229-1727

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Document Conventions

Convention	Description
Text Matter in font Verdana and font size 9 point.	Explains the installation guide.
Text matter	Click on link to reach target.
	Note:

Abbreviations Used

Abbreviation	Description
CDO	Collaboration Data Object

Contact Information

In case of any queries, please contact us at:

Contact For	Email ID
Sales	sales@adeptia.com
Support	support@adeptia.com

For latest updates and information, please visit us at www.adeptia.com .

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1 ABOUT THIS GUIDE

This document provides an overview of *J-Integra for Exchange* and how it is used as middleware between Adeptia Server and Microsoft Exchange Server.

This document is divided into the following sections:

- [Introduction to J-Integra for Exchange](#)
- [Installing J-Integra for Exchange](#)
- [Configuring Adeptia Server to Use J-Integra for Exchange](#)

2 INTRODUCTION TO J-INTEGRA FOR EXCHANGE

J-Integra® for Exchange is a high performance middleware bridge that enables Java Exchange interoperability. Its pure Java implementation of the DCOM wire protocol allows you to access Exchange server objects such as folders, messages, contacts, tasks, and calendar items from any Java Application such as Adeptia Server. Figure 2.1 describes a deployment structure for J-Integra® for Exchange with Adeptia Server.

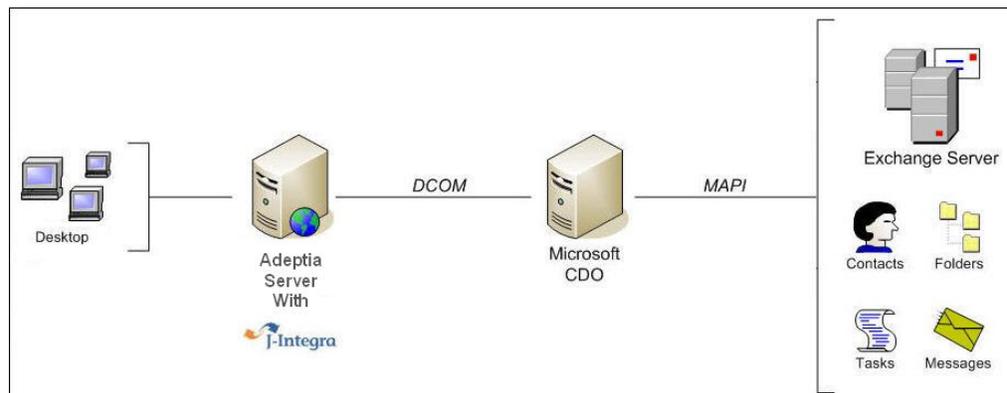


Figure 2.1: J-Integra for Exchange

As Figure 2.1 indicates, there are 3 major components:

Adeptia Server

It is machine, where Adeptia Server is installed. To use Adeptia Server with J-Integra for exchange, you need to copy some jar files into /web/libs folder of Adeptia Server installation. These file are located in the lib folder of your J-Integra for Exchange installation.

Files required: cdo.jar, jintegra.jar, jintegra_reduced_logging.jar

Microsoft CDO Host

The CDO machine is where CDO is installed and hosted. It serves as the intermediary between Adeptia Server and the Exchange Server.

Files required: cdoconfig.exe, dcomconfig.dll, setdllhost.exe,
setdllhostEnglishResourceDll.dll.

These files are all located in the bin folder of your J-Integra for Exchange installation.

Exchange Server

The Exchanger Server that Adeptia Server will be accessing.

Files required: none

It is also possible to access the Exchange Server directly from your Java application without the need of an intermediary CDO machine. Under this scenario, CDO is installed and configured directly in the Exchange Server. This case, however, is less common as most clients face restrictions on doing any installations in the Exchange Server for stability and security reasons.

3 INSTALLING J-INTEGRA FOR EXCHANGE

You need to install J-Integra for Exchange on the machine, which you want use as CDO host. This section explains the installation of J-Integra for Exchange and configuration of CDO host. This section covers:

- [Pre-Requisites](#)
- [Installing J-Integra for Exchange](#)
- [Updating License](#)
- [Installing CDO](#)
- [Configuring CDO Host](#)

PRE-REQUISITES

- You must have administrative rights on the machine, where you are installing J-Integra for Exchange.
- JDK 1.5 must be installed on the machine, where you are installing J-Integra for Exchange.
- *CDO Host, Exchange Server and the machine, where Adeptia Server is running* must be into the same domain.

INSTALLING J-INTEGRA FOR EXCHANGE

Steps to install J-Integra for Exchange

1. Double-click the file **jintegraexchange<Ver>.exe**. Installation of J-Integra for Exchange starts and the *Introduction* screen appears (see Figure 3.1).

