

## AppPerfect Unit Tester

### Overview

AppPerfect Unit Tester is a unit test management system. It automates the generation and execution of unit tests. Unit testing forms the basis of software testing at the developer level. It is sometimes referred to as "developer testing". Unit testing generally refers to testing software based on the smallest logical unit of that software. In Java, this typically is a class file. AppPerfect Unit Tester supports the following types of Java applications:

1. Local/Desktop Java applications - Uses only .java files
2. Server/Web Projects - Uses JSP/Servlets and .java files
3. Server/Web/Struts Projects - Web projects built using the Struts framework
4. Server/Enterprise Projects - Uses JSP/Servlets/EJBs and .java files

AppPerfect Unit Tester uses the JUnit testing framework for generation and execution of Java source files. It uses the HttpUnit framework for generation and execution of JSP files. AppPerfect Unit Tester builds on concepts of mock objects and provides a complete framework to define and manage reusable simulated objects defined in your applications.

AppPerfect Unit Tester goes beyond generating simple stub classes for JUnit testing. It generates fully functional, highly intelligent test classes that understand your application and test your source files thoroughly.

It eases HttpUnit implementation by providing browser-based test recording for JSP applications which provides in-container testing without the complexity involved with setting with an in-container environment. It also provides support for templates based frameworks such as Apache Struts. For sophisticated enterprise applications using EJBs, AppPerfect Unit Tester provides support for in-container testing.

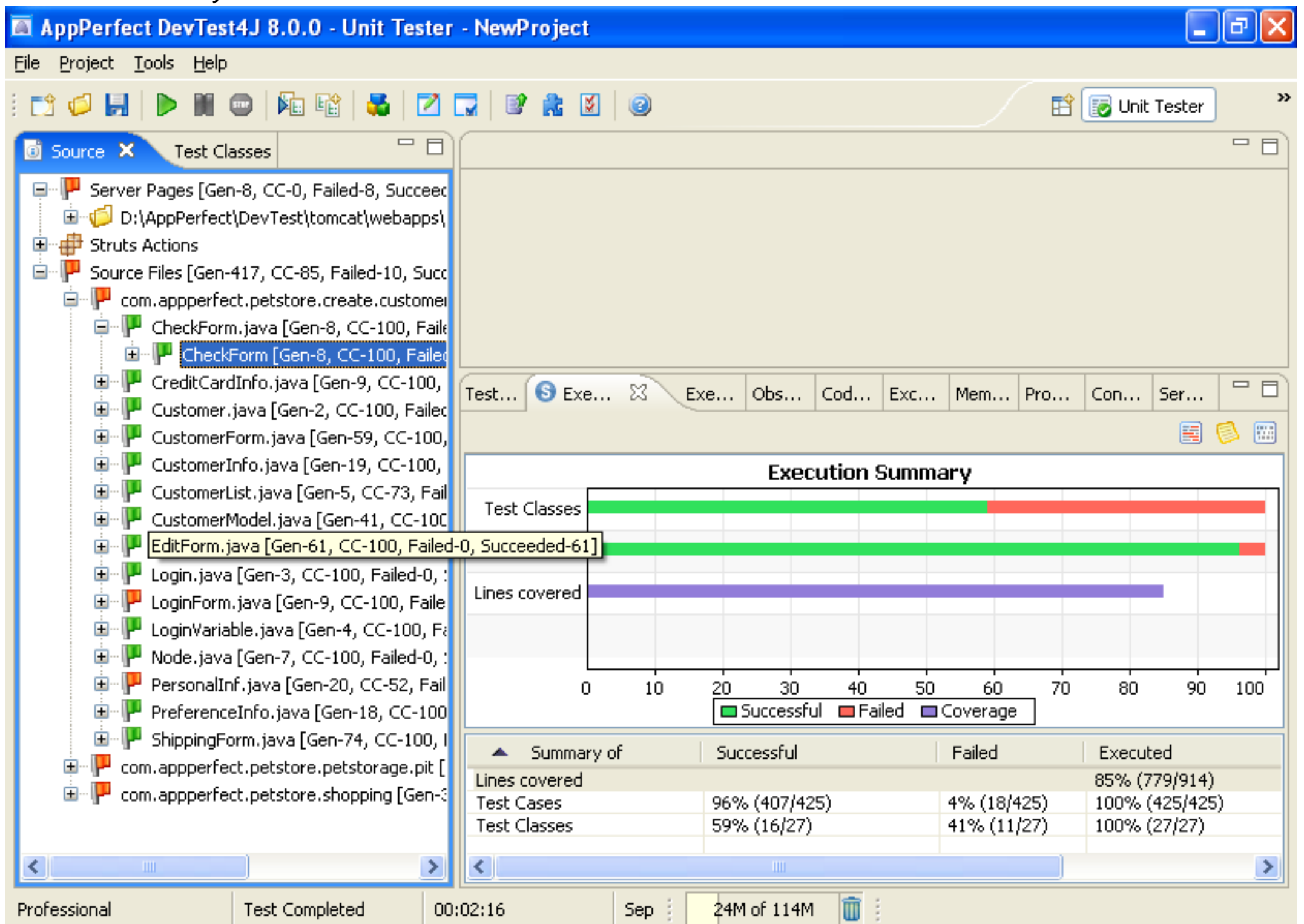
AppPerfect Unit Tester also provides complete code coverage data after test execution. This enables you to view the code path taken by the test case and adjust the test case as needed. The true measure of an automated unit tester's usefulness is the level of code coverage the product provides out-of-the-box. AppPerfect Unit Tester, on average provides the highest level of code coverage compared to similar products on the market.

