

Chapter 3: Developing An Application

The Development Scenario

Most of today's software engineering is based upon a theoretical model of system structure and behavior. To capitalize on the theories of system design, GDPro has integrated a number of these languages and methodologies into its architecture.

The system you are about to create is an ATM management system. The purpose of this system is to provide support for a series of ATM stations. The system itself is greatly simplified; a real model for this type of system would require much more detail. However, developing this system provides a good introduction to using many of the features of GDPro.

The Design Process

Listed below is a general overview of the design process we will follow when building the ATM system.

- ◆ Create a New System
- ◆ Choose the Desired Design Methodology
- ◆ Create the Use Case Diagram
- ◆ Create the Package Diagram
- ◆ Create the Class Diagram
- ◆ Create the Collaboration Diagram
- ◆ Create the Sequence Diagram
- ◆ Create the State Diagram
- ◆ Create the Activity Diagram
- ◆ Create the Deployment Diagram
- ◆ Create the Component Diagram
- ◆ Generate C++ Source Code
- ◆ Generate an HTML Report
- ◆ Generate a Class Model and Consistency Report

Starting GDPro

Now that the development scenario and the overall approach of the tutorial have been reviewed, it is time to start GDPro.

In GDPro you create and work with systems and diagrams. By definition, a *system* is a file or "container" for your diagrams. A *diagram* refers to UML models such as class, sequence or component models. Each system can have many diagrams.

To Start GDPro:

1. Choose GDPro from the Start->Program menu.



2. Use the temporary user name "guest" that appears in the User Name text box. Your user name and password are assigned to you by the system administrator at a later date.
3. Leave the default setting of "Local Mode".
4. The Restore Default System Settings button eliminates your customization settings and return you to the defaults. The first time you open GDPro this option is grayed out and not available.
5. Click . A Tip of the Day dialog box opens. Click the Close button on this dialog box. The main GDPro window opens along with a GDPro Initial Start dialog box. For purposes of this quick start tutorial click the Cancel button to close the GDPro Initial Start dialog box.

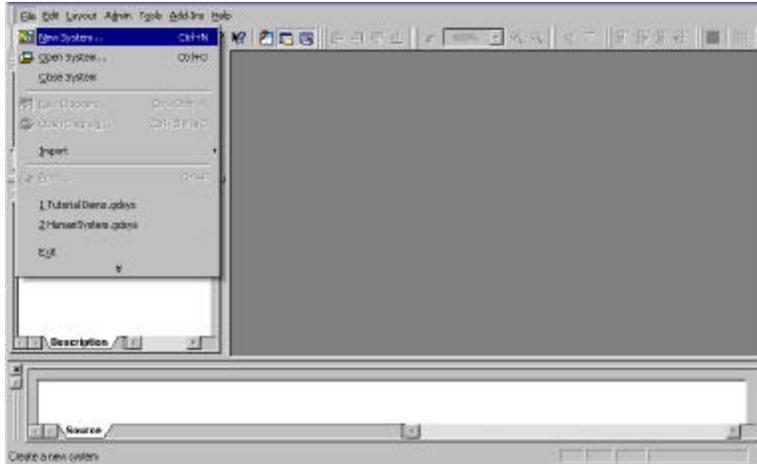
If you have any problems, consult the *Installation Guide* or contact ASTI Technical Support (1-800-811-ASTI).

Creating a New System

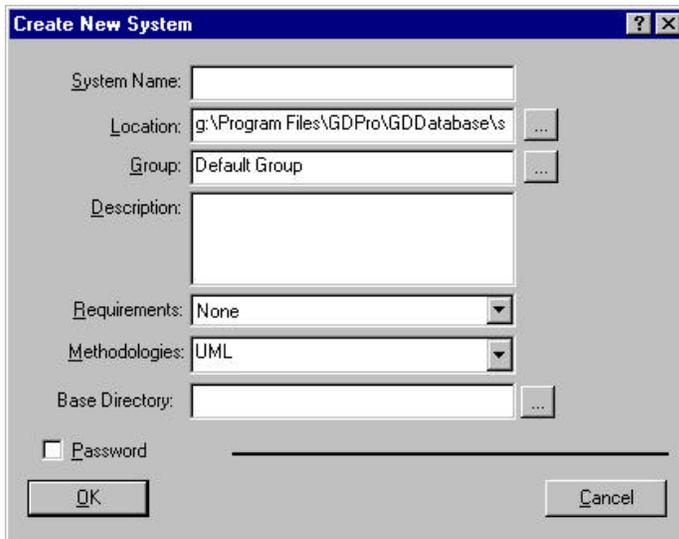
1. Choose FILE->NEW SYSTEM from the menu.



