

RELAIS

Installation Guide in Windows Environment

Version 3.x



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1 RELAIS: installation and configuration

In this manual we present the steps needed to install RELAIS and the required software environments in a PC running Windows OS.

To run RELAIS the following environments are needed:

- Java JRE 6 or higher and JDK 1.6 or higher;
- MySql Server 5 or higher and MySQL ODBC driver;
- R 2.9, or higher, with packages lpSolve and RODBC.

To install Java and MySql environments, you must be administrator of your PC.

1.1 Java Environment

1.1.1 Installing Java JRE and JDK

As first step, ensure that **Java 2 Runtime Environment** (JRE) release 6 or higher and **Java SE Development Kit** (JDK) release 6 or higher are installed on your pc. If these environments are not available you need to download from the web the last release of these environments and install them.

No special configuration are required.

1.1.2 Setting the PATH variable with JRE bin directory

As second step, modify the system variable PATH by adding the bin directory of JRE, by default this is created inside the directory 'Program Files':

C:\Program Files\Java\jre6\bin

To modify the system variable PATH, you must choose the 'System' item from the Control Panel menu; you can also click with the right button on the desktop icon 'My computer' and select 'Properties' from the pop-up menu. Then, select the "Advanced" panel, a window as shown in Figure 1 will be displayed.

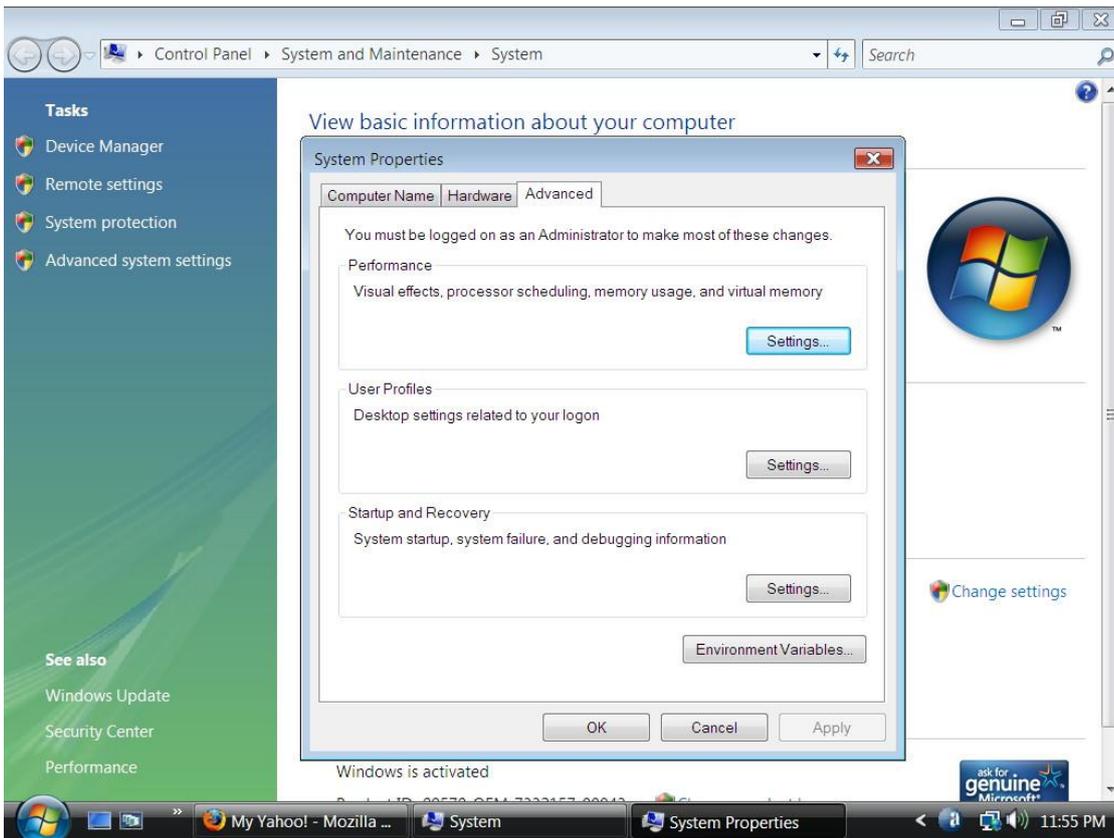


Figure 1. Advanced System Settings window

Clicking the “Environment Variables...” button the Environment Variables, as shown in Figure 2, will be opened.

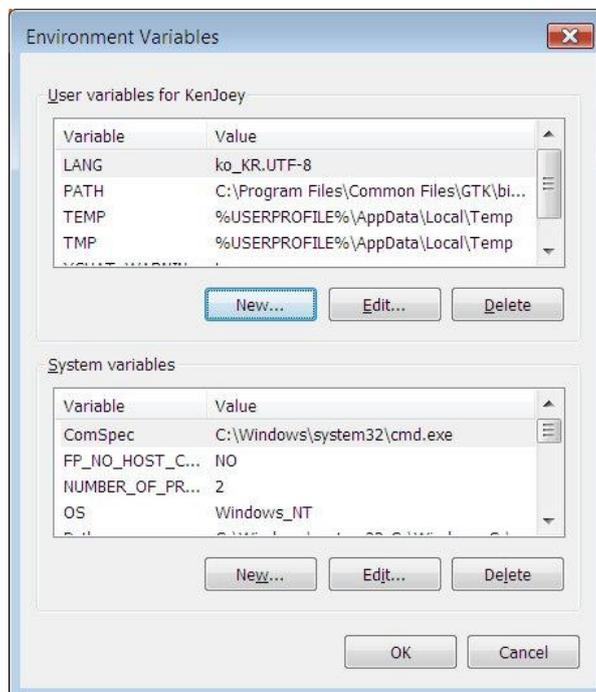


Figure 2. Environment Variables window

In the System variables list, select the variable 'PATH' and click 'Edit', a window dialog (see Figure 3) will be opened.

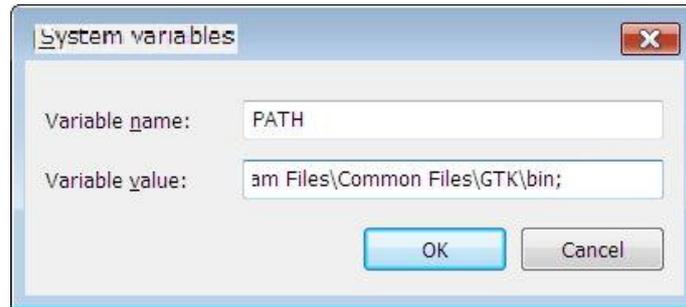


Figure 3. System Variables Window Dialog

Finally, add to the 'Variable value' the JRE bin directory separated by semicolon.