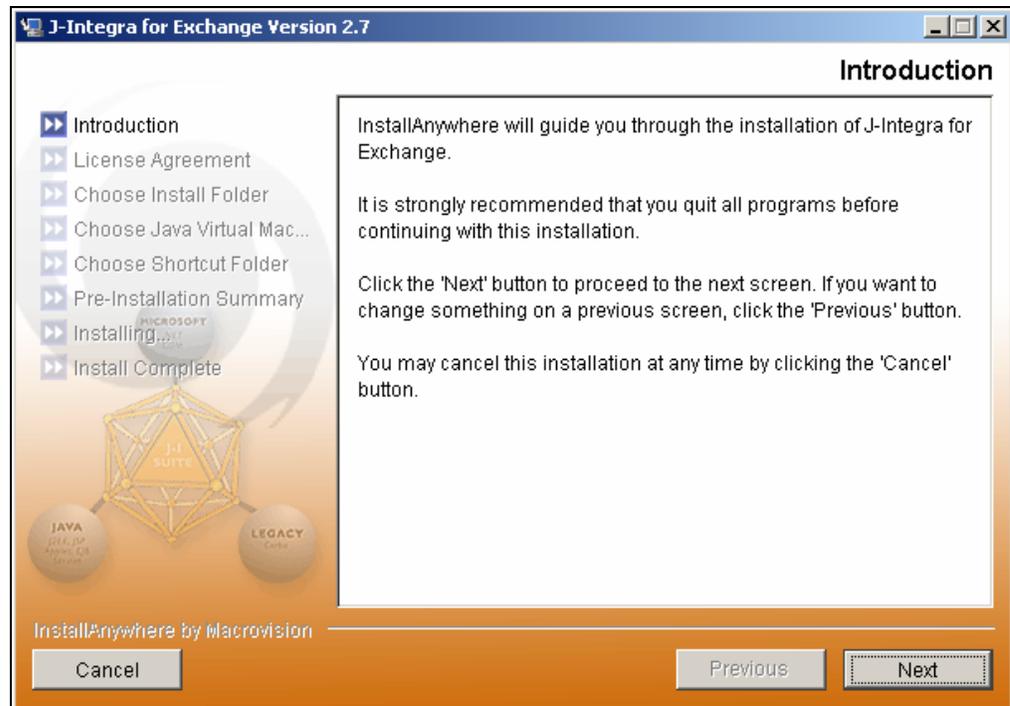


Figure 3.1: J-Integra Introduction

2. Click **Next** button. The End User License Agreement screen is displayed (See Figure 3.2).

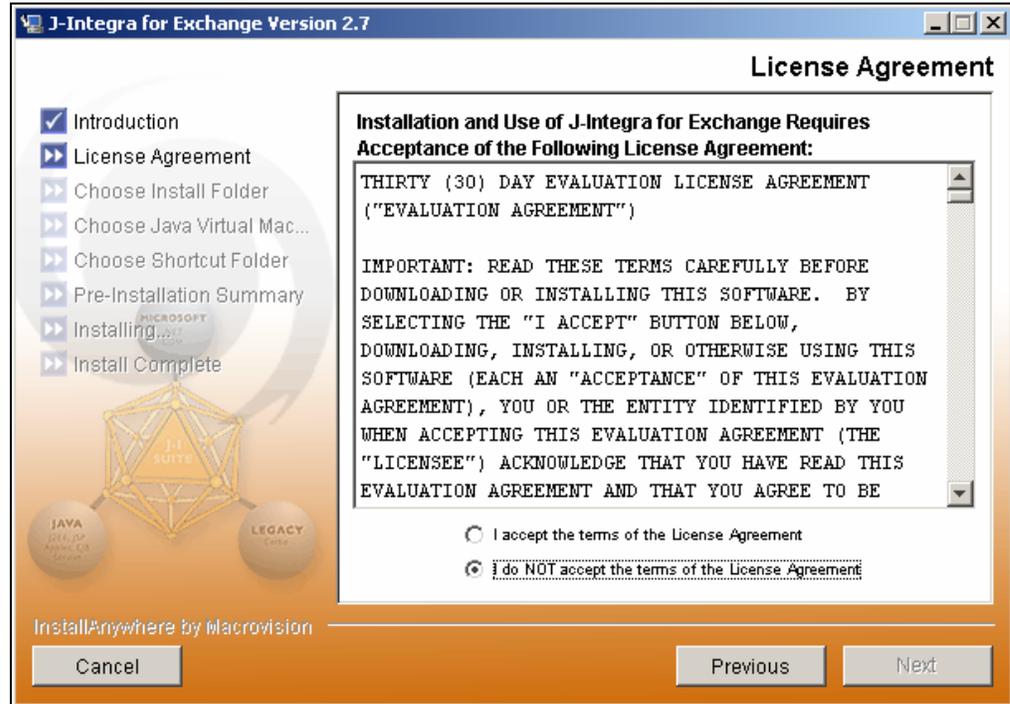


Figure 3.2: End User License Agreement

3. Select *I accept the terms of the License Agreement* radio button and click **Next**. The *Choose Install Folder* screen is displayed (see Figure 3.3).



Figure 3.3: Choose Install Folder

4. Click **Choose** button to select the directory in which you want to install J-Integra for Exchange. By default, it is installed in the directory **C:\Program Files\J-Integra\exchange**. Once you select the directory, click **Next** button. The *Choose Java Virtual Machine* screen is displayed (see Figure 3.4).

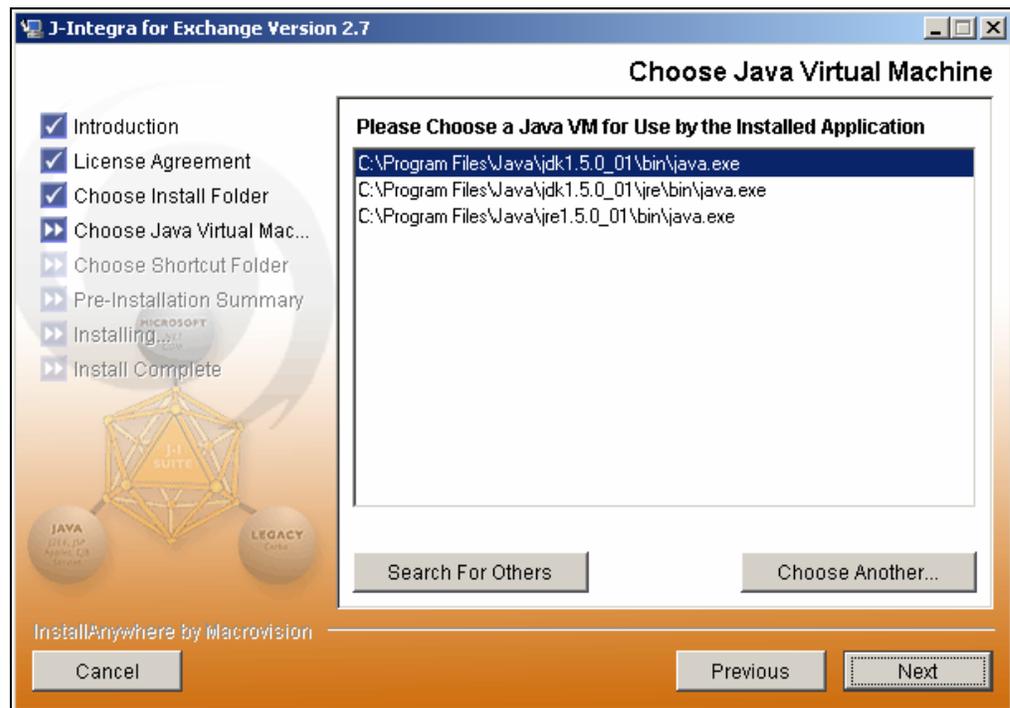


Figure 3.4: Choose Java Virtual Machine

5. Keep the default selection and click **Next**. If you want to use another Java Virtual Machine, select it and then click **Next**. The *Choose Shortcut Folder* screen is displayed (see Figure 3.5).

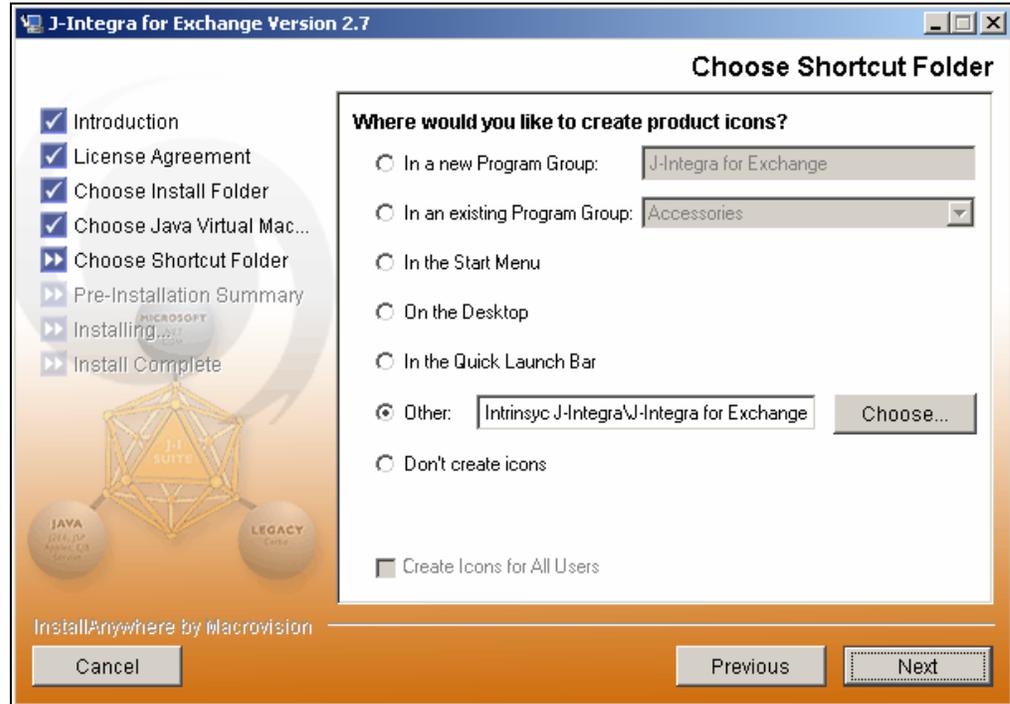


Figure 3.5: Choose Shortcut Folder

6. Select the appropriate option and select **Next**. The *Pre-Installation Summary* screen is displayed. This screen shows the installation settings (e.g. Product Name, Install Folder, Shortcut Folder, and Disk Space) (see Figure 3.6).



