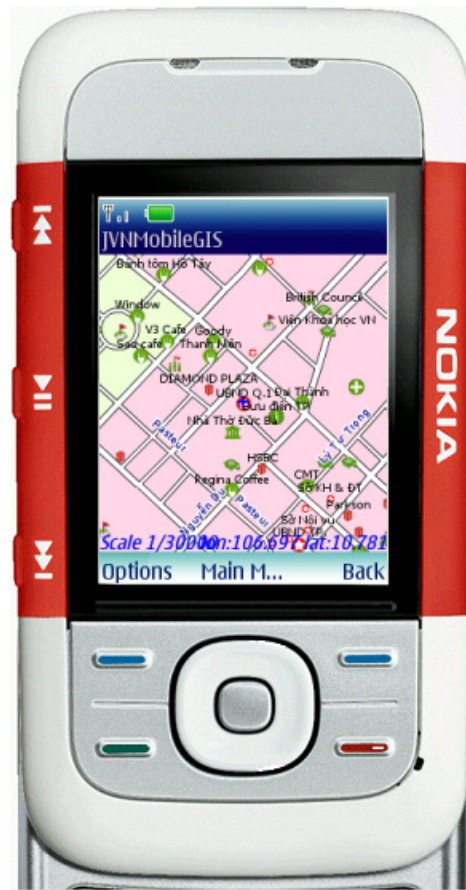


JVNMObILEGIS DEVELOPER GUIDE

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Date: June 2008



1 OBJECTIVE

JVNMobileGIS's objectives:

- Support popular standards of GIS
- Provide enough functionalities for normal users
- Compatible with all Java mobile devices
- Simple, easy to use

2 TECHNOLOGIES

- Java ME <http://java.sun.com/javame/index.jsp>
- MVC architecture. We recommend you to practice PureMVC at http://wiki.forum.nokia.com/index.php/Model-View-Controller_Architecture

3 CODING STANDARDS

3.1 JAVA CLASS FILES

We follow Sun's Java Coding Conventions (<http://java.sun.com/docs/codeconv/>) and recommend you follow it too.

3.2 RESOURCE FILES

We use *.properties files for localization. The files are located at <jvnmobilegis_root>/res/l10n. Remember when you edit resource files, you must save them in “**UTF-8 without BOM**” encoding.

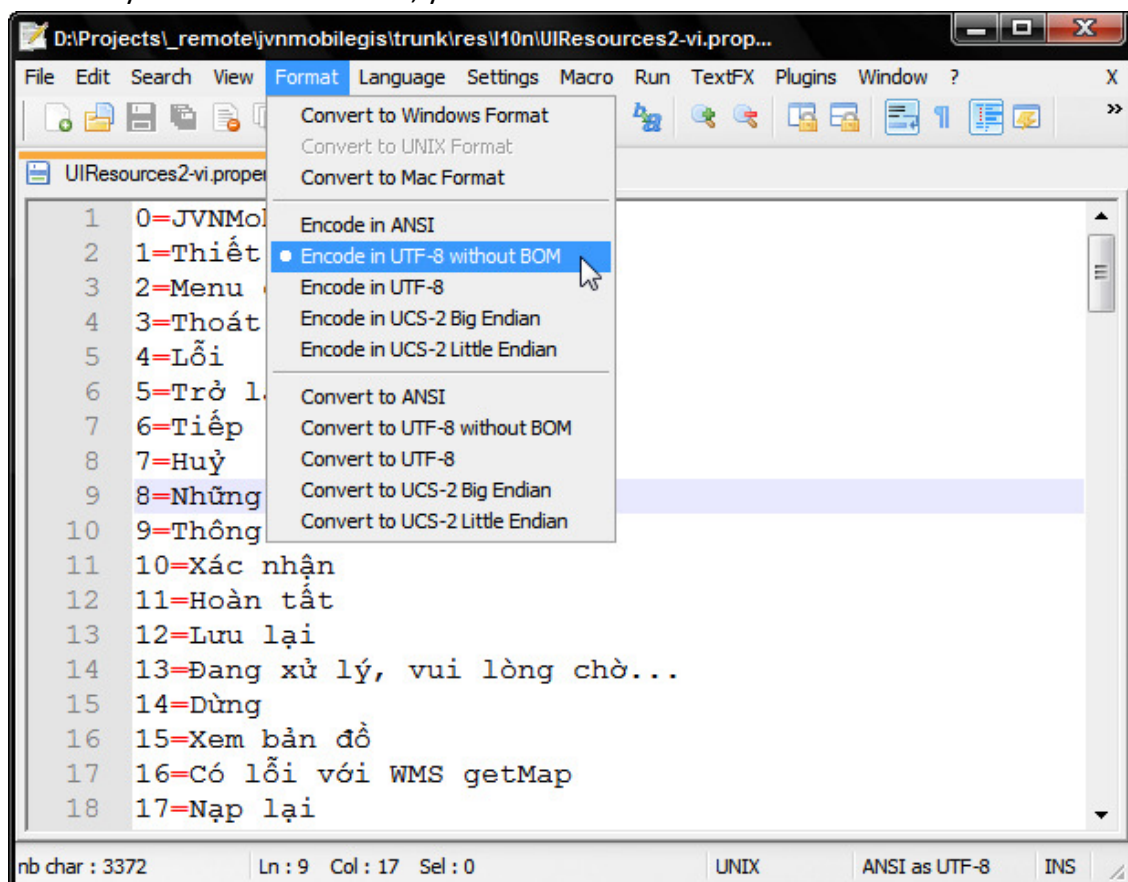


Figure 1. Text files encoding

4 SUBVERSION VERSION CONTROL

JVNMobileGIS use Google Code's Subversion (SVN) for source code control. To checkout SVN, you need to use a SVN client software:

- TortoiseSVN <http://tortoisesvn.tigris.org/> (Windows)
- SmartSVN <http://www.syntevo.com/smartsvn/> (All OS)

Follow instruction at <http://code.google.com/p/jvnmobilegis/source/checkout> to checkout JVNMobileGIS's files to your computer.