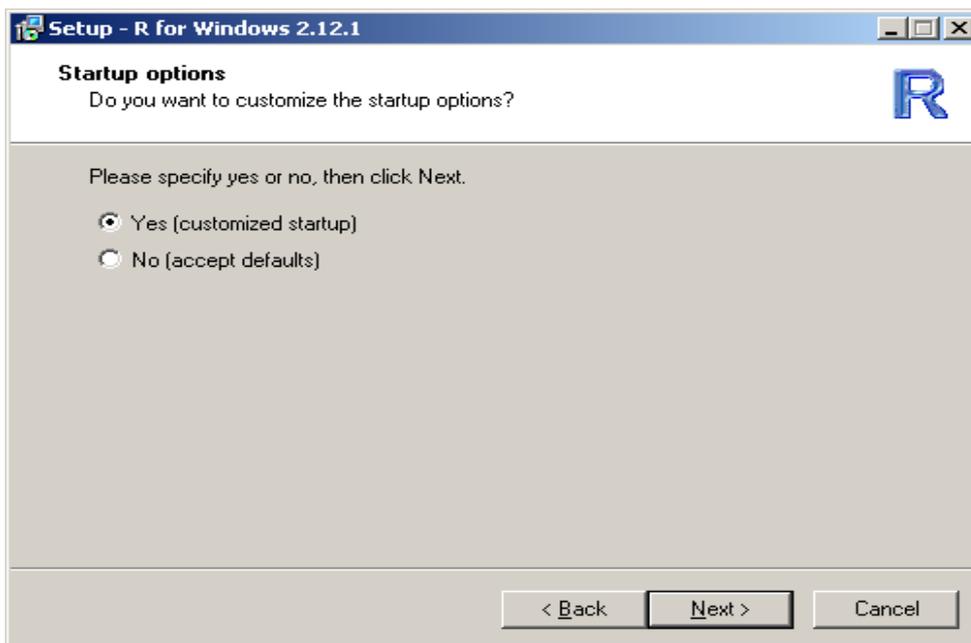
1.2 R Environment

1.2.1 Installing R

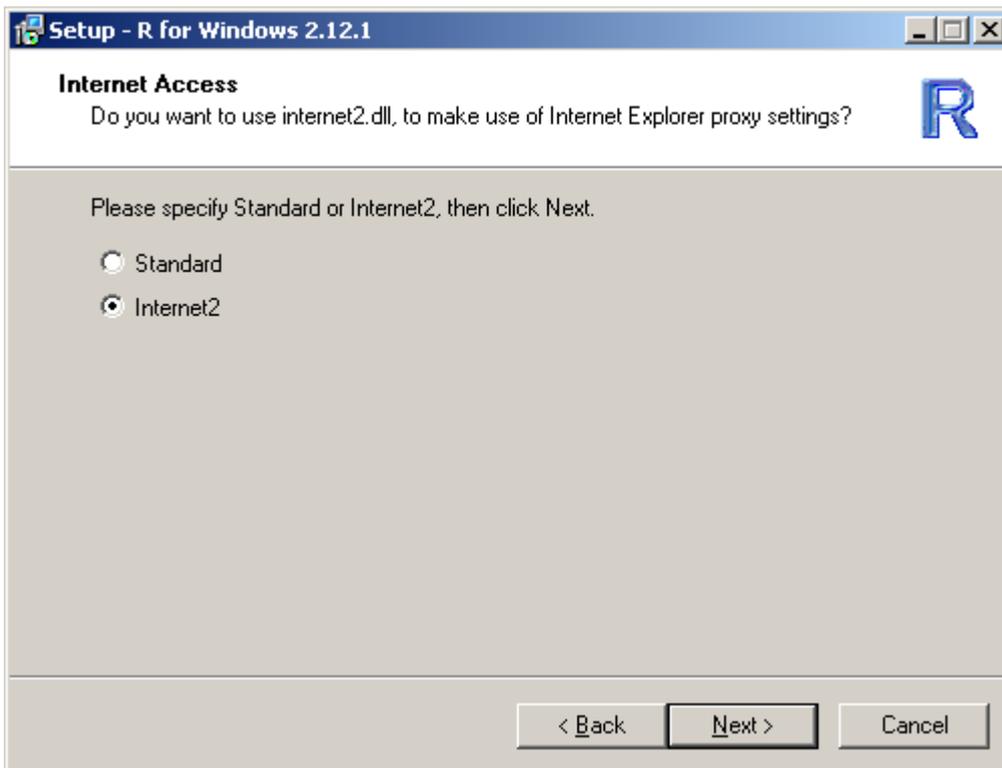
As first step, ensure that **R** release 2.9 (or higher) is installed in your pc. If R is not available or a holder version is installed, you have to download the last setup release of R from the web (www.r-project.org).

R requires minimal configuration during installation, to run it properly in RELAIS the following choices are recommended:

- Select 'Yes' in Startup options window



- Select 'Internet2' option in the Internet Access window.



No other configuration choices, different from those proposed by default, are generally recommended.

1.2.2 Setting the PATH variable with R bin directory

Modify the system variable PATH by adding the bin directory of R, by default this is created inside the directory 'Program Files':

C:\Program Files\R\R-2.9\bin

This information can also be found clicking with the right button on the desktop shortcut icon of R ('Target' value).

To modify the system variable PATH you can proceed as described in paragraph 1.1.2

1.2.3 Installing required R packages

To run properly, RELAIS requires the installation of the following R packages:

- IpSolve
- RODBC

To install the R packages you must run the R program (Rgui.exe). In the R GUI (see Figure 4) choose the "Packages" menu and click the "Install package(s)" item.