Figure 3.6: Pre-Installation Summary

7. Click **Install**. This starts the installation of J-Integra for Exchange (see Figure 3.7).

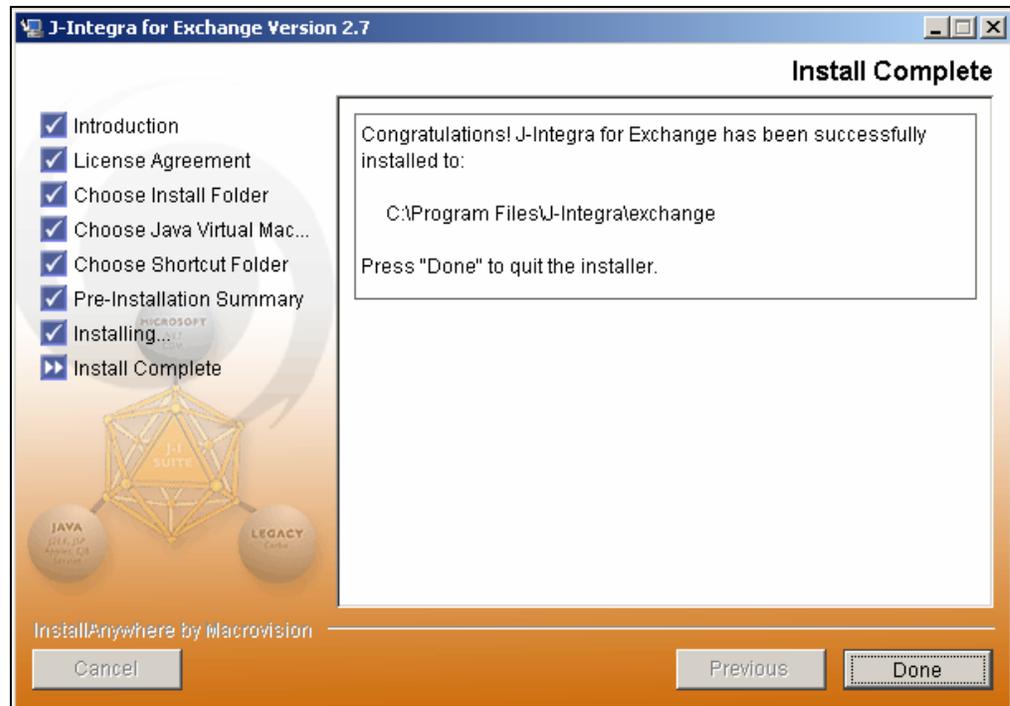


Figure 3.7: Installing J-Integra for Exchange

8. When installation completes, the *Install Complete* screen is displayed (Figure 3.8).

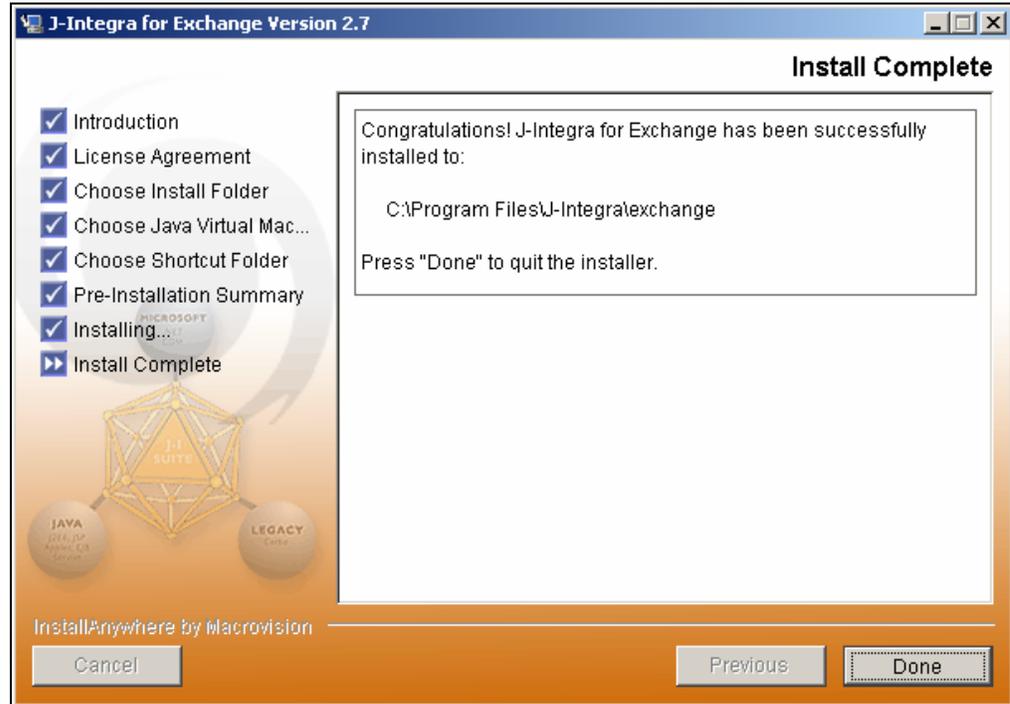


Figure 3.8: Installation Complete

9. Click **Done** to close the installer. A dialog box is displayed, which reminds to update the license (see Figure 3.9).

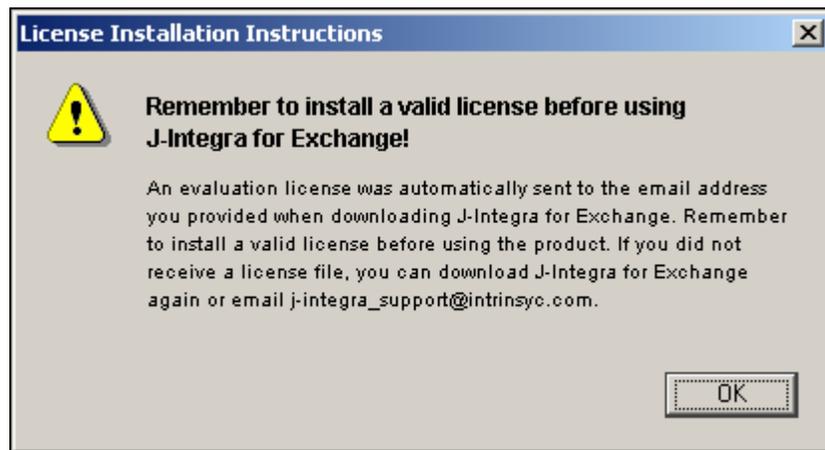


Figure 3.9: License Install Instruction

10. This *OK* to close the dialog box.

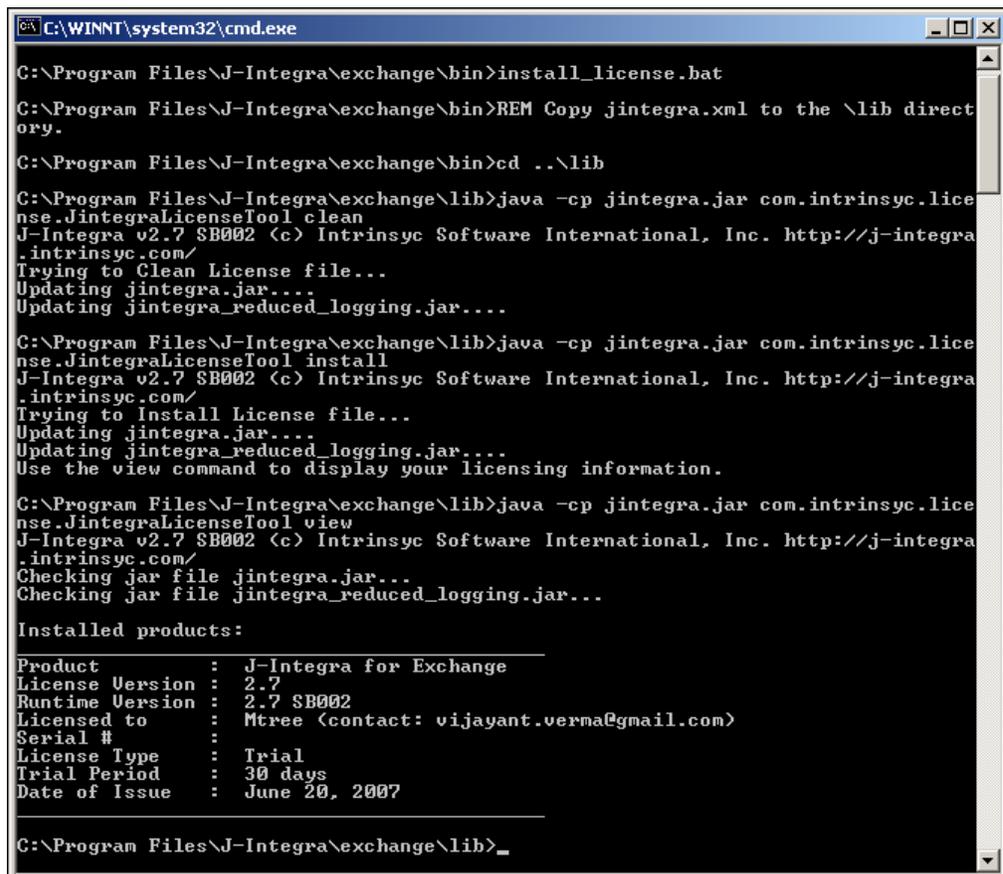
	<p>When J-Integra for Exchange is installed , following environment variables are set:</p> <p>JINTEGRA_HOME : C:\Program files\J-Integra\exchange</p> <p>Path : %JINTEGRA_HOME%\bin</p>
---	---