4.1 JAVA FILE HEADER

When you create a new Java file, include this paragraph in your file header:

```
/*
 * $Id: UIController.java 235 2008-05-30 06:24:59Z phamvubinh123 $
 * $URL: https://jvnmobilegis.googlecode.com/svn/trunk/src/org/javavietnam/gis/client/mdp/ui/UIController.java $
 * $Author: phamvubinh123 $
 * $Revision: 235 $
 * $Date: 2008-05-30 13:24:59 +0700 (Fri, 30 May 2008) $
 *
 * =====
 *
 * <COPYRIGHT_NOTICE>
 *
 * @version: <YOUR_FILEVERSION>
 * @author: <YOUR_NAME>
 * @Date Created: <YOUR_CREATED_DATE>
 */
```

Example:

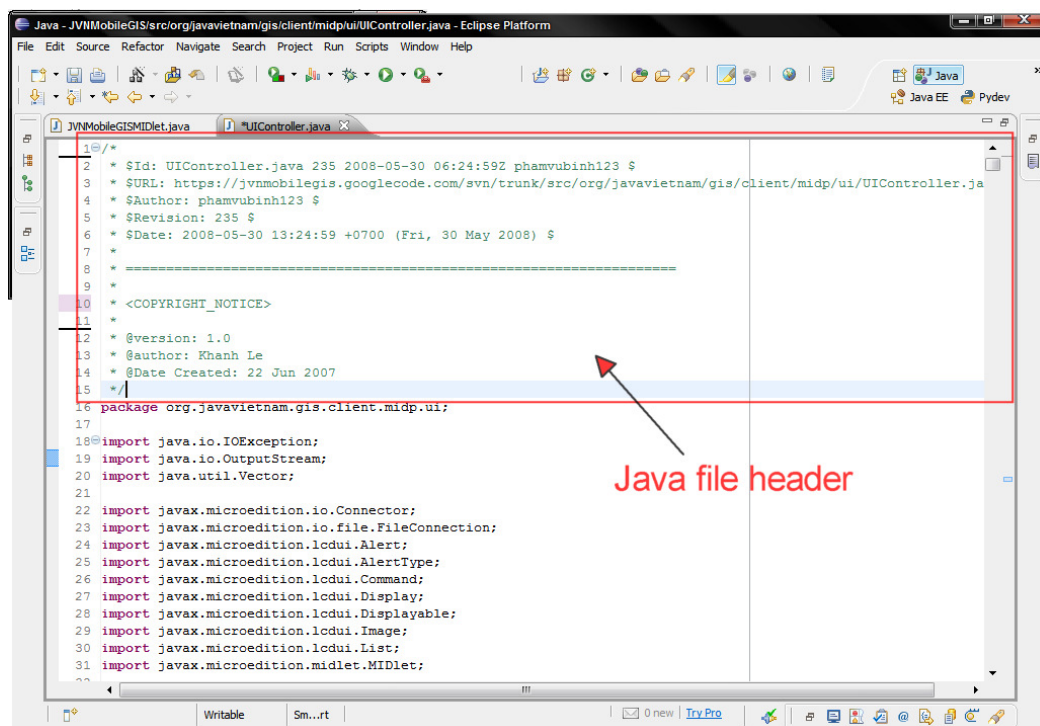


Figure 2. Java file header

SVN will auto modify the values inside \$...\$ every time you commit, so you don't need to edit it yourself. For SVN to do that, you need to set SVN Properties values for your Java files:

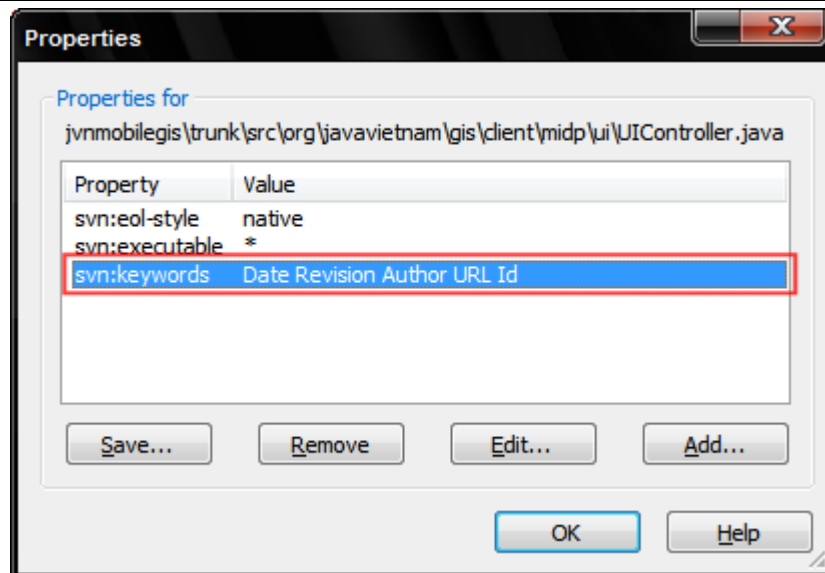


Figure 3. SVN Properties for Java files

Property: svn:keywords

Value: Date Revision Author URL Id

4.2 SVN COMMIT

After finished coding and built JVNMobileGIS project successfully, you need to commit your changes to SVN (we recommend you commit all your changes at the end of the day). Please use this message format when you commit:

Issue: <issue_id>

Remarks: <what you changed and purpose of the change>

5 DEVELOPMENT ENVIRONMENTS

You can build JVNMobileGIS in your favorite development environment in Windows or Linux. Basically, you have 3 development options below.

5.1 OPTION 1: ANT BUILD

5.1.1 REQUIREMENTS

- Sun Java Wireless Toolkit <http://java.sun.com/products/sjwtoolkit/>
- Text Editor (e.g. Notepad++ <http://notepad-plus.sourceforge.net/>)
- Apache Ant <http://ant.apache.org/>
- Antenna <http://antenna.sourceforge.net/>

5.1.2 INSTRUCTIONS

- Unpack Apache Ant and include Ant's *bin* folder in your PATH environment variable.
- Copy Antenna jar file into Ant's *lib* folder

- Modify *antenna-build.xml* file in JVNMobileGIS root folder. Change value of 'wtk.home' property to Java Wireless Toolkit path in your machine