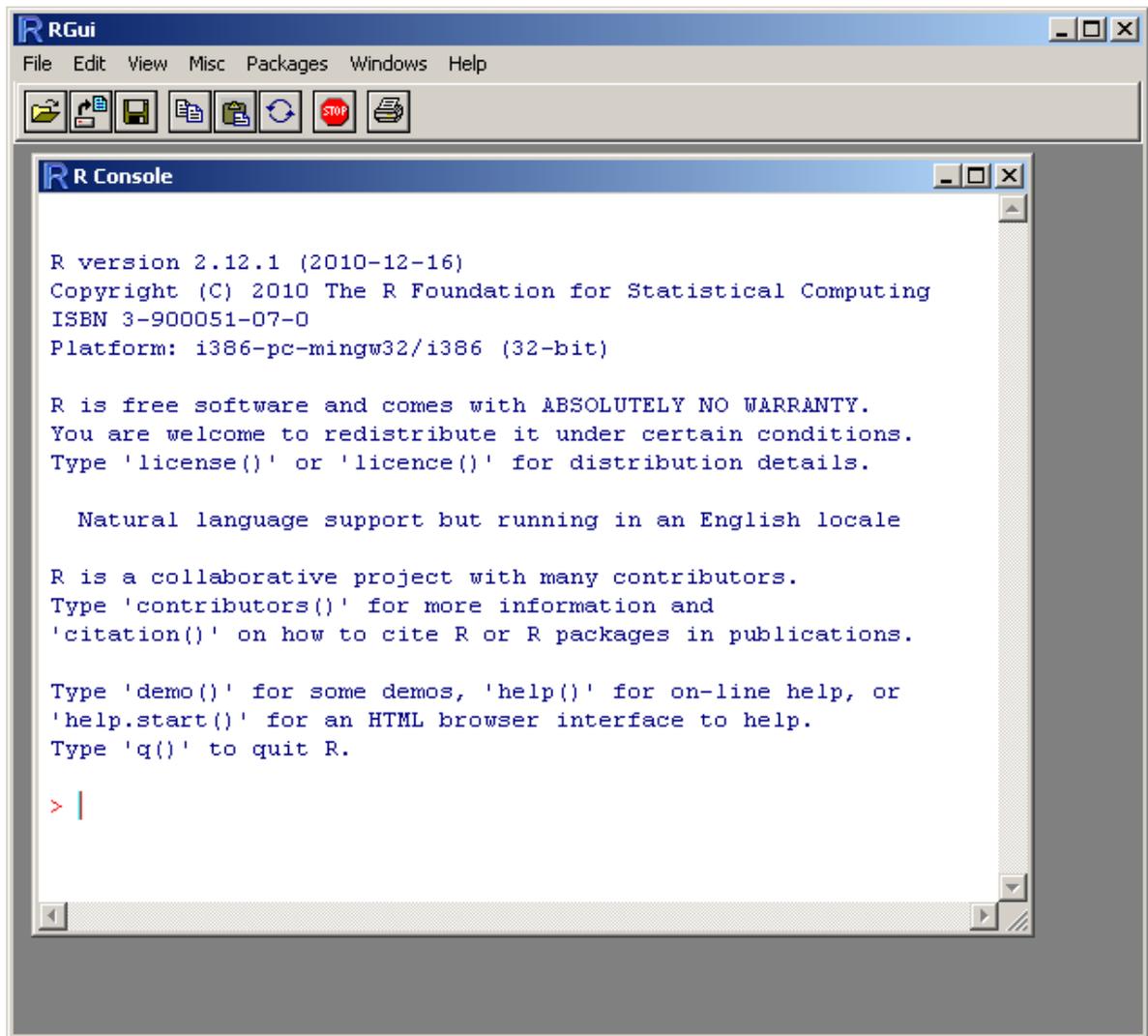


Figure 4. R GUI

Choose to which CRAN mirror connect from those proposed in the window dialog (see Figure 5 on the left). After connected to the CRAN, you must chose the packages (lpSolve and then RODBC) from the proposed list (see Figure 5 on the right).

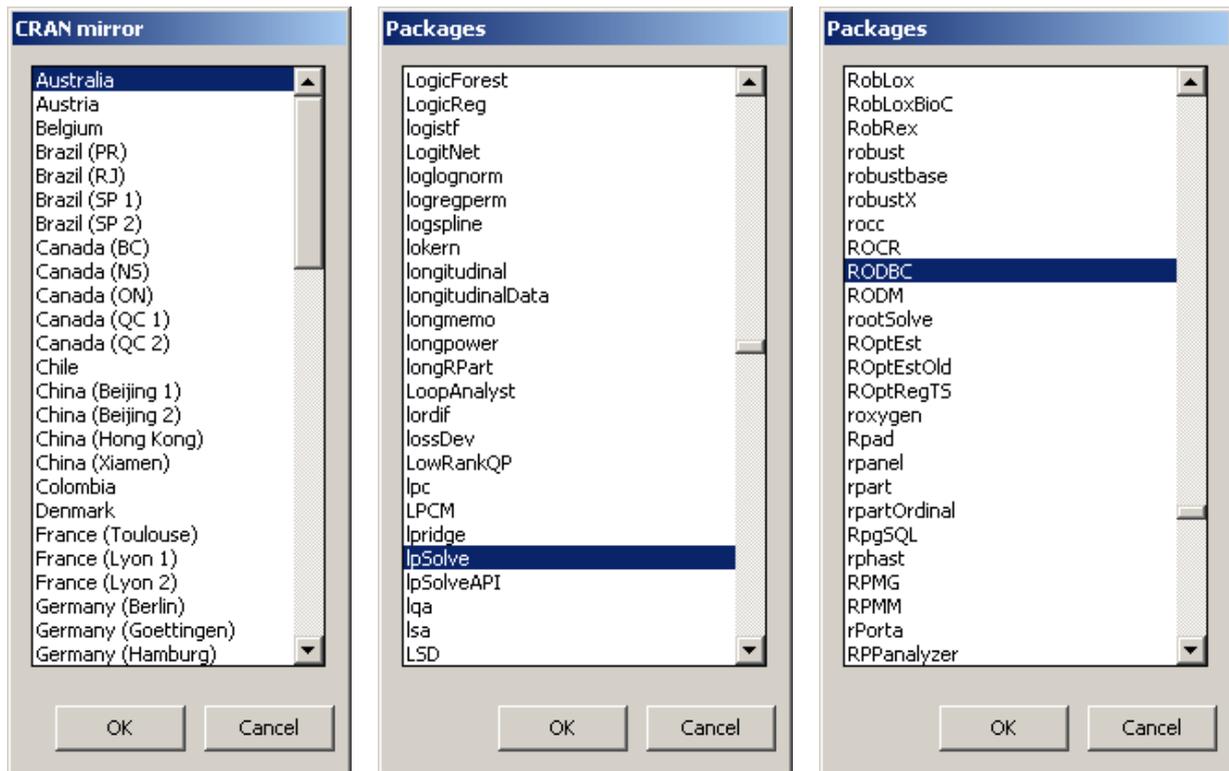


Figure 5. CRAN mirror and R packages lists

If you have more R releases installed on your PC, please ensure that **the release referenced in the PATH variable is the same used to install the packages.**

1.3 MySql Environment

1.3.1 Installing MySql Server

As first step, ensure that **MySql Server** release 5 (or higher) is installed on your pc.

If a MySql instance is already running please ensure that anonymous account is enabled. If MySql Server is not available on your PC, you have to download the last setup release from the web.

The wizard installation (see Figure 6) requires minimal configuration.

To run properly RELAIS does not need any special settings.



Figure 6. MySql Server setup wizard

At the end of setup, choose the option to configure now the server and follow the instructions described in the next paragraph.

1.3.2 Configuring MySql Server instance

If a MySql instance is already running with the anonymous account is disabled, you have to remove it and create a new instance with anonymous account otherwise RELAIS can not access to the data.

To remove an existing instance of MySql Server, use 'MySQL Server Instance Configuration Wizard' function available in MySql group of Start menu.

In the maintenance option window choose 'Remove Instance' as displayed in Figure 7.