UPDATING LICENSE

When you download or purchase J-Integra for Exchange, an email is automatically sent to you with a license file attached (jintegra.xml). This section explains how to update this license.

Steps to update J-Integra for Exchange License

1. Save the jintegra.xml license file to your `%JINTEGRA_HOME%\lib` directory.
2. Open a command prompt and `cd` to the `%JINTEGRA_HOME%\bin` directory.
3. Type the command `install_license.bat` and press enter. The license is updated and the summary is shown at the command prompt as shown in Figure 3.10.



```

C:\WINNT\system32\cmd.exe
C:\Program Files\J-Integra\exchange\bin>install_license.bat
C:\Program Files\J-Integra\exchange\bin>REM Copy jintegra.xml to the \lib directory.
C:\Program Files\J-Integra\exchange\bin>cd ..\lib
C:\Program Files\J-Integra\exchange\lib>java -cp jintegra.jar com.intrinsyc.license.JintegralicenseTool clean
J-Integra v2.7 SB002 (c) Intrinsyc Software International, Inc. http://j-integra.intrinsyc.com/
Trying to Clean License file...
Updating jintegra.jar...
Updating jintegra_reduced_logging.jar...
C:\Program Files\J-Integra\exchange\lib>java -cp jintegra.jar com.intrinsyc.license.JintegralicenseTool install
J-Integra v2.7 SB002 (c) Intrinsyc Software International, Inc. http://j-integra.intrinsyc.com/
Trying to Install License file...
Updating jintegra.jar...
Updating jintegra_reduced_logging.jar...
Use the view command to display your licensing information.
C:\Program Files\J-Integra\exchange\lib>java -cp jintegra.jar com.intrinsyc.license.JintegralicenseTool view
J-Integra v2.7 SB002 (c) Intrinsyc Software International, Inc. http://j-integra.intrinsyc.com/
Checking jar file jintegra.jar...
Checking jar file jintegra_reduced_logging.jar...

Installed products:
-----
Product       : J-Integra for Exchange
License Version : 2.7
Runtime Version : 2.7 SB002
Licensed to   : Mtree (contact: vijayant.verma@gmail.com)
Serial #      :
License Type   : Trial
Trial Period   : 30 days
Date of Issue  : June 20, 2007
-----
C:\Program Files\J-Integra\exchange\lib>_

```

Figure 3.10: License Updated

INSTALLING CDO

There are 2 ways to install CDO. One is through a stand-alone version which is provided for download from Microsoft:

<http://www.microsoft.com/downloads/details.aspx?FamilyID=e17e7f31-079a-43a9-bff2-0a110307611e&DisplayLang=en>

The other way is to install it as a component of MS Outlook. Note that these two installations can not co-exist in the same machine. You either do one or the other. If you have to install CDO via Outlook, follow the guide below.

CDO is bundled as a component in MS Outlook version 2003. However, it is not installed by default when you install MS Outlook.

Steps to Install CDO as a component of MS Outlook

1. Open Add or Remove Programs under Settings > Control Panel.
2. Click on Change or Remove Programs on the left side bar. The *Add or Remove Programs* wizard appears (see Figure 3.11).

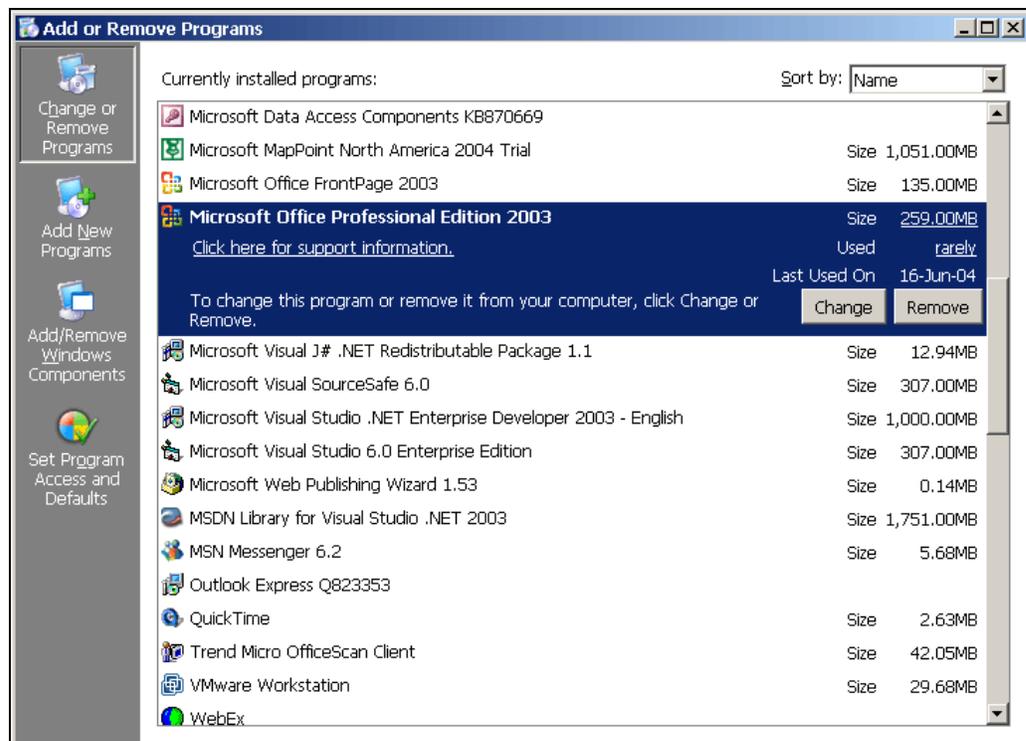


Figure 3.11: Update MS Office

3. Select Microsoft Office on the *Currently Installed Programs* box on the right and then click *Change*. The *Microsoft Office 2003 Setup* wizard appears (see Figure 3.12).



Figure 3.12: Add or Remove Features

4. Select *Add or Remove Features* radio button and click *Next*. The *Custom Setup* screen is displayed (see Figure 3.13).



Figure 3.13: Choose Advanced Options

5. Put a check mark on the Choose advanced customization of applications then click Next. The *Advanced Customization* screen is displayed (see Figure 3.14).

