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# 1 Introduction

What's Mutation Testing? Mutation testing is a software testing technique where the source code is intentionally modified (mutated) to create faulty versions (mutants) of the tests of a program. Doing this enables the user to evaluate the effectiveness of their test suite by determining if the tests can detect the introduced faults, thereby ensuring high test coverage and identifying weak spots in testing. (Testing the Tests)

## 2 Workflow

### 2.1 Obtaining the plugin

The plugin can be downloaded from the [JetBrains Marketplace \(https://plugins.jetbrains.com\)](https://plugins.jetbrains.com) by following these steps:

1. Open IntelliJ IDEA: Launch IntelliJ IDEA on your computer.
2. Navigate to the Marketplace: In the IntelliJ IDEA menu, go to "File" -> "Settings" (or "IntelliJ IDEA" -> "Preferences" on macOS). In the Settings/Preferences dialog, select "Plugins" from the left-hand menu.
3. Access the JetBrains Marketplace: In the Plugins settings, click on the "Marketplace" tab. Click on the "Browse repositories" button to access the JetBrains Marketplace.
4. Search for the Plugin: Use the search bar to find your specific plugin by name or keywords related to its functionality.
5. Install the Plugin: Once you locate your plugin in the search results, click on it to view details. Click the "Install" button to initiate the installation process.
6. Review Permissions (if any): If the plugin requires certain permissions, carefully review them and click "Accept" if you agree.
7. Restart IntelliJ IDEA: After the installation is complete, you'll likely be prompted to restart IntelliJ IDEA. Save any open work and restart the IDE.

### 2.2 Running the plugin

1. Open Project in IntelliJ IDEA: Launch IntelliJ IDEA with the plugin installed and open the project where you want to run the mutation testing.
2. Locate the Class in Project Explorer: In the Project Explorer or Project tool window, navigate to the package or directory or class you want to test.
3. Select the Class/ Directory/ Package: Select the specific class you want to test by clicking on it in the project tree view.
4. Right-Click to Access Context Menu: Right-click on the selected class/ directory/ package to open the context menu.
5. Run Mutation Testing: In the context menu, look for the option labeled as "Run Mutation Test".

## 2.3 Working with the results

1. Run Mutation Testing: Follow the previously mentioned workflow to run mutation testing on a specific class using your plugin.
2. View test results window: The plugin will open a new window displaying the test results.
3. Colour-coded code: The plugin annotates the tested code by assigning a colour to it.