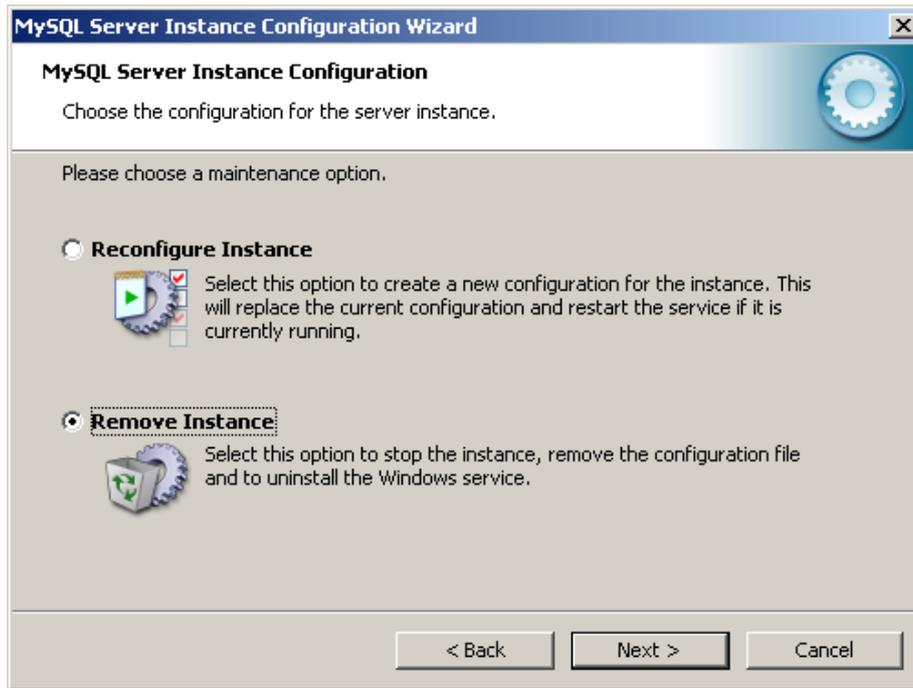


Figure 7. Maintenance Option window

To create a new instance use 'MySQL Server Instance Configuration Wizard' function available in MySQL group of Start menu.

RELAIS does not need special settings of the instance configuration but is very important create the anonymous account in the security setting configuration (see Figure 8) scoring out the 'Create an Anonymous Account' check button.



Figure 8. Setting Configuration Window

Finally, you can finish the configuration. The wizard will automatically start the MySQL instance.



If an error occurs in this phase it is recommended to remove the instance and start the configuration from the beginning.

1.3.3 Installing MySql ODBC Driver

If MySql ODBC driver is not already installed, please download the setup file from the web. If Windows SO works on 64-bit use the 64-bit version of the driver.

To run properly RELAIS does not need any special settings of the ODBC driver.

1.3.4 Creation of the 'relais' database

This step is not mandatory to run RELAIS but is recommended for an easier creation of the ODBC source (see next paragraph).

As first step, connect to MySql using the 'MySQL Command Line Client' available in MySql Server group of the Start menu. At the password prompt use the chosen root password during the setting configuration phase.

To the MySql command prompt, that appears as shown in Figure 9, submit command:

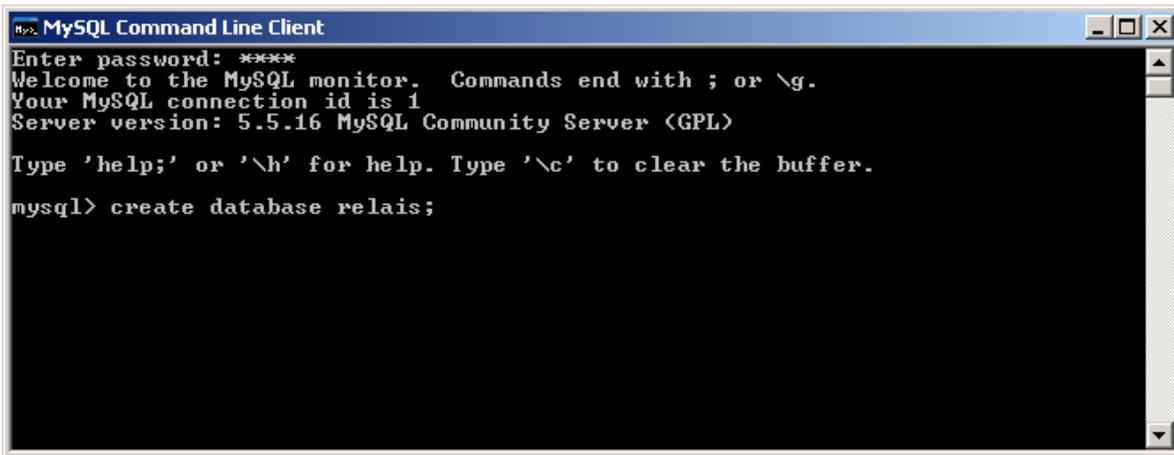


Figure 9. MySql Command Line Client

create database relais;

the system will respond with the message 'Query OK', now the database is created and the 'MySQL Command Line Client' can be closed.

1.3.5 Creation of the ODBC Source for MySQL instance

To create the ODB source, select the "Administrative Tools" from the "Control Panel" (as shown in Figure 10) and choose 'Data Source (ODBC)' on the "Administrative Tools" window that will be opened (as shown in Figure 11).