Note: You can also right click the System Hierarchy Window to open a shortcut menu.



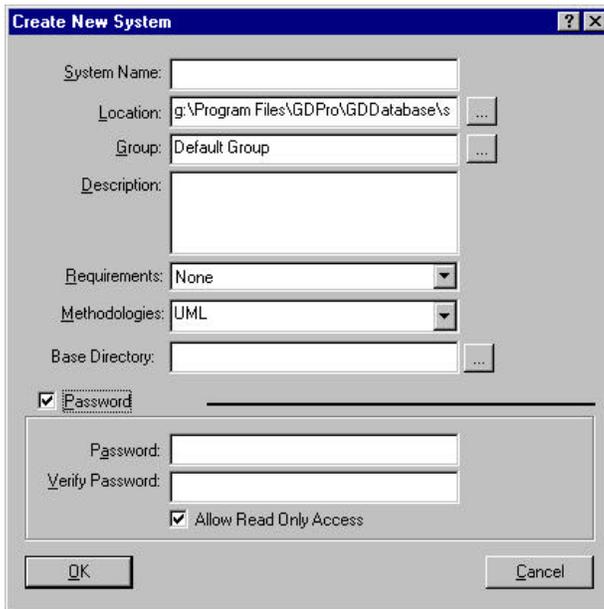
The Create New System dialog box is displayed.

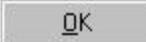


2. Enter the name "Tutorial Demo" for your new system in the System Name text box.
3. For purposes of this tutorial, we won't make any changes to the following text boxes in the Create New System dialog box:

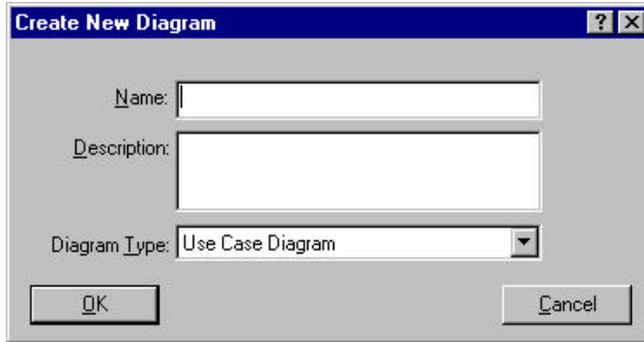
Text Box	Description
Location	This text box shows the path of the system database for GDPro.
Group	You use this dialog box to assign your system to a specific group.
Description	If you want to enter a description for your system, enter it in the Description text box. This is optional.

- Requirements** If you have a requirements management database such as QSS DOORS® loaded in your system, you can integrate the requirements database with your system. Click  next to the Requirements text box to open the dialog box to select the appropriate database.
- Note:** You can also use a Flat File format.
- Methodology** Presently the only available methodology is version 5.0 of the Unified Modeling Language, which is the default setting.
- Base Directory** When you are working in Java, you need to set up a base directory for code generation. You can gain access to a Select a Directory dialog box by clicking  located to the right of the text box.
- Password** If you want to protect your new system with a password, click the Password option button. The Create New Systems dialog box expands. Enter the password in the Password text box. Reenter the same password in the Verify Password text box.

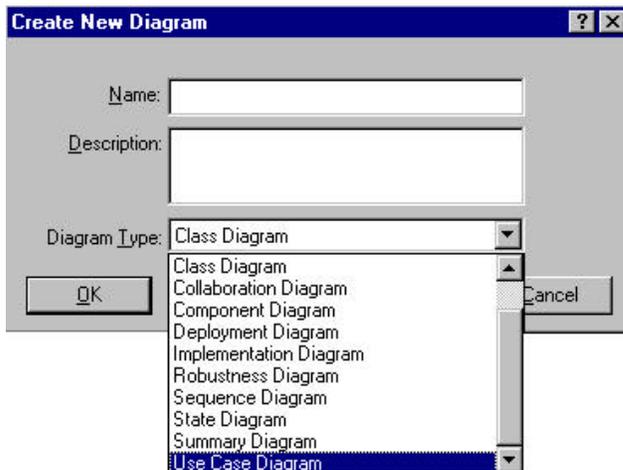


- If you do not want to give "Read Only Access" of your system to other users deselect this option in the Password section of the Create New System dialog box.
- Click  and the Create New System dialog box closes and the Create New Diagram dialog box opens. If you enter a password for this new system, you are required to enter this password each time you open the system.