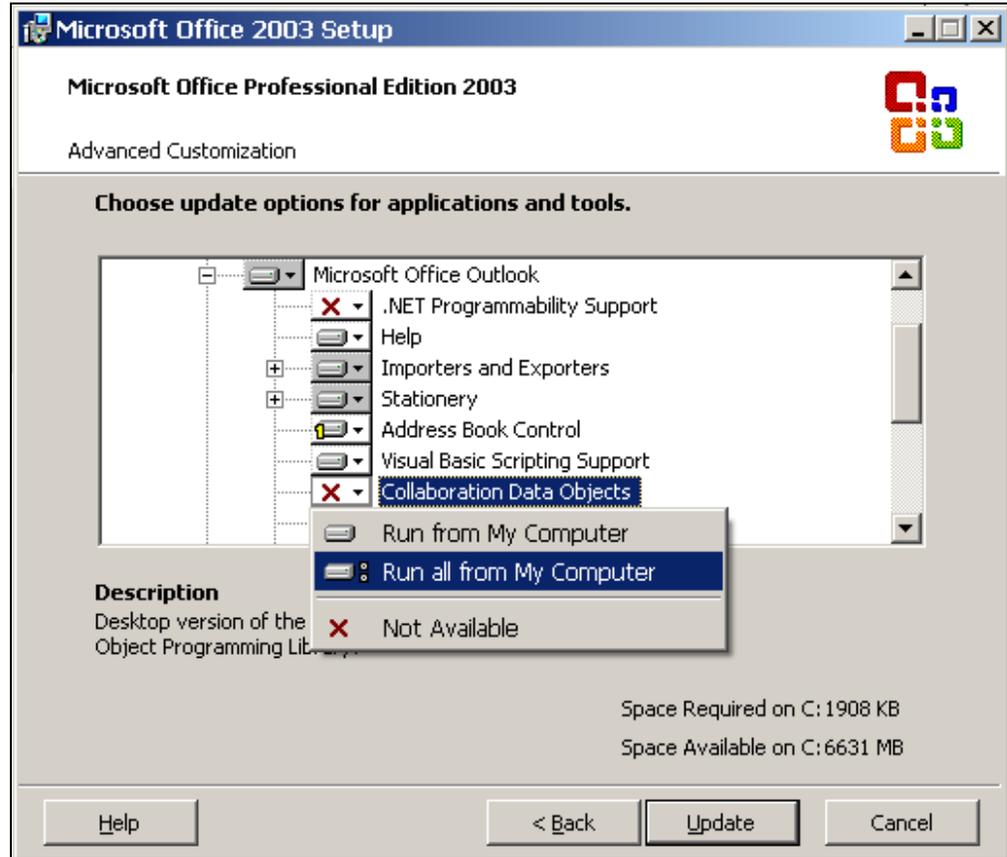


Figure 3.14: Select Collaboration Data Object

6. Expand Microsoft Office, click the icon for Collaboration Data Objects and select *Run from my computer* or *Run all from my computer*.
7. Click on Update. CDO will now be installed in your machine.

CONFIGURING CDO HOST

CDO Host can be configured in two ways:

- [Using CDOConfig.exe](#)
- [Using Manual Steps](#)

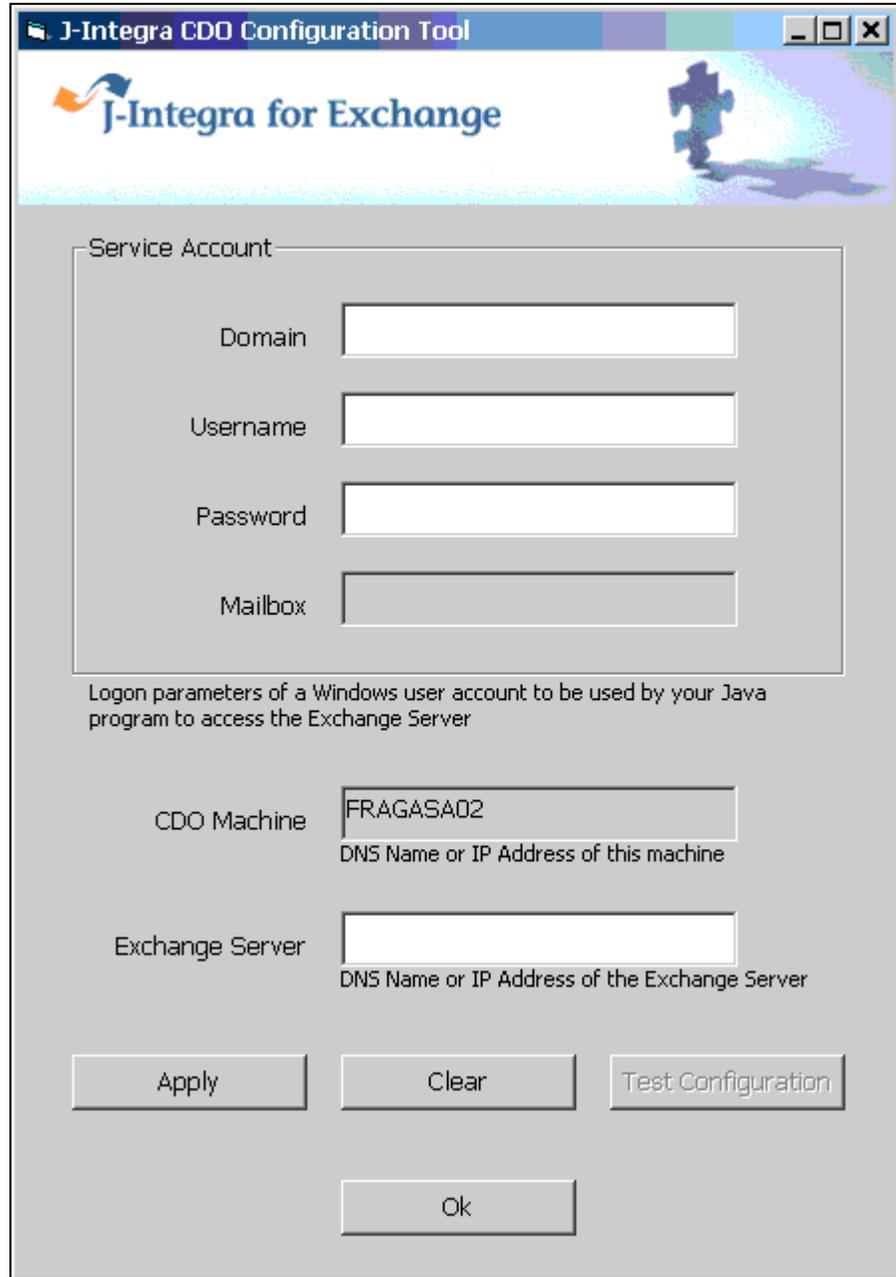
It is recommended to configure CDO host using CDOConfig.exe tool because it is easier as compared to manual steps.

Configuring CDO Host using CDOConfig.exe

CDOConfig.exe is a tool that comes with the J-Integra® for Exchange SDK and is used for configuring CDO.

Steps to configure CDO Host Machine using CDOConfig.exe tool

1. Run CDOConfig.exe located in the `/bin` folder of your J-Integra for Exchange installation directory. The *J-Integra CDO Configuration Tool* screen is displayed (see figure 4.13).



J-Integra CDO Configuration Tool

J-Integra for Exchange

Service Account

Domain

Username

Password

Mailbox

Logon parameters of a Windows user account to be used by your Java program to access the Exchange Server

CDO Machine
DNS Name or IP Address of this machine

Exchange Server
DNS Name or IP Address of the Exchange Server

Apply Clear Test Configuration

Ok

Figure 3.15: CDO Configuration Tool

2. In the **CDOConfig** window, fill in the following information:

Service Account: This is any Windows user account that will be used to access the Exchange Server. This account must have an Exchange mailbox and must have local administrative rights to the CDO machine.

Fill in the domain, username and password of this account in the corresponding text boxes.

Mailbox - This is automatically filled in for you. By MS Exchange convention, the mailbox name is the same as the username.