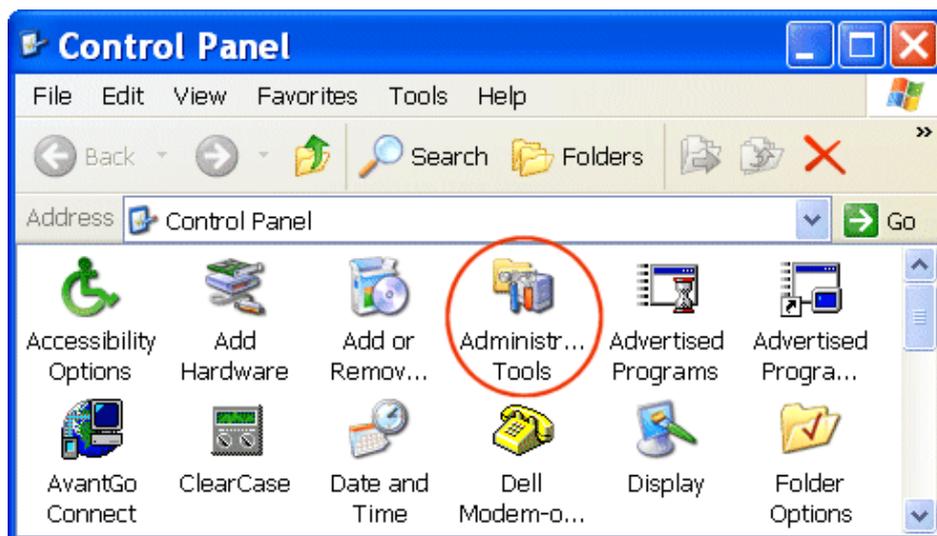


Figure 10. Control Panel

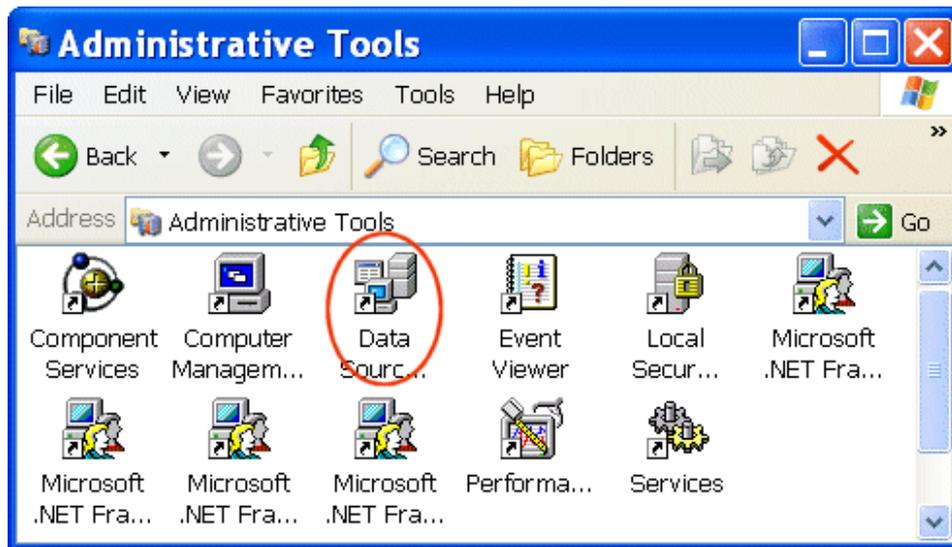


Figure 11. Administrative Tools

In the ODBC Data Source Administrator dialog box you have to choose 'System DSN' tabs and click on the 'Add' button as displayed in Figure 12.

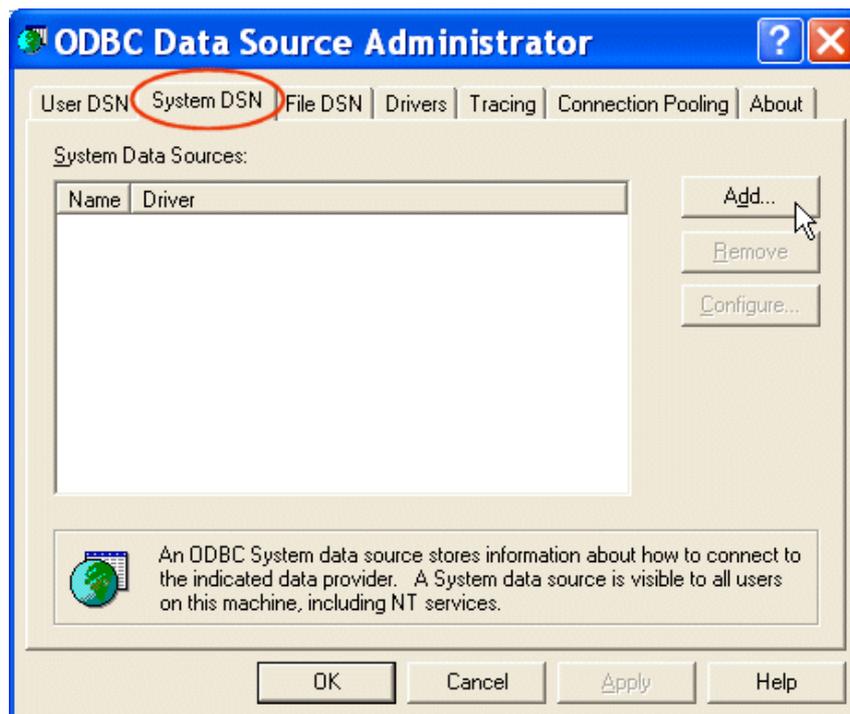


Figure 12. Data Source Administrator

Scroll down the driver list until you will find the MySQL driver as shown in (see paragraph 1.3.3 for more details).

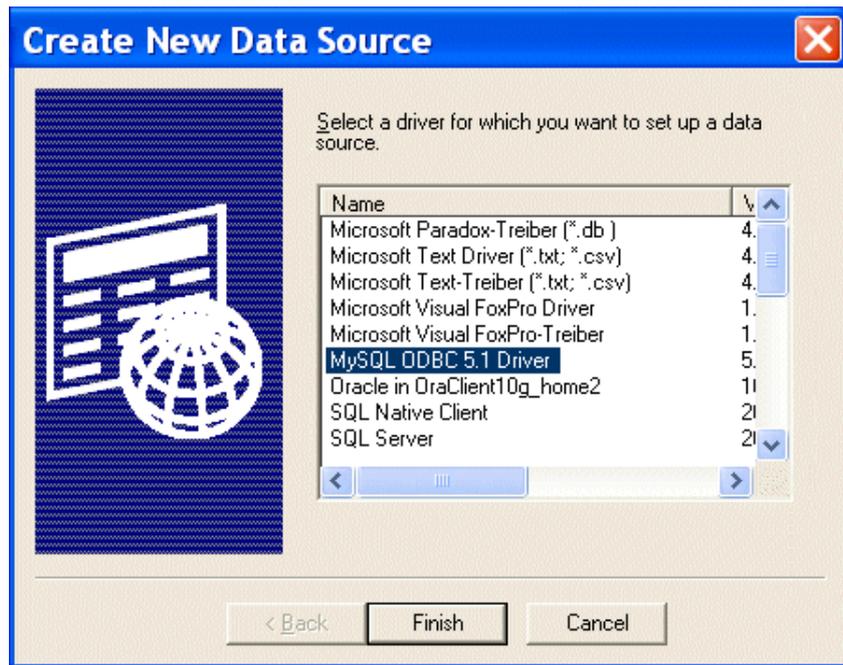


Figure 13. Create new Data source window

The ODBC Setup dialog box appears as displayed in Figure 14.

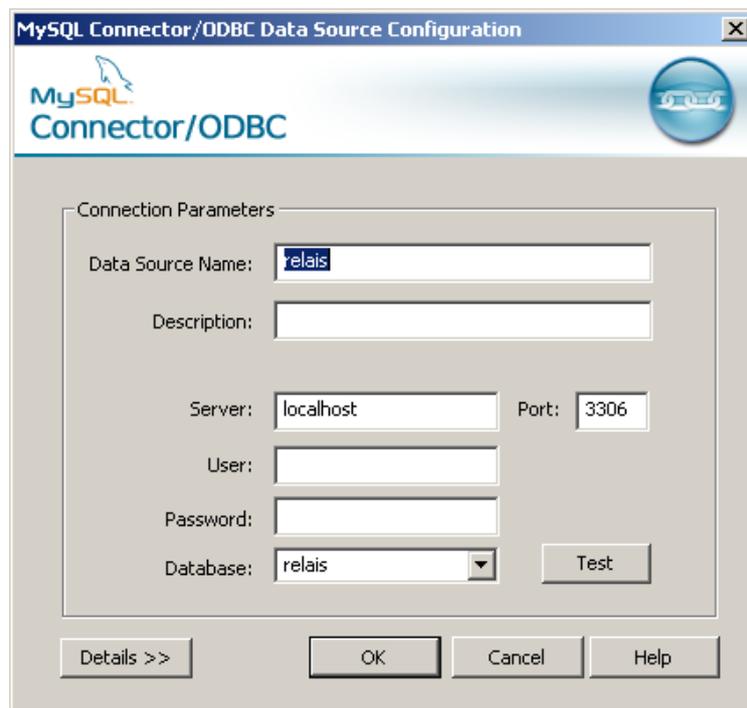


Figure 14. ODBC setup dialog box

The following settings have to be done:

- Data source name = relais

- Server = localhost
- Database = relais

User and Password fields must be empty (use of anonymous account).