### Key Features

- **Uses JUnit and HttpUnit framework:** AppPerfect Unit Tester uses JUnit framework, the most commonly used framework, to generate and test Java source. To unit test server-side Java source (JSP/Servlets/EJB) it uses HttpUnit framework.
- **Automatic Generation of test cases:** AppPerfect Unit Tester automatically generates full test cases, by going through code and understanding it. AppPerfect Unit Tester goes beyond generating simple stub classes for JUnit testing. It generates fully functional, highly intelligent test classes that understand your application and test your source files thoroughly. It also provides easy to use UI to edit your test cases. It automatically maintains these test cases as your code changes, so if you delete any method in your source, AppPerfect Unit Tester will take care of deleting the corresponding test cases from test class files and so on.
- **Functional Test cases:** AppPerfect Unit Tester provides an utility called Object Tracer which allows users to run their application normally and monitors the object creation during the normal working of application. It records this information and later creates test cases by creating exactly same objects, this way user can generate functional test cases for their applications and can use these test cases for regression testing.
- **Object Repository:** AppPerfect unit tester uses concept of mock objects to unit test your source code. It generates mock objects and stores them in a repository called Object Repository. You can manage these objects using Object Repository Manager.
- **Supports Stubbing:** AppPerfect unit tester supports stub code generation, this is useful when some part of application is not available or is not developed yet. For example your application requires a database connection but same is not available then you can stub getConnection call and return some dummy connection object in place, unit tester will take care to execute your stubbed code in place of actual getConnection call while unit testing the code.
- **Supports Mock Database:** AppPerfect unit tester supports mock database functionality. This functionality is provided: a) to allow users to test their code during development phase without actually going to original database, b) During development some times users enter junk data hence to prevent original database from getting corrupt. c) To save developers time as during development if users enter junk data and it goes to original database then users are required to spend some time cleaning database, d) At lot of time database must be in some state for testing certain piece of code hence to maintain that state of database for users.
- **Importing of existing JUnit tests:** AppPerfect Unit Tester can import a existing JUnit test cases and and execute them along with Unit Tester generated test cases and can report the results.
- **Browser recording:** You can use the browser recording facility to create the tests as you would normally work with your application. There is no need to learn any proprietary scripting language. You can then edit and run the test fast and easily. All web browsers are supported for recording, including Internet Explorer, Netscape, Mozilla, and Firefox.
- **Support for basic authentication, cookies, SSL:** With the AppPerfect Unit Tester, you can unit test JSP applications that require basic authentication as well as those using HTTPS by allowing the configuration of the SSL Provider. It also handles the sending of cookies with the appropriate requests and supports URL rewriting if your application uses it. Two way SSL authentication is also supported.
- **Informative reports and Custom report designer:** The application provides reports to show successful and failed test cases with reason why test case failed. These reports are available through the UI and can be exported into 3 different formats: HTML, PDF and CSV. Unit Tester also provides a utility called Analytics which is basically a custom report designer to help user design their own custom reports. Product comes with lot of system reports defined in Analytics to help user understand how they can design their own reports.
- **Trend Analysis:** AppPerfect Unit Tester provides a utility called Trend Analytics to generate trend reports for load testing of your application. This utility takes multiple result files and generates trend charts and reports based on the data found.
- **Scheduling of tests:** You can schedule your tests with the AppPerfect Unit Tester. You do not have to be physically present to start the test. The whole process is automated so you can schedule a test to run in the night and have a look at the results the next day and then correct any errors found by the test.
- **Notification of results:** You can configure AppPerfect project to notify results using Email or custom notification mechanism. In case of Email notification you can specify whether you want results as attachment and AppPerfect will export the results as HTML file and send the same as attachment with the mail.
- **IDE Integration:** AppPerfect Unit Tester supports IDE integration with most commonly used IDEs. This enhances ease-of-use and productivity. Currently supported IDEs are Eclipse, NetBeans, IntelliJ, JBuilder, JDeveloper and Workshop.
- **ANT Integration and Command line execution:** AppPerfect Unit Tester supports ANT integration so it can be easily integrated into most development/build environments. Unit Tester also supports command line execution so you can unit test your source code by invoking product from a bat or sh file.

### Screenshot

#### Test Results Summary View:



### Supported Products

- JDK : JDK 1.3.x, JDK 1.4.x, JDK 1.5.x, JRocket 1.4.2 and higher, IBM JDK 1.3.1 and higher
- OS : Windows 2000/XP/2003, Linux x86, Solaris 8/9, Mac OS X
- IDE : Eclipse 2.1.x/3.0, NetBeans 4.0/4.1/5.0, IBM WSAD 5.1.x, IBM RAD 6.0, IntelliJ 3.0.5/4.0/4.5/5.0, JBuilder 9.x/10.x/2005/2007, JDeveloper 9.x/10.x
- AppServer : Apache Tomcat 4.x/5.x; BEA WebLogic 7.x/8.x; IBM WebSphere 5.x; JBoss 3.x/4.x; Macromedia JRun 4x, Resin2.x/3.x, Orion 2.x, OracleAS 10g, Jetty4.x/5.x, SunOne 7.x/8.x

### Availability & Download

AppPerfect Unit Tester is a component of the **AppPerfect DevTest4J**. AppPerfect Unit Tester is not sold separately. The AppPerfect DevTest4J is shipped in two different versions: Standard and Professional. The AppPerfect DevTest4J - Standard Edition is free for non-commercial use only. Visit <http://www.AppPerfect.com/sales/index.html> for price information and purchasing options for AppPerfect DevTest4J - Professional Edition.

A free 15-day evaluation version of the AppPerfect DevTest4J - Professional Edition can be downloaded from <http://www.AppPerfect.com/download/index.html>. At the end of 15 days, you must purchase a license, else the software will automatically convert to the Standard Edition.