CDO Machine - This is also automatically filled in for you. It is the host name of machine where CDOConfig.exe is being run.

Exchange Server - Enter the host name or the IP address of your Exchange Server.

3. After providing all the required information, click *Apply* to configure CDO. If everything goes well, you should get a message saying CDO has been configured.
4. You should also test the CDO configuration by clicking the *Test Configuration* button. The test involves sending an e-mail message to the Service Account. Note that you will get security prompts from Outlook while running the test because it is implemented using VB.

	<p>Be sure the firewall is turned off on the CDO machine. J-Integra works under firewalled systems but extra configuration is required for this setup to work. To know, how to make J-Integra® work under firewalls, refer to http://j-integra.intrinsyc.com/support/kb/article.aspx?id=30323 .</p> <p>The CDOConfig.exe tool makes assumptions about some of the settings for a typical server where CDO is installed. If any of these settings are different on your own CDO machine, the CDOConfig.exe tool may fail to configure CDO properly (and error messages may appear when running the above CDO test). If this happens, please refer to the Configuring CDO Host using manual steps. The manual steps for CDO configuration will walk you through each step one-by-one, and make sure all settings are correct.</p>
---	---

Configuring CDO Host using manual steps

Manual Steps to configure CDO Host:

1. **Set up an exchange user account.** This is the account to be used by Adeptia Server to access Exchange objects (folders, messages, contact items, etc.). An exchange user can be any user in the domain that has a mailbox.
2. **Set up a Windows machine where CDO will be hosted.** This could be the same machine as the Exchange Server. However, due to security considerations, you may not be allowed to do any installations and configurations on the Exchange Server. In this case, you would need to use a separate machine to host CDO. The *CDO host machine* and *Exchange Server* must be in the same domain. To install CDO, refer to the section [Installing CDO](#).
3. Check if CDO.DLL is installed in the CDO host machine. CDO.DLL is usually saved in C:\Program Files\Common Files\System\MSMAPI\1033 when you install MS Outlook. If you find CDO.DLL in the CDO host machine, proceed to step 4. If you do not find CDO.DLL in the CDO host machine, you will have to install it as detailed in [Installing CDO](#) section.

4. After installing CDO.DLL, register it by running regsvr32 as follows:

```
regsvr32 CDO.DLL
```



Figure 3.16: Register CDO.DLL



Make sure to run **regsvr32** on the folder where CDO.DLL is located.

5. After running regsvr32, you should see a message saying that CDO.DLL has been successfully registered.
6. Create a surrogate for CDO. Creating a surrogate for CDO.DLL is necessary as dll files can not run by themselves. They have to be hosted in an executable process. J-Integra for Exchange provides a tool called setdllhost.exe which can create an executable process/surrogate that will host CDO.DLL. Setdllhost.exe is located in the %JINTEGRA_HOME%\bin folder and should be run as follows:

```
setdllhost CDO.DLL "CDO Surrogate"
```



Figure 3.17: Create CDO Surrogate



- setdllhost accepts 2 parameters: [dll file] and a [surrogate name]. In the above example, we are creating a surrogate for CDO.DLL and calling this surrogate "CDO Surrogate".
- Make sure to run setdllhost.exe on the folder where CDO.DLL is located.
- To remove "CDO Surrogate", run as follows:

```
setdllhost /unregister "CDO Surrogate"
```

7. **Configure the DCOM settings for the CDO surrogate** so that it can be accessed remotely. To do this, open a command prompt and run **dcomcnfg**. The *Distributed COM Configuration Properties* screen is displayed (see Figure 3.18)

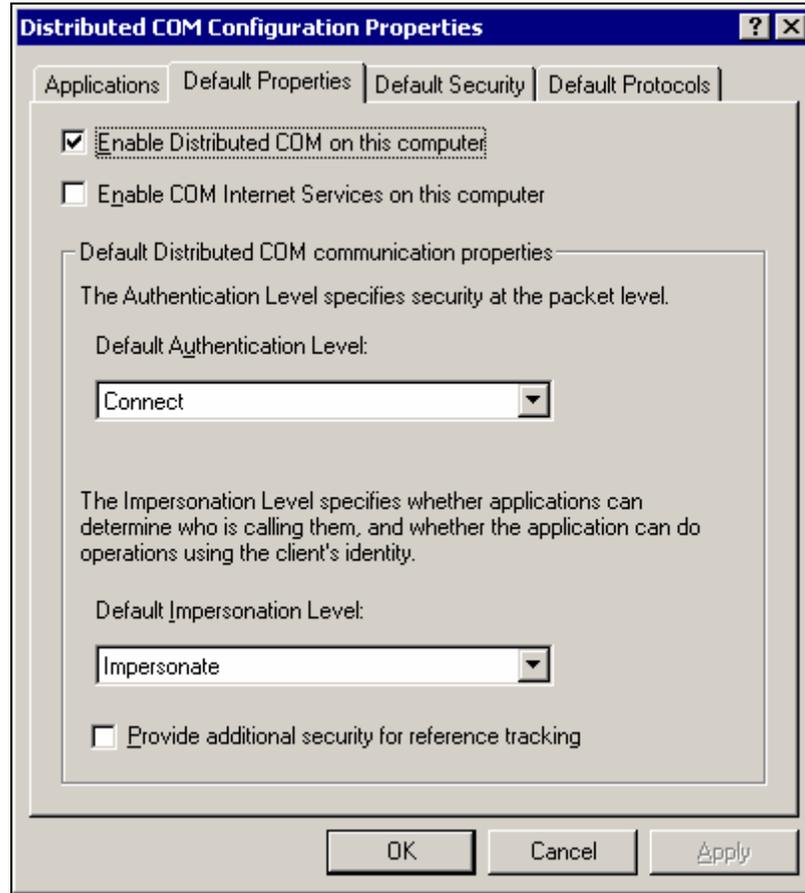


Figure 3.18: DCOM Configuration Properties

 The main DCOMCFG window varies depending on the version of Windows operating system you are running. The following steps are applicable to Windows 2000 or earlier versions. If you are using Windows XP or Windows Server 2003, go to **Start > Programs > Administrative Tools > Component Services**. Expand **Component Services**, expand **Computers**, and right-click **My Computer**. Select **Properties**.

8. Click on the **Default Properties** tab and put a check mark on *Enable Distributed COM on this computer*.
9. Choose *Connect* as the *Default Authentication Level* and *Impersonate* as the *Default Impersonation Level*.
10. Click *Apply*.
11. Click on the **Applications** tab (see Figure 3.19).