Note that: if you don't create database relais in MySQL instance (see paragraph 1.3.3) 'relais' value is not in the list of existing database and the connection test will fail.

1.4 RELAIS setup

As final step you have to run the RELAIS setup for which a minimal configuration is required.

1.4.1 RELAIS folder permission

After the setup run, is strongly recommended to check the RELAIS main folder permissions.

Information on main folder are required during the setup. It's default value is:

C:\Users\Public\Documents\Relais3.x

or

C:\Program Files\Relais3.x

To check its permission click on the right button on the directory icon and select 'Properties' from the opened menu.

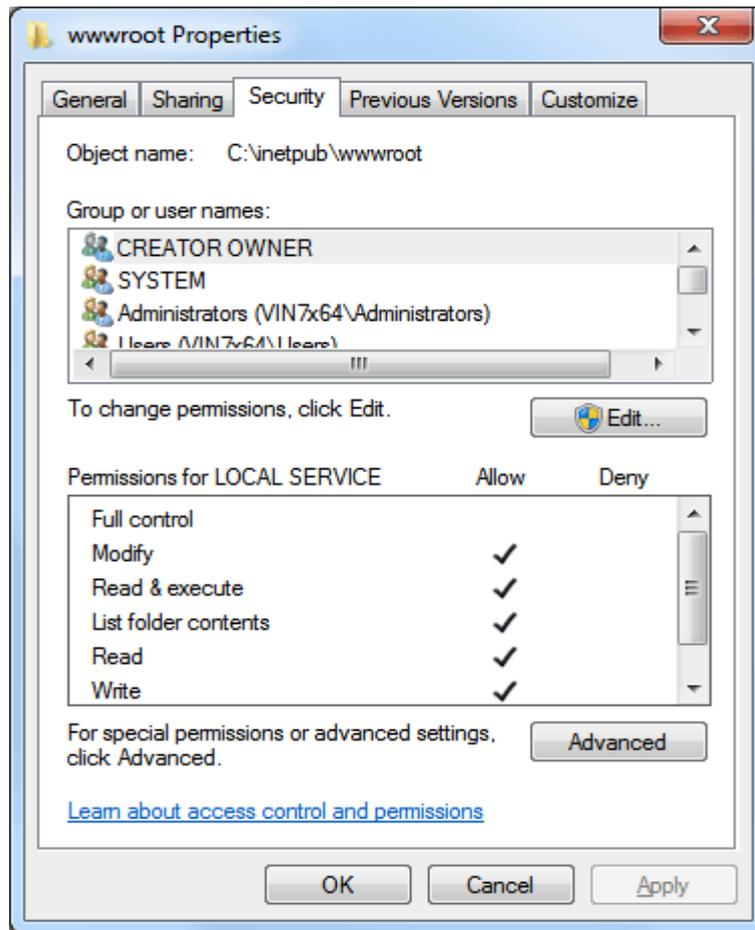


Figure 15. Folder properties

In the security folder (see Figure 15) you can verify the permissions of each group or user.

All users must be allowed to:

- Modify
- Read & execute
- Read
- Write

To change the grants, use the 'Edit' button. You can choose 'Full control' for all groups and users.

2 Troubleshooting

In this section we present a list of trouble found in RELAIS running due to incorrect installation.

2.1 Troubles in launch RELAIS or in project opening

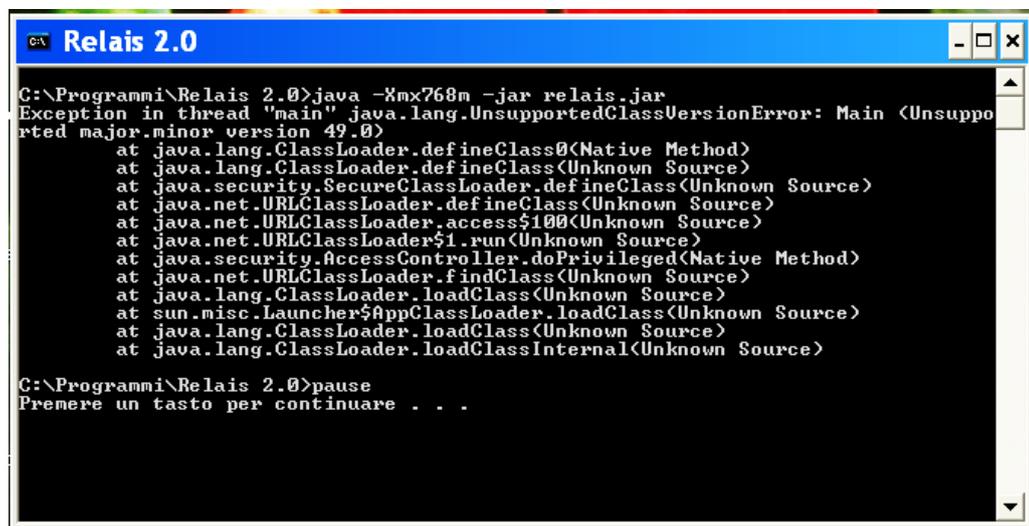
Error: Nothing happens when I launch RELAIS from desktop icon or start menu item

Possible causes and solutions:

1. The Java bin directory is not correctly added to the system variable PATH

[**Solution:** modify the system variable PATH as described in paragraph 1.1.2]

2. The Java release is not updated. RELAIS require JRE 6 and JDK 1.6 . If the command window is available the shown error message is something like this:



```
C:\Programmi\Relais 2.0>java -%nx768m -jar relais.jar
Exception in thread "main" java.lang.UnsupportedClassVersionError: Main (Unsupported major.minor version 49.0)
    at java.lang.ClassLoader.defineClass0(Native Method)
    at java.lang.ClassLoader.defineClass(Unknown Source)
    at java.security.SecureClassLoader.defineClass(Unknown Source)
    at java.net.URLClassLoader.defineClass(Unknown Source)
    at java.net.URLClassLoader.access$100(Unknown Source)
    at java.net.URLClassLoader$1.run(Unknown Source)
    at java.security.AccessController.doPrivileged(Native Method)
    at java.net.URLClassLoader.findClass(Unknown Source)
    at java.lang.ClassLoader.loadClass(Unknown Source)
    at sun.misc.Launcher$AppClassLoader.loadClass(Unknown Source)
    at java.lang.ClassLoader.loadClass(Unknown Source)
    at java.lang.ClassLoader.loadClassInternal(Unknown Source)

C:\Programmi\Relais 2.0>pause
Premere un tasto per continuare . . .
```