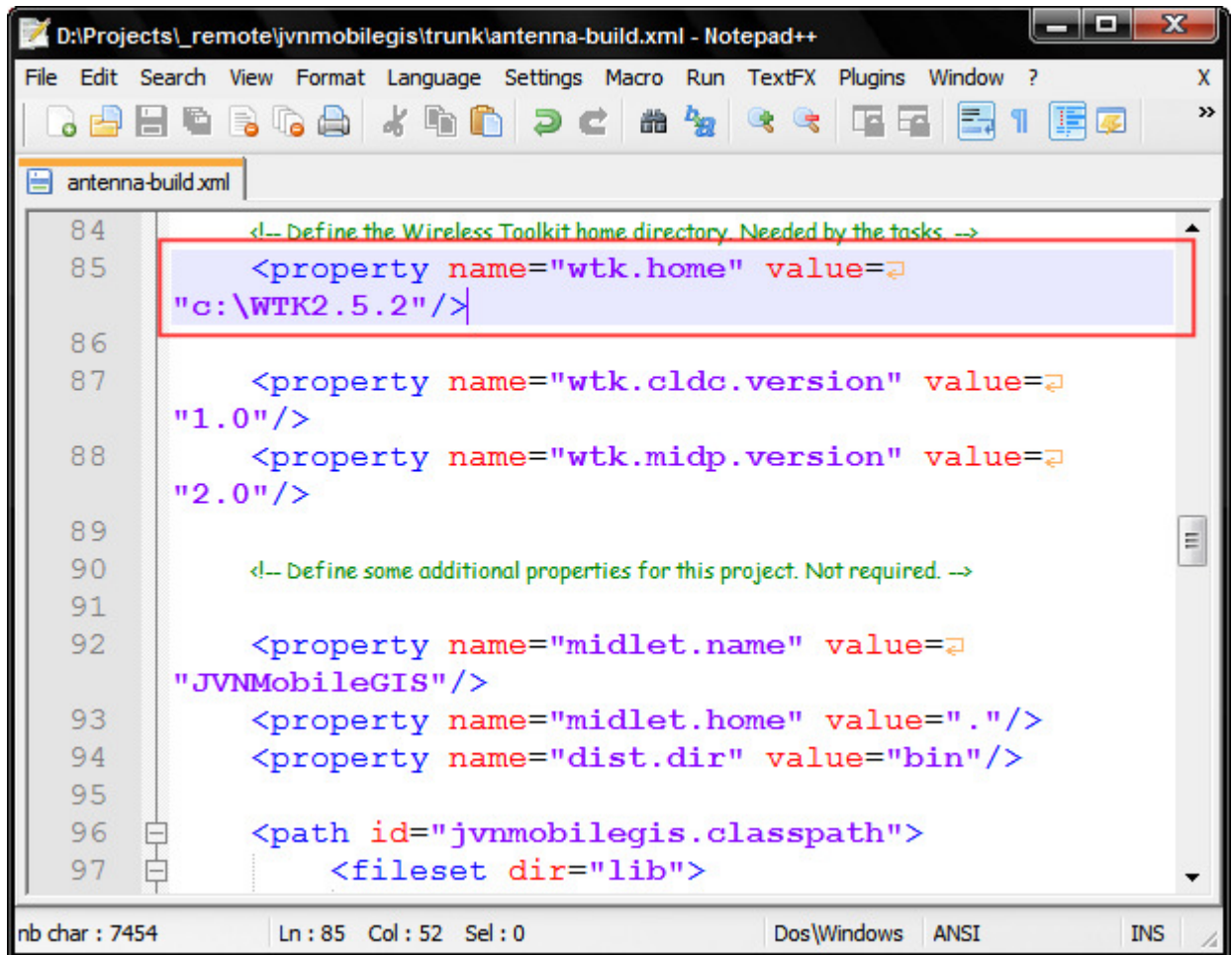


Figure 4. Edit antenna-build.xml file

- Open Command Prompt (in Windows) or Terminal (in Linux) and change directory to JVNMobileGIS root directory
- Enter '*ant -buildfile antenna-build.xml*' to build and package JVNMobileGIS project

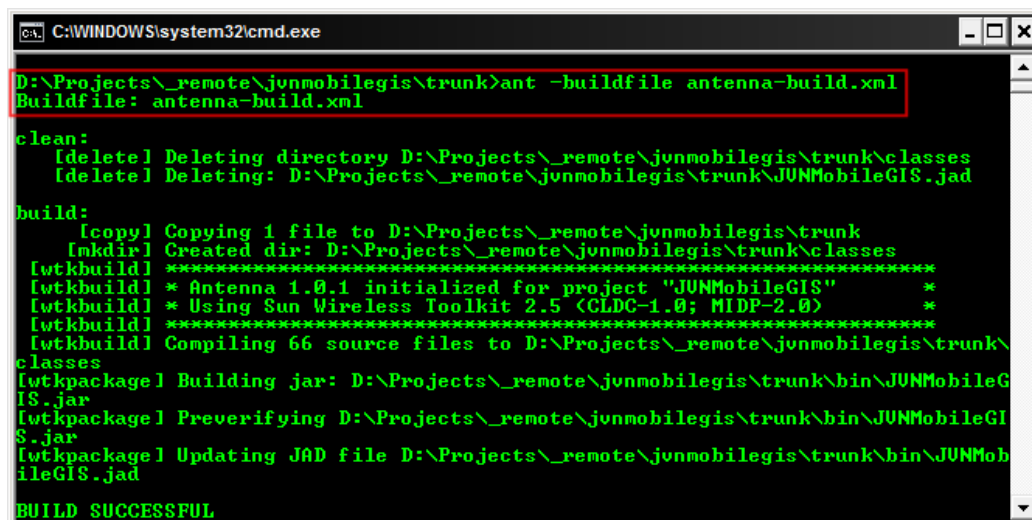


Figure 5. Ant build result

- Then you can enter '*ant -buildfile antenna-build.xml run*' to run JVNMobileGIS

5.2 OPTION 2: NETBEANS

5.2.1 REQUIREMENTS

If you need a more powerful IDE for Java ME development, I will recommend NetBeans. Download and install NetBeans (with Mobility module) from <http://www.netbeans.org>. That's all you need!

5.2.2 INSTRUCTIONS

- After installed NetBeans, check *Tools > Java Platforms* to see if you already have a J2ME platform. If not, add a platform from your Java Wireless Toolkit home.

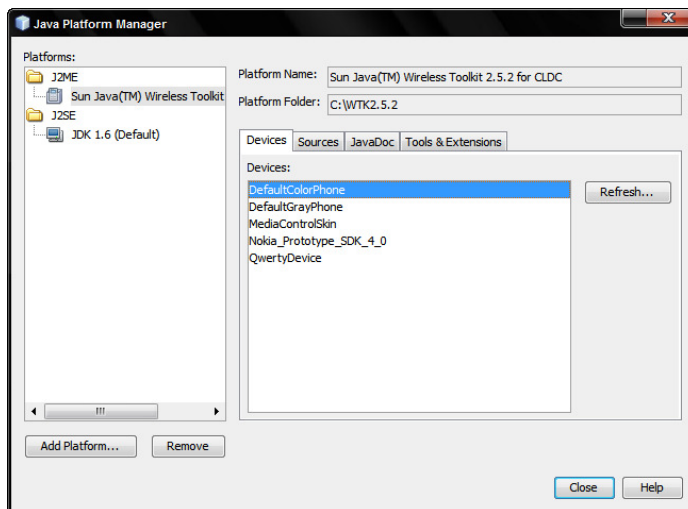


Figure 6. J2ME platform in NetBeans

- Click 'Open Project' icon or choose it from 'File' menu. You will see 'Open Project' dialog. Browse to JVNMobileGIS root folder and 'Open' it.