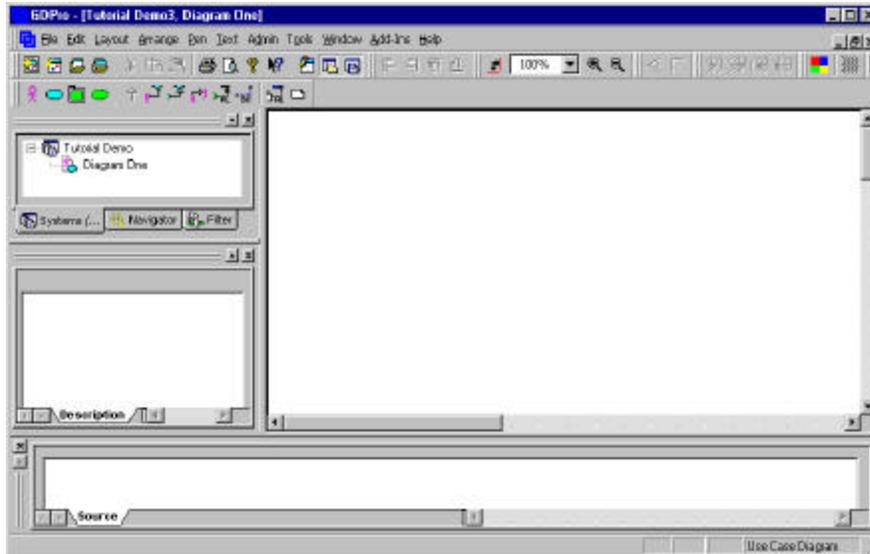
 **Note:** As the application is creating a new system, a status bar appears at the bottom of the GDPro Diagram window showing the progress of the creation procedure.



6. Enter the name "Diagram One" for your first diagram in the Name text box.
7. If you want to enter a description for your new diagram, enter it in the Description text box. This is optional.
8. Click the drop down arrow located by the Diagram Type text box. The list shows all the diagrams associated with the UML methodology.



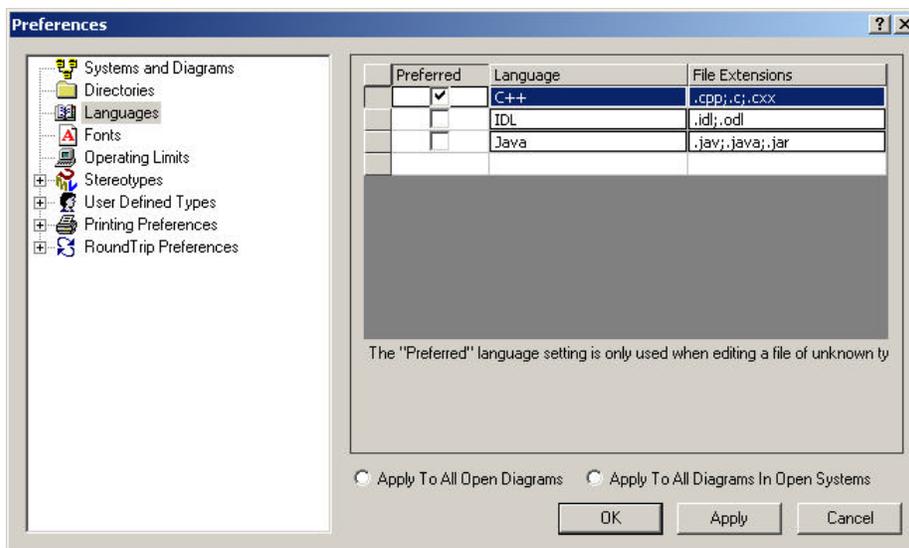
9. Select Use Case Diagram and click .
10. The New Diagram dialog box closes and the Diagram Window opens. A palette containing all the necessary symbols for drawing a UML Use Case diagram is displayed above the System Hierarchy Window.

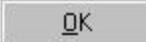


Setting the Data Type

Once you have created a system and a diagram you need to select the data type you want to use for your system. Your three choices are C++, Java or both.

1. Choose EDIT->PREFERENCES from the main menu. The Preferences dialog box opens.
2. Double-click on Languages in the list box and the Language dialog box opens.



3. For purposes of this tutorial select "C++" from this list.
4. Click , the dialog box closes and the selected option is now the data type for this system.