[**Solution:** install required releases as described in paragraph 1.1.1]

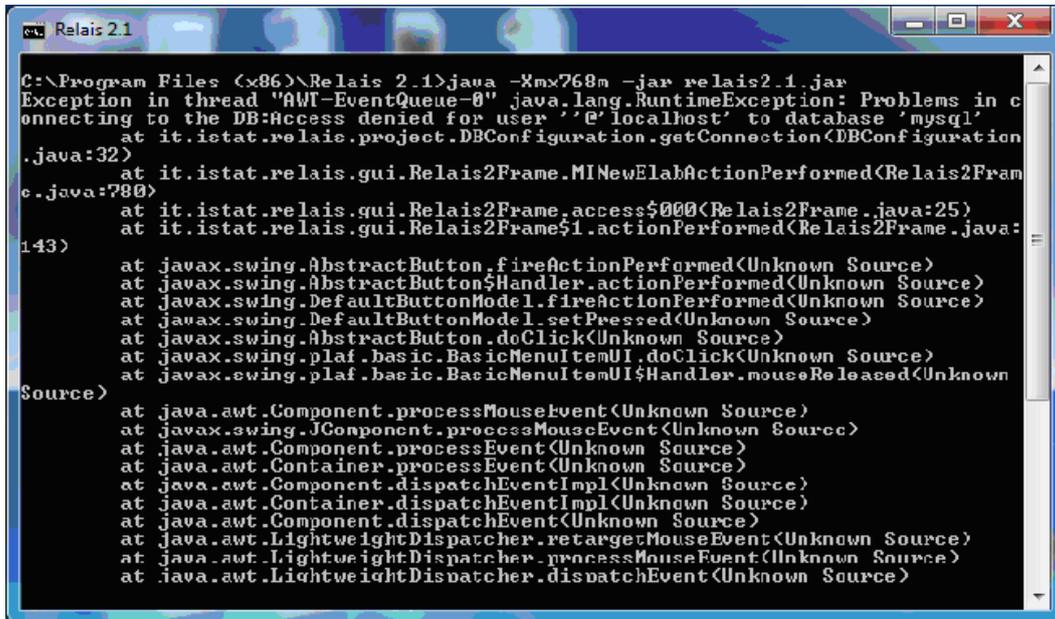
Error: An error occurs when I try to Open a new project (or Nothing happens)

Possible causes and solutions:

1. MySql Server is not installed in you PC

[**Solution:** install MySql Server as described in paragraph 1.3.1]

2. Anonymous account is not enabled for your MySql instance. The RELAIS screen show this message: “Problem in connecting to the DB:Access denied for user ‘’@localhost”, in the command window an error message like this appears:



```
C:\Program Files (x86)\Relais 2.1>java -Xmx768m -jar relais2.1.jar
Exception in thread "AWT-EventQueue-0" java.lang.RuntimeException: Problems in connecting to the DB:Access denied for user ''@localhost' to database 'mysql'
    at it.istat.relais.project.DBConfiguration.getConnection(DBConfiguration.java:32)
    at it.istat.relais.gui.Relais2Frame.MINewElabActionPerformed(Relais2Frame.java:780)
    at it.istat.relais.gui.Relais2Frame.access$5000(Relais2Frame.java:25)
    at it.istat.relais.gui.Relais2Frame$1 actionPerformed(Relais2Frame.java:143)
    at javax.swing.AbstractButton.fireActionPerformed(Unknown Source)
    at javax.swing.AbstractButton$Handler.actionPerformed(Unknown Source)
    at javax.swing.DefaultButtonModel.fireActionPerformed(Unknown Source)
    at javax.swing.DefaultButtonModel.setPressed(Unknown Source)
    at javax.swing.AbstractButton.doClick(Unknown Source)
    at javax.swing.plaf.basic.BasicMenuItemUI.doClick(Unknown Source)
    at javax.swing.plaf.basic.BasicMenuItemUI$Handler.mouseReleased(Unknown Source)
    at java.awt.Component.processMouseEvent(Unknown Source)
    at javax.swing.JComponent.processMouseEvent(Unknown Source)
    at java.awt.Component.processEvent(Unknown Source)
    at java.awt.Container.processEvent(Unknown Source)
    at java.awt.Component.dispatchEventImpl(Unknown Source)
    at java.awt.Container.dispatchEventImpl(Unknown Source)
    at java.awt.Component.dispatchEvent(Unknown Source)
    at java.awt.LightweightDispatcher.retargetMouseEvent(Unknown Source)
    at java.awt.LightweightDispatcher.processMouseEvent(Unknown Source)
    at java.awt.LightweightDispatcher.dispatchEvent(Unknown Source)
```

[**Solution:** Remove instance and create new instance with anonymous account as described in paragraph 1.3.2]

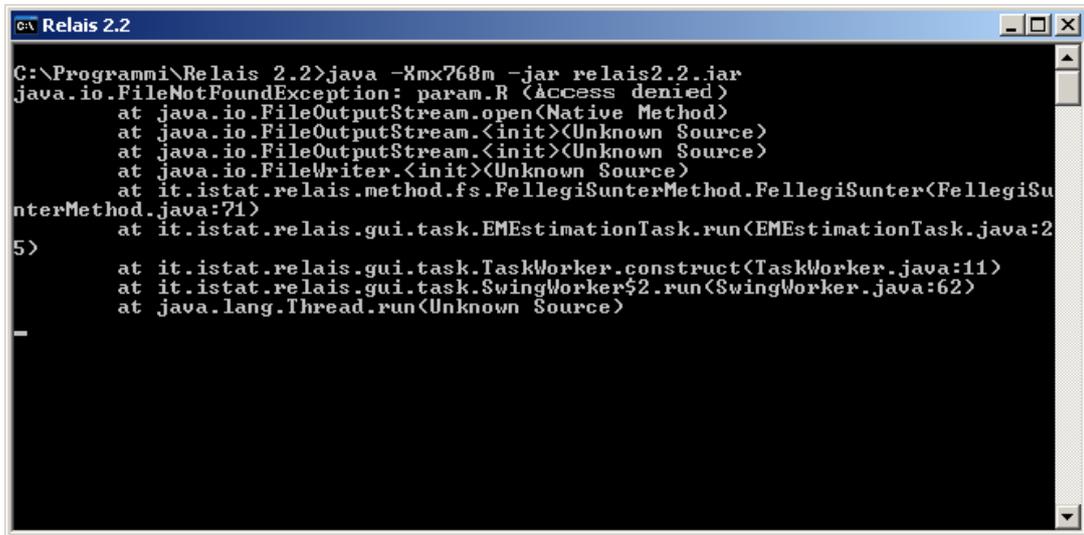
2.2 Troubles in probabilistic decision model performing