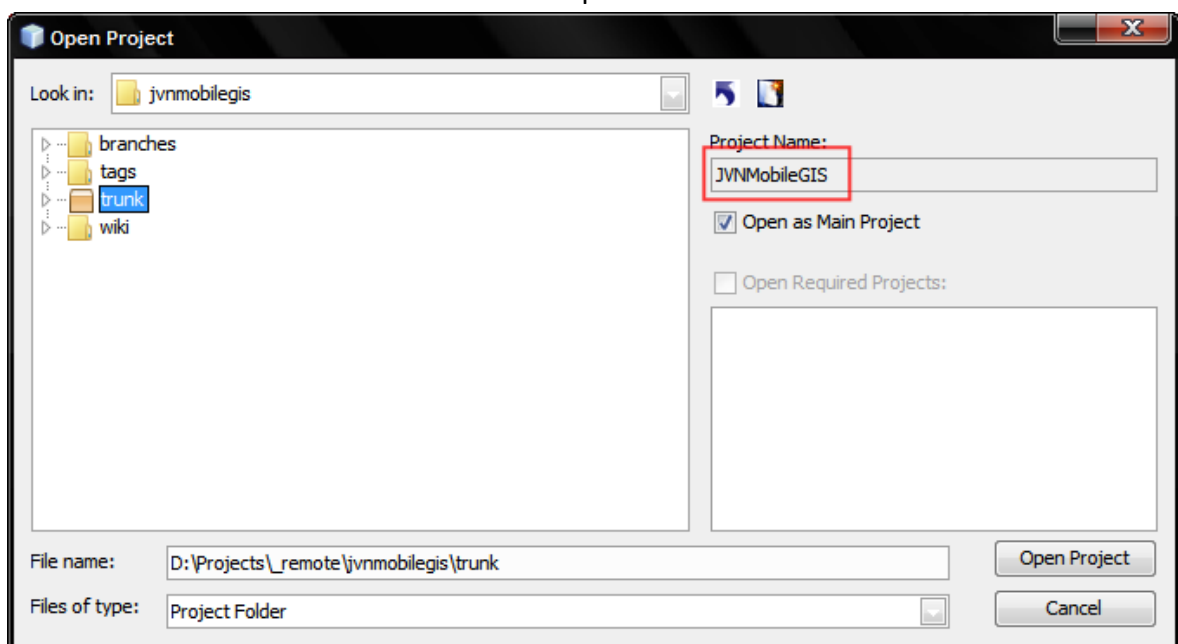


Figure 7. Open Project dialog

- If your J2ME platform is different from JVNMobleGIS's configured platform, you will see a warning about 'Reference Problems'

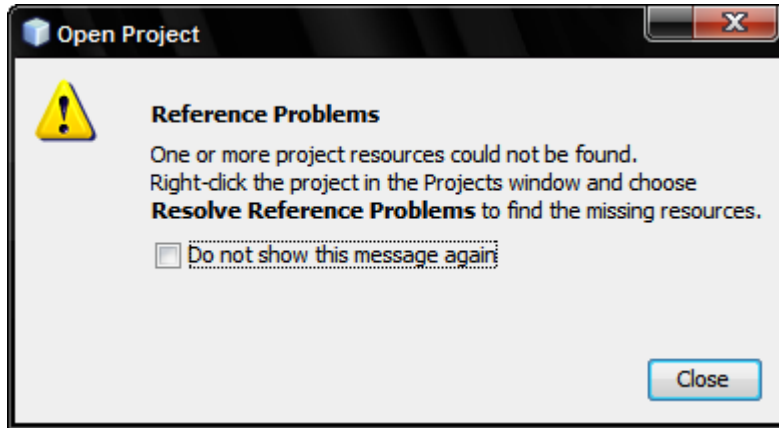


Figure 8. Reference Problems warning

- Don't worry, you can right-click on JVNMobleGIS project at 'Projects' view and choose 'Resolve Reference Problems'

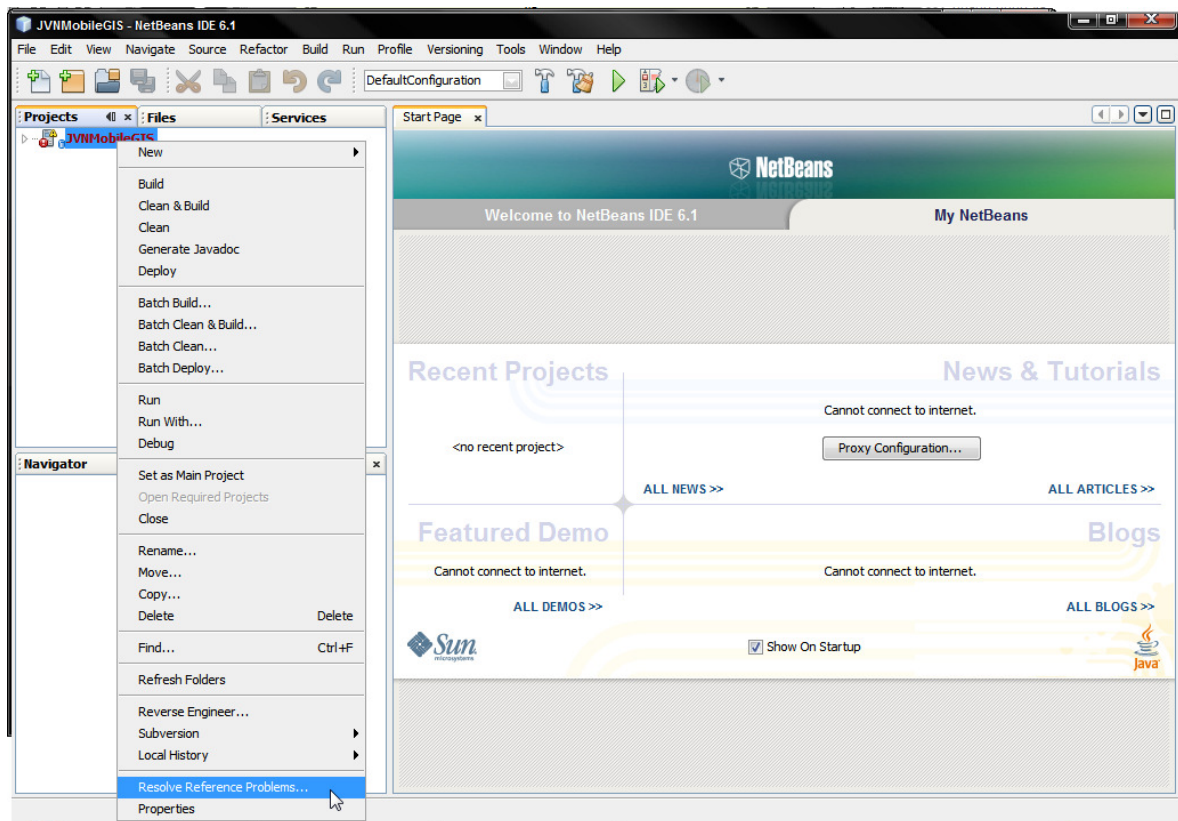


Figure 9. Resolve Reference Problems menu

- You will see the listed problem of JVNMobileGIS project, click 'Resolve...' button and choose the correct reference. The problem will be solved.