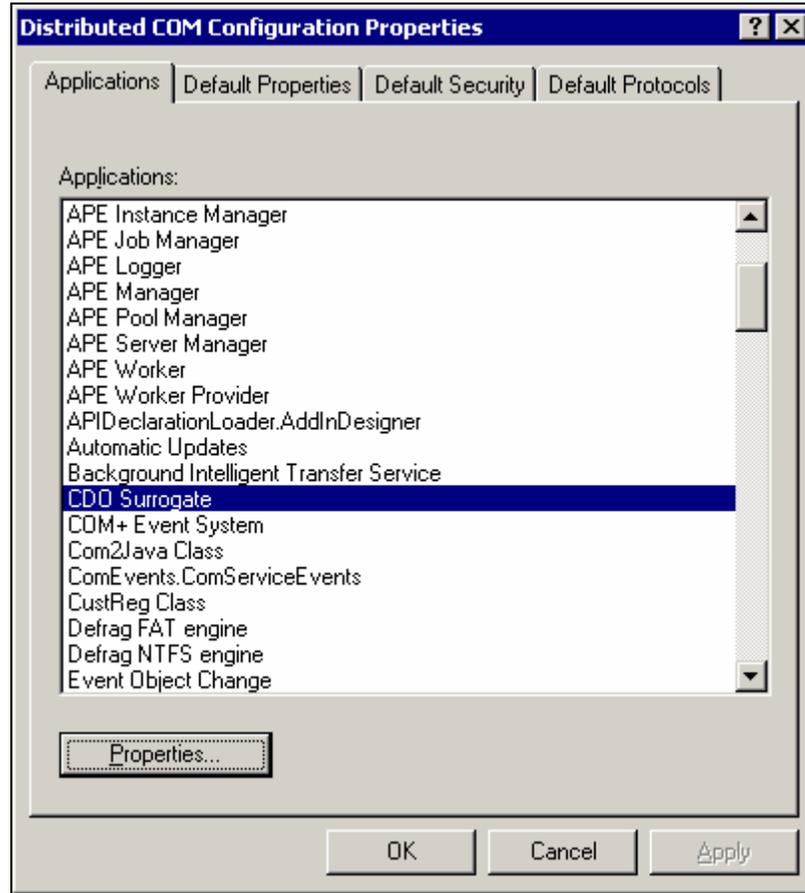


Figure 3.19: Select CDO Surrogate

12. Select *CDO Surrogate* and then click on **Properties**. CDO Surrogate properties are displayed (see Figure 3.20).

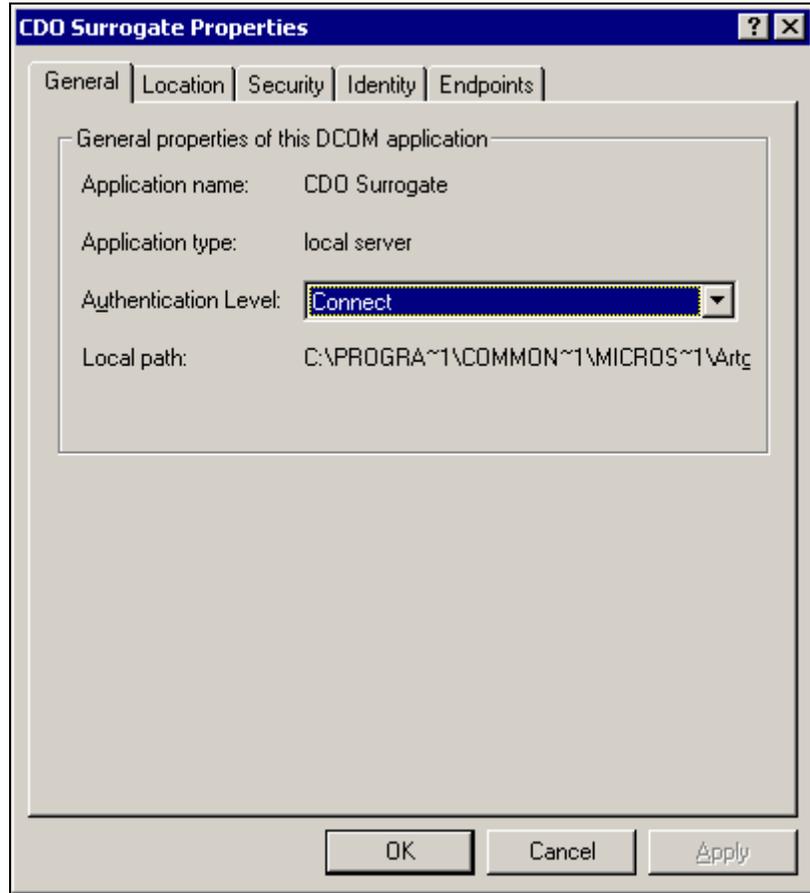


Figure 3.20: CDO Surrogate Properties



On Windows XP or Windows Server 2003, expand **Component Services**, expand **Computers**, expand **My Computer**, and click **DCOM Config**. Right-click on the application you wish to configure. Select **Properties**.

13. Under the **General** tab, set the *Authentication Level* to *Connect* and then click *Apply*.
14. Click on the **Security** tab (see Figure 3.21).

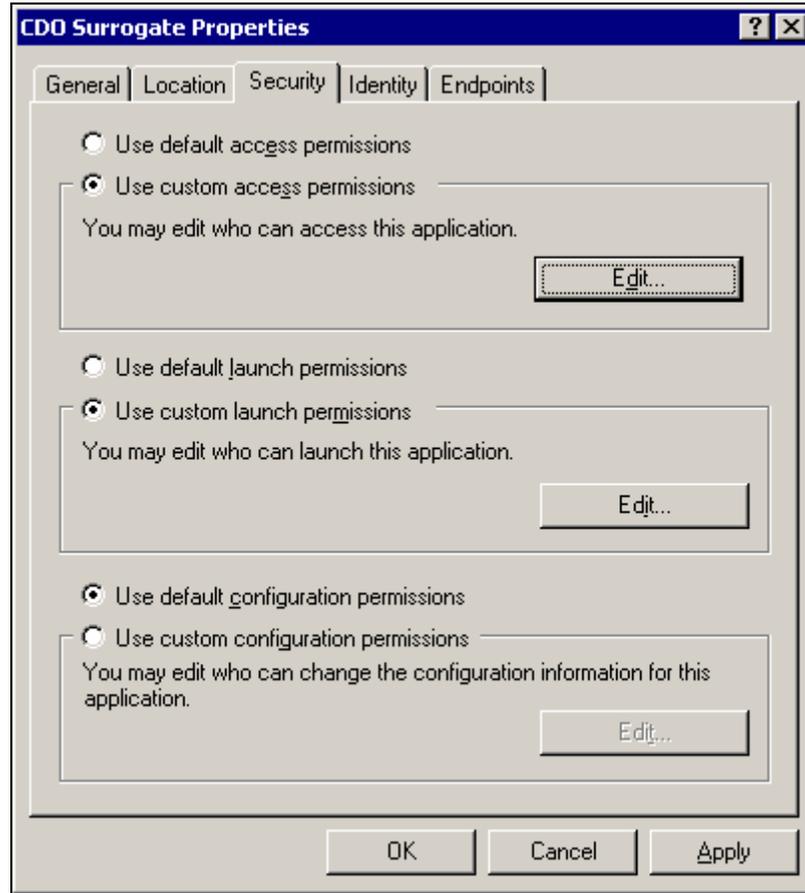


Figure 3.21: Select Security Options

15. Select *Use custom access permissions* then click *Edit*. The *Registry Value Permissions* screen is displayed (see Figure 3.22).

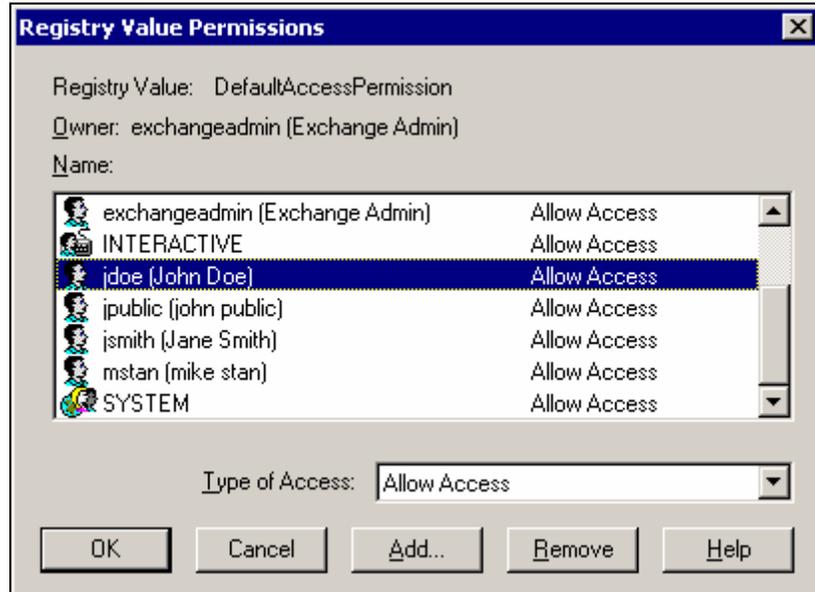


Figure 3.22: Select Users

16. From the *Registry Value Permissions* window, add the exchange user account you created in step 1. In the example above, this user account is "John Doe".
17. Still on the Security tab, select *Use custom launch permissions* then click on Edit. Add the exchange user to the list, just as you did in the previous step. Click *Apply*.
18. On the Identity tab, select *This user* radio button and enter the credentials of the exchange user. Make sure that you enter the correct values. The safest way to do this is to use the *Browse* button to select the exchange user (see Figure 3.23). In the example below, the exchange user - jdoe - belongs to the ROYLIM domain.