Error: This error occurs when I use the ‘EM Estimation’ in probabilistic Fellegi-Sunter decision model



Possible causes and solutions:

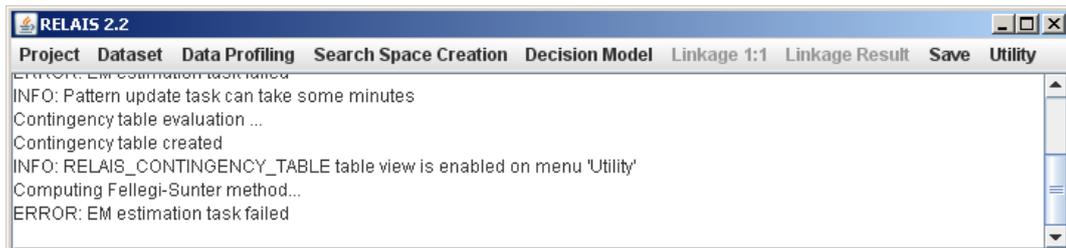
1. Insufficient permissions allow for RELAIS main folder. In the command window an error message like this appears:



```
C:\Programmi\Relais 2.2>java -Xmx768m -jar relais2.2.jar
java.io.FileNotFoundException: param.R (Access denied)
    at java.io.FileOutputStream.open(Native Method)
    at java.io.FileOutputStream.<init>(Unknown Source)
    at java.io.PrintWriter.<init>(Unknown Source)
    at it.istat.relais.method.fs.FellegiSunterMethod.FellegiSunter(FellegiSunterMethod.java:71)
    at it.istat.relais.gui.task.EMEstimationTask.run(EMEstimationTask.java:25)
    at it.istat.relais.gui.task.TaskWorker.construct(TaskWorker.java:11)
    at it.istat.relais.gui.task.SwingWorker$2.run(SwingWorker.java:62)
    at java.lang.Thread.run(Unknown Source)
```

[**Solution:** Allow required permission on folder as described in paragraph 1.4.1]

Error: This error occurs when I use the ‘EM Estimation’ in probabilistic Fellegi-Sunter decision model



Possible causes and solutions:

1. R is not installed in you PC

[**Solution:** install R as described in paragraph 1.2.1]

2. The R bin directory is not correctly added to the system variable. In the command window an error message like this appears:

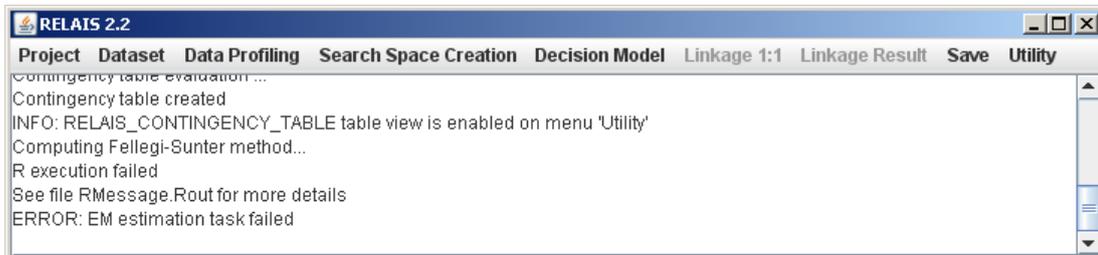
```

C:\Programmi\Relais 2.2>java -Xmx768m -jar relais2.2.jar
java.io.IOException: Cannot run program "RSCRIPT": CreateProcess error=2, The
system cannot find the file specified
    at java.lang.ProcessBuilder.start(Unknown Source)
    at java.lang.Runtime.exec(Unknown Source)
    at java.lang.Runtime.exec(Unknown Source)
    at java.lang.Runtime.exec(Unknown Source)
    at it.istat.relais.method.fs.FellegiSunterMethod.FellegiSunter(FellegiSu
nterMethod.java:110)
    at it.istat.relais.gui.task.EMEstimationTask.run(EMEstimationTask.java:2
5)
    at it.istat.relais.gui.task.TaskWorker.construct(TaskWorker.java:11)
    at it.istat.relais.gui.task.SwingWorker$2.run(SwingWorker.java:62)
    at java.lang.Thread.run(Unknown Source)
Caused by: java.io.IOException: CreateProcess error=2, Impossibile trovare il fi
le specificato
    at java.lang.ProcessImpl.create(Native Method)
    at java.lang.ProcessImpl.<init>(Unknown Source)
    at java.lang.ProcessImpl.start(Unknown Source)
    ... 9 more

```

[**Solution:** modify the system variable PATH as described in paragraph 1.2.2]

Error: This error occurs when I use the ‘EM Estimation’ in probabilistic Fellegi-Sunter decision model



Possible causes and solutions:

1. Required R packages (‘lpSolve’ and ‘RODBC’) are not installed. In the file RMessage.Rout (located in the RELAIS main folder) an error message like this appears:

Error in library("RODBC") : there is no package called 'RODBC'

[**Solution:** install all required R packages as described in paragraph 1.2.3]

2. The ODBC source is not correctly created. In the file RMessage.Rout (located in the RELAIS main folder) an error message like this appears:

[...]

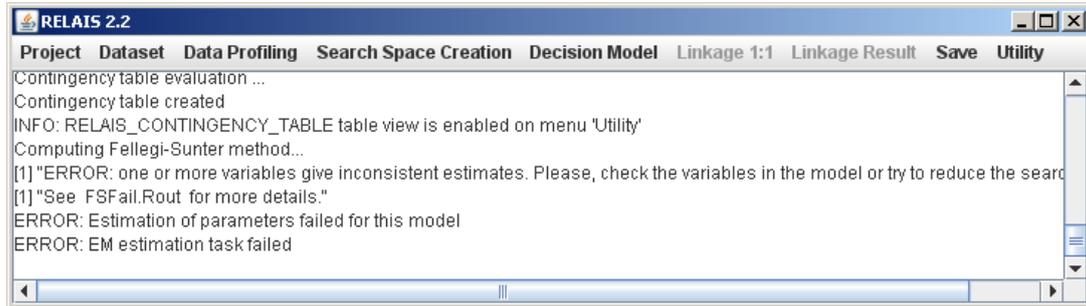
ODBC connection failed

Error in sqlQuery(con, strInput) :

first argument is not an open RODBC channel

[**Solution:** configure the ODBC source as described in paragraph 1.3.5]

Error: This error occurs when I use the ‘EM Estimation’ in probabilistic Fellegi-Sunter decision model



Possible causes and solutions:

This is not an error due to incorrect installation. The software run correctly but the model does not have enough information to a reliable estimate. Please refer to user guide to treat this case.