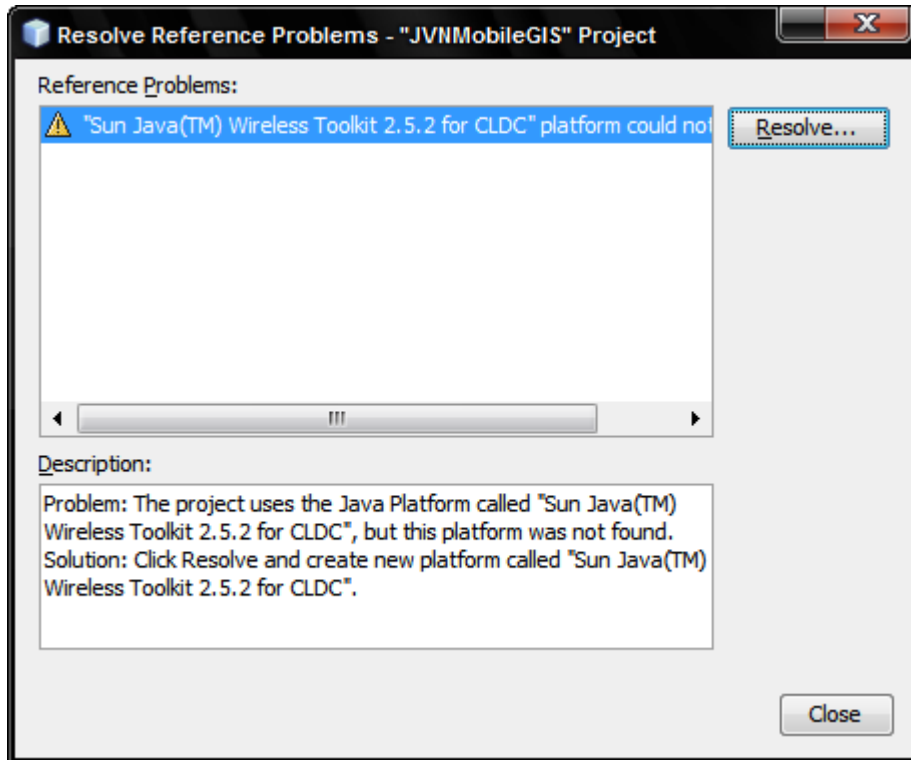


Figure 10. Resolve Reference Problems dialog

- If there is no problem or error, you can 'Build' and 'Run' JVNMobileGIS project in NetBeans by clicking on 'Run' icon or from 'Run' menu.

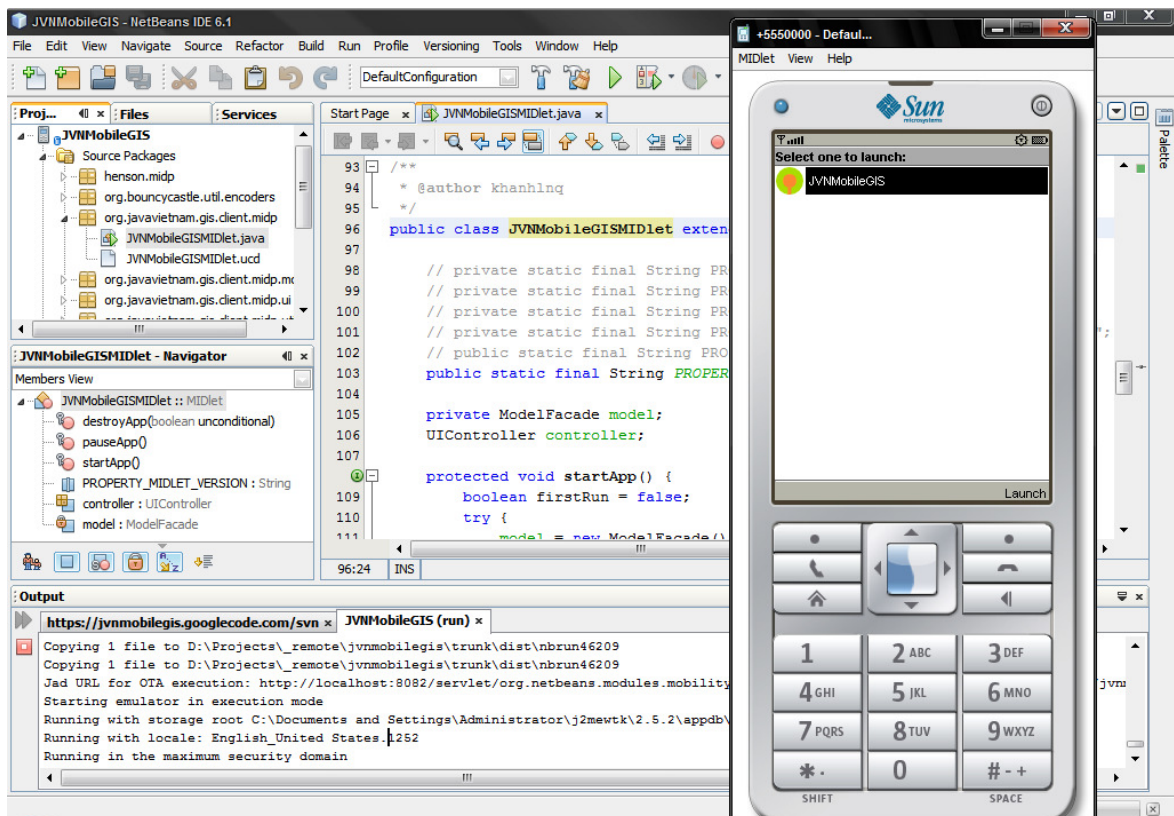


Figure 11. Run JVNMobileGIS in NetBeans

- You can use other powerful features of NetBeans, such as: debugging, UI design.

5.3 OPTION 3: ECLIPSE

5.3.1 REQUIREMENTS

- Sun Java Wireless Toolkit <http://java.sun.com/products/sjwtoolkit/>
- Eclipse <http://www.eclipse.org/>
- EclipseME plugin <http://eclipseme.org/>

5.3.2 INSTRUCTIONS

- Follow EclipseME instruction (<http://eclipseme.org/docs/index.html>) to configure your J2ME settings in Eclipse. Make sure you imported J2ME devices to Eclipse.