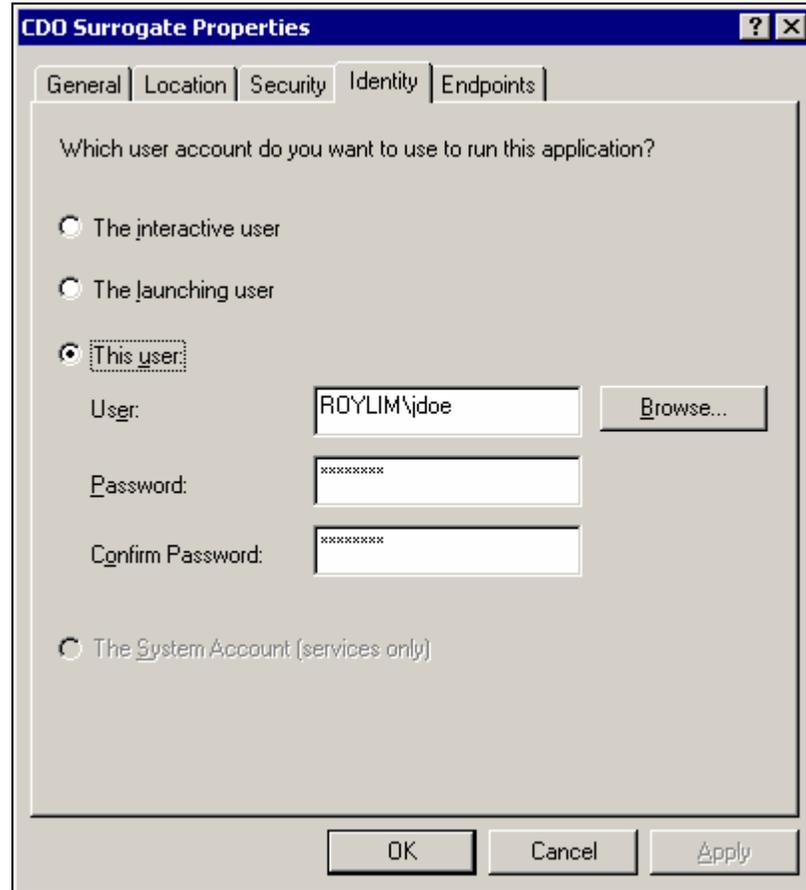


Figure 3.23: Select Users

4 CONFIGURING ADEPTIA SERVER TO USE J-INTEGRA FOR EXCHANGE

To use Adeptia Server with J-Integra for Exchange, you need to copy *CDO.jar*, *jintegra.jar*, *Jintegra_reduced_logging.jar* from CDO machine (where J-Integra for Exchange is installed) to Adeptia Server machine.

Pre-requisite: J-Integra for exchange must be installed and its license must be updated, before copying jar file.

Steps to Install CDO as a component of MS Outlook

1. On CDO Host machine, go to *%JINTEGRA_HOME%\lib* folder and copy *cdo.jar*, *jintegra.jar*, *jintegra_reduced_logging.jar* files into *C:\Program Files\AdeptiaServer\AdeptiaServer-4.6\ServerKernel\web\libs* folder on the machine, where Adeptia Server is running.

2. On Adeptia Server machine, open *launcher.properties* file from *C:\Program Files\AdeptiaServer\AdeptiaServer-4.6\ServerKernel\etc* folder.
3. In *launcher.properties* file, at the end of the **#default jars** section, add the entry for *cdo.jar*, *jintegra.jar*, *jintegra_reduced_logging.jar* as shown in figure 4.12.

```
#default jars

JAR:XERCES:xercesImpl-2.7.1.jar
JAR:ITEXT:itext-1.01.jar
JAR:AVALON1:avalon-framework-20020627.jar
JAR:AXIS:axis-1.1.jar
JAR:BATIK:batik-1.5-fop-0.20-5.jar
JAR:BLISSED:blissed-adeptia-1.2.jar
JAR:COMMONSHTTPCLIENT:commons-httpclient-2.0.2.jar
JAR:COMMONSNET:commons-net-1.4.1.jar
JAR:COMMONSVFS:commons-vfs-1.0-dev.jar
JAR:JSCH:jsch-0.1.20.jar
JAR:SLIDEWEBDAV:jakarta-slide-webdavlib-2.1.jar
JAR:JDOM:jdom-1.0.jar
JAR:JDOMBETA:jdom-1.0b8.jar
JAR:JCIFS:jcifs-1.2.9.jar
JAR:MONITORING:liquidInf.jar
JAR:TIDY:tidy.jar
JAR:bc:bcmail-jdk14-129.jar
JAR:bc:bcprov-jdk14-129.jar
JAR:JETTY:org.mortbay.jaas-4.2.24.jar
JAR:BPMSERVER:BPMServer.jar
JAR:CRIMSON:crimson.jar
JAR:SERIALIZER:serializer-2.7.0.jar
JAR:POI:poi-2.5.1-final-20040804.jar
JAR:ORO:jakarta-oro-2.0.8.jar
JAR:DESMOJ:desmoj-core-2.1.1.jar
JAR:COLT:colt-1.2.0.jar
JAR:CDO:cdo.jar
JAR:JIntegra:jintegra.jar
JAR:JIntegraLog:jintegra_reduced_logging.jar

web/libs/tools.jar
etc/License.jar
libs/driver/hsqldb-1.8.0.7.jar
libs/driver/jtds-1.2.jar
```

Figure 4.1: CDO Configuration Tool

4. Save the *launcher.Properties* file.
5. Open *indigo.mlet* file from *C:\Program Files\AdeptiaServer\AdeptiaServer-4.6\ServerKernel\etc* folder.
6. Copy the following line of code in *indigo.mlet* file.

```
<MLET  
NAME="indigo.core.service:type=mapitest"  
CODE="com.adeptia.indigo.services.transport.mail.smtp.SendMAPI"  
CODEBASE="."  
ARCHIVE="BPMServer.jar">  
</MLET>
```

7. Save the *indigo.mlet* file.
8. Restart Adeptia Server Kernel and Web Runner.

5 TESTING J-INTEGRA SETUP

To test, whether Adeptia Server is properly configured to use J-Integra for exchange, follow the guidelines given below:

- Create a mail source activity using MAPI protocol and click **Test** button. This will test the connectivity of Adeptia Server with Exchange Server.
- Create a simple process flow with a mail source and mail target activity. These mail source and mail target activity should use MAPI protocol and point to the required exchange server. If this process flow is executed successfully (mail is sent to the required mailbox), it means you have configured J-Integra properly.

6 ABOUT ADEPTIA INC.

Adeptia, an enterprise software company headquartered in Chicago, Illinois, provides a business process integration technology to easily and quickly automate business processes using industry-specific standards. Adeptia's unique product combines business process management with business-to-business integration. Adeptia's reusable and highly scalable technology has been deployed by Fortune 1000 companies. For more information, visit <http://www.adeptia.com> .

Adeptia Headquarters
443 North Clark St, Suite 350
Chicago, IL 60610
USA
Phone: (312) 229-1727
Email: info@adeptia.com

Adeptia India R&D Centre
D-4, 1st Floor, Sector 10,
Noida, U.P. - 201301
India

Phone: +91-120-3052137 / 8 / 9

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