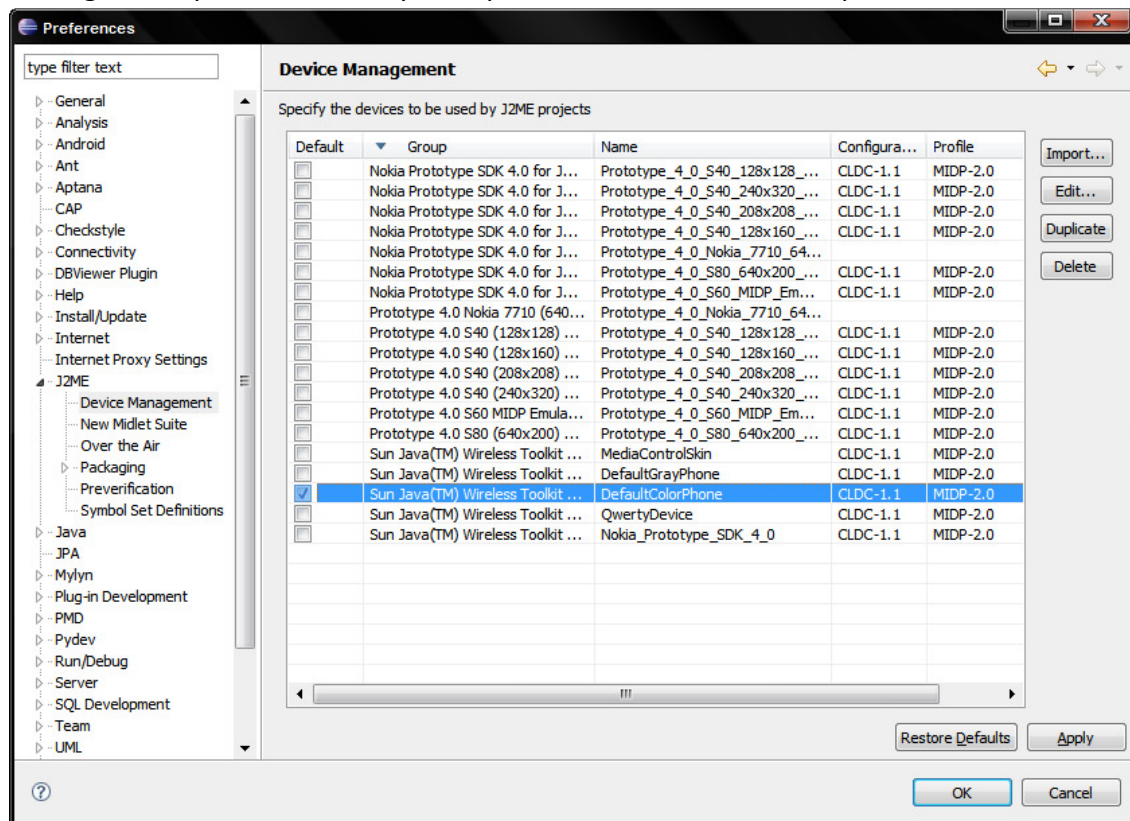


Figure 12. J2ME Devices in Eclipse with EclipseME

- Choose **File > Import...** and choose 'Existing Projects into Workspace', click 'Next'.

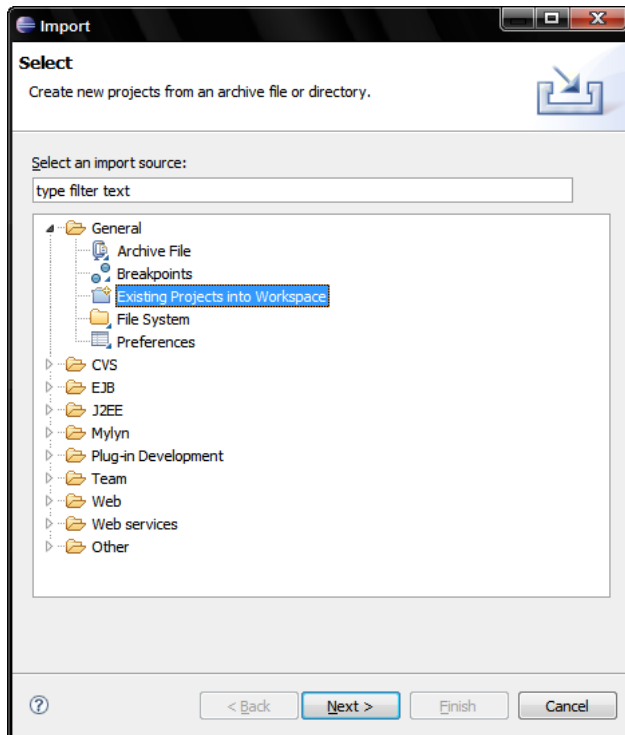


Figure 13. Eclipse Project Import dialog

- Browse to JVNMobleGIS root folder, click 'Refresh' to see 'JVNMobleGIS' in projects list, select it to import. Click 'Finish'.

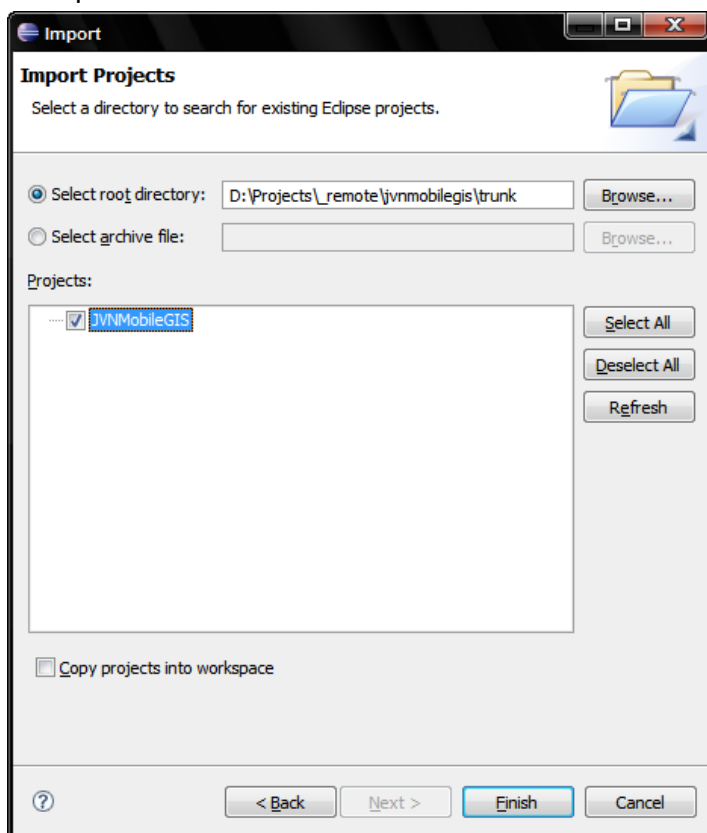


Figure 14. Select project to import

- Now check your project properties, right-click on JVNMobileGIS in 'Package Explorer' and choose 'Properties'. In 'J2ME' node, you need to select device for JVNMobileGIS project like below.

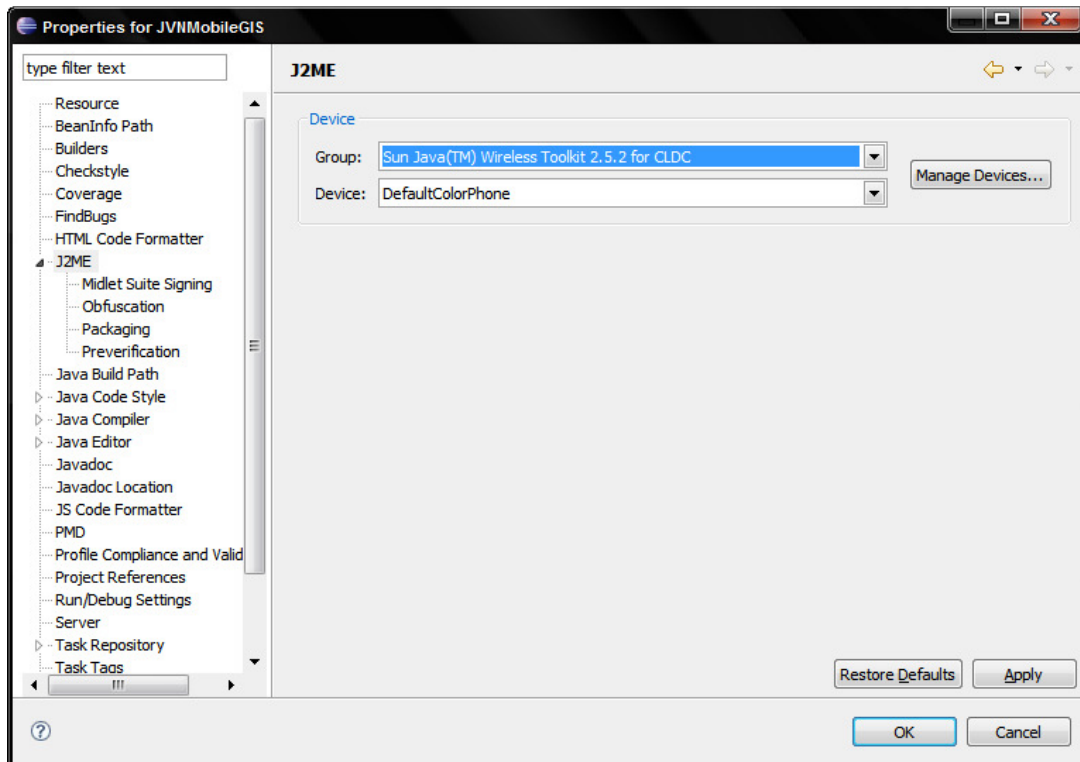


Figure 15. J2ME Settings for JVNMobileGIS project

- Choose *Run > Open Run Dialog...* Create 'New' configuration to run JVNMobileGIS in 'Wireless Toolkit Emulator' node like below.

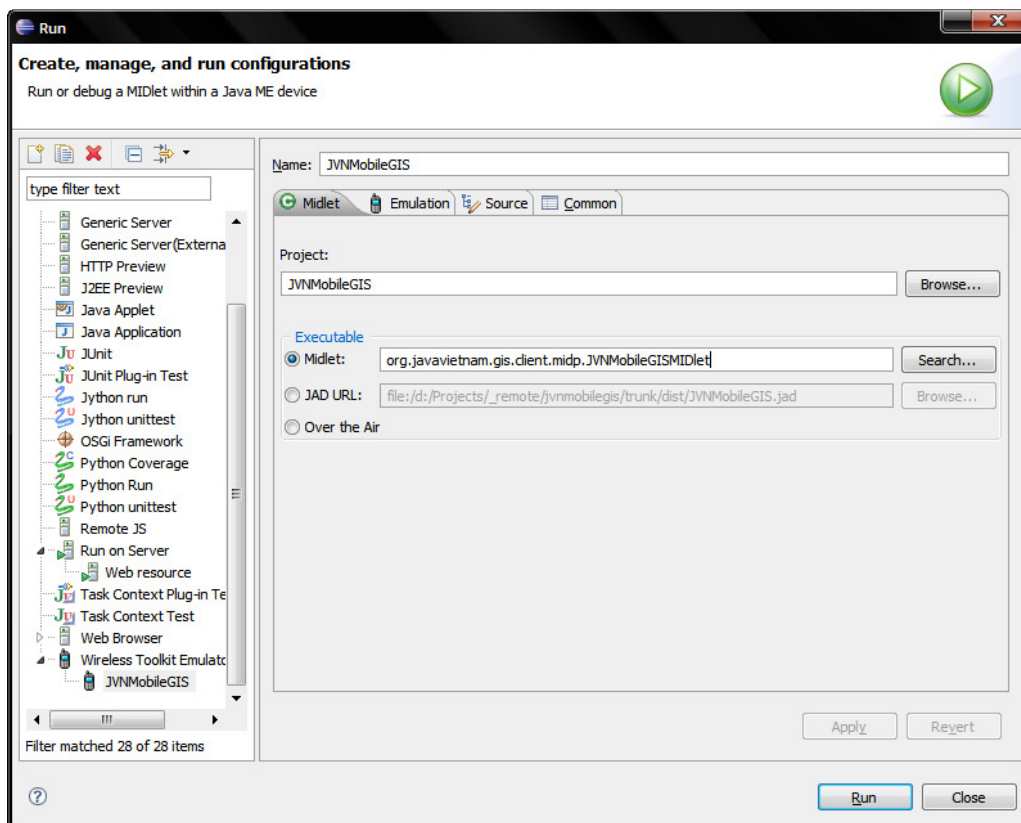


Figure 16. Run configuration for JVNMobileGIS

- After that, click 'Run > JVNMobileGIS' to run JVNMobileGIS in Eclipse

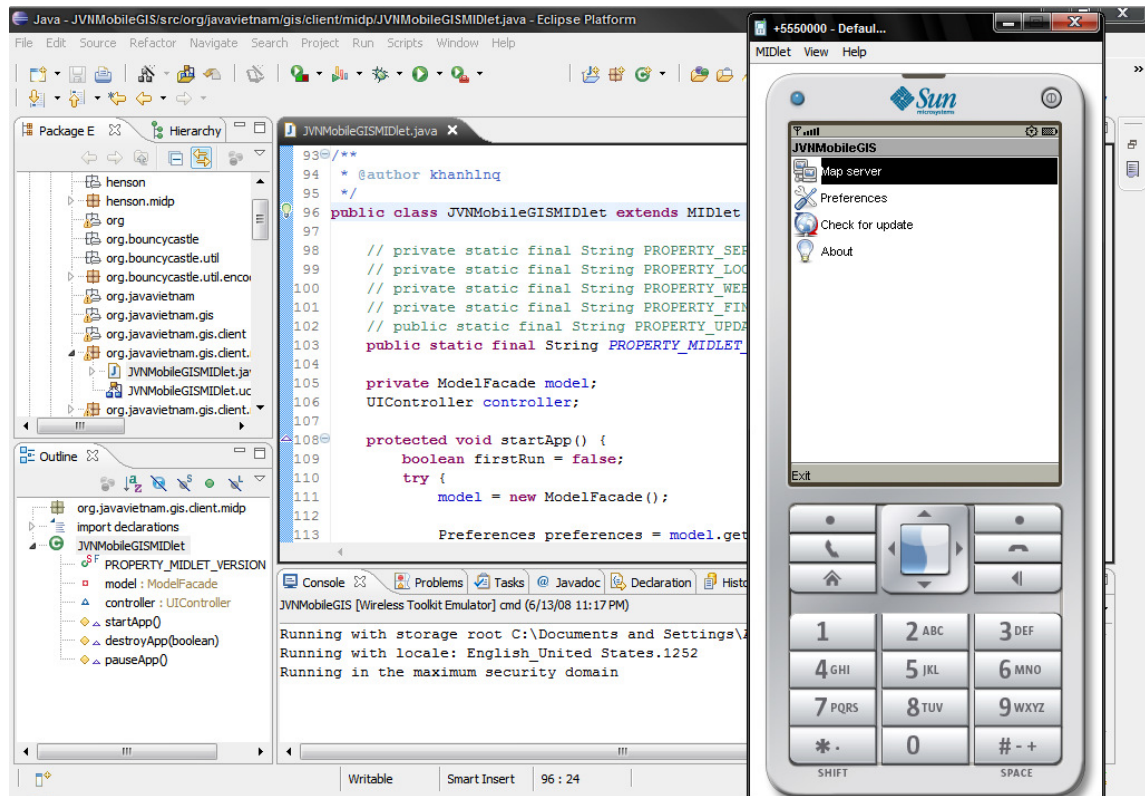


Figure 17. Run JVNMobileGIS in Eclipse

6 GENERATE EXECUTABLE FILES

You can also convert JVNMobileGIS into executable file (EXE file, for Windows only) for easier demonstration.

- Open Command Prompt and change directory to 'bin' folder in JVNMobileGIS root folder
- Enter '*Midp2Exe.exe -jad JVNMobileGIS.jad -jar JVNMobileGIS.jar*'. It will generate JVNMobileGIS.exe file.

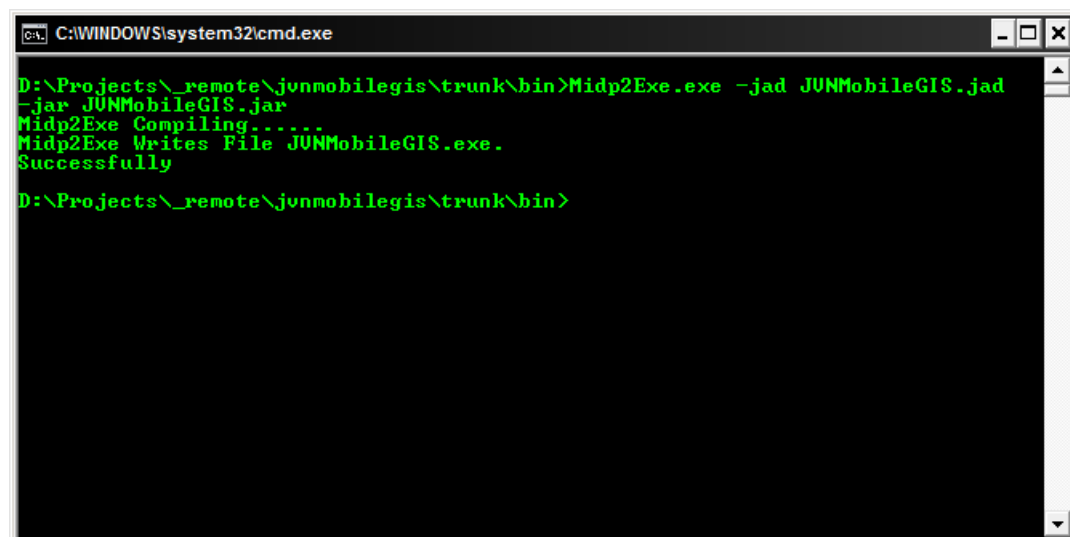


Figure 18. Command to generate JVNMobileGIS.exe

- Now you can run *JVNMobilityGIS.exe* without Java Wireless Toolkit or JRE.

Note: *MidpRuntimeDLL.dll* must be exist in same directory with *JVNMobilityGIS.exe*

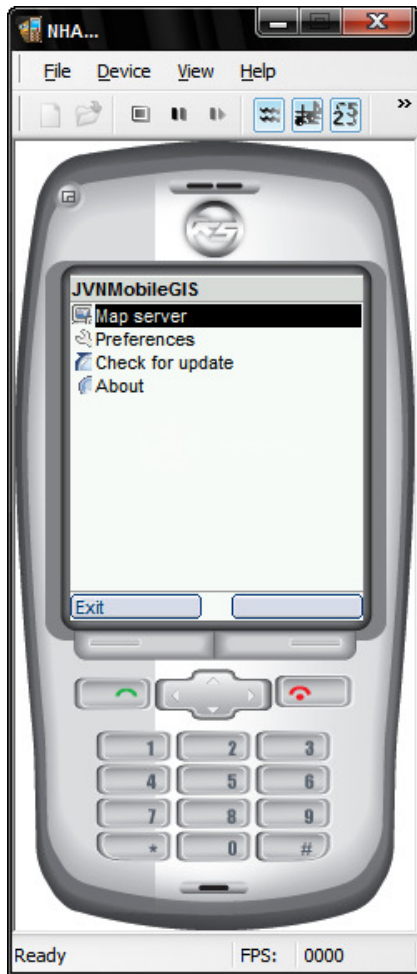


Figure 19. Run JVNMobilityGIS.exe

7 SUPPORT

For more information, please go to:

- **FAQ** - <http://code.google.com/p/jvnmobilegis/wiki/FAQ>
- **Discussion forum** - <http://groups.google.com/group/JVNMobilityGIS>