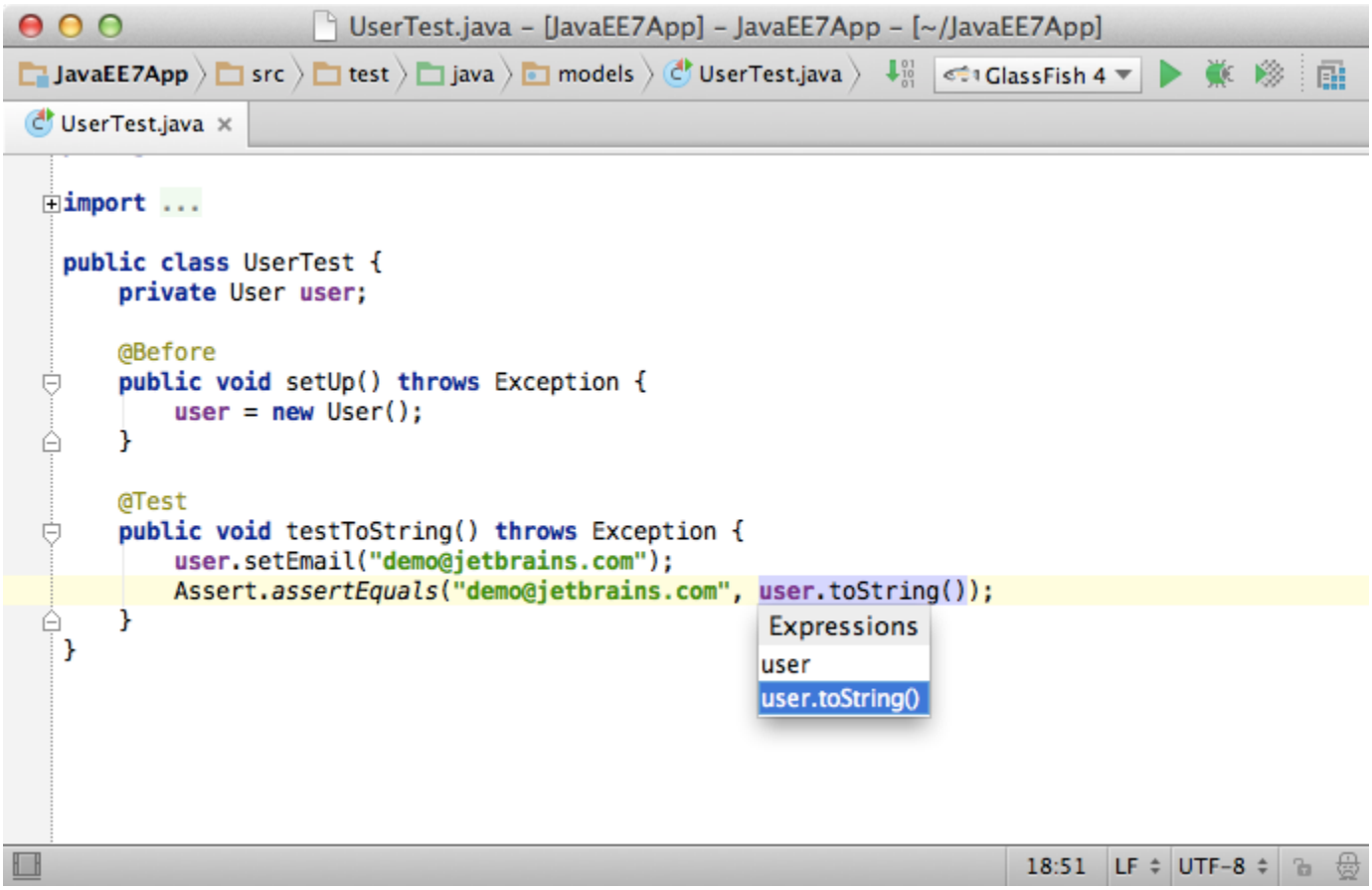
Refactoring Basics

IntelliJ IDEA offers a comprehensive set of automated code refactorings that lead to significant productivity gains when used right. This tutorial will teach you how to do that, starting from the basic topics.

1. Selection

First of all, don't bother selecting anything before you apply a refactoring. IntelliJ IDEA is smart enough to figure out what statement you're going to refactor, and only asks for confirmation if there are several possible choices.



2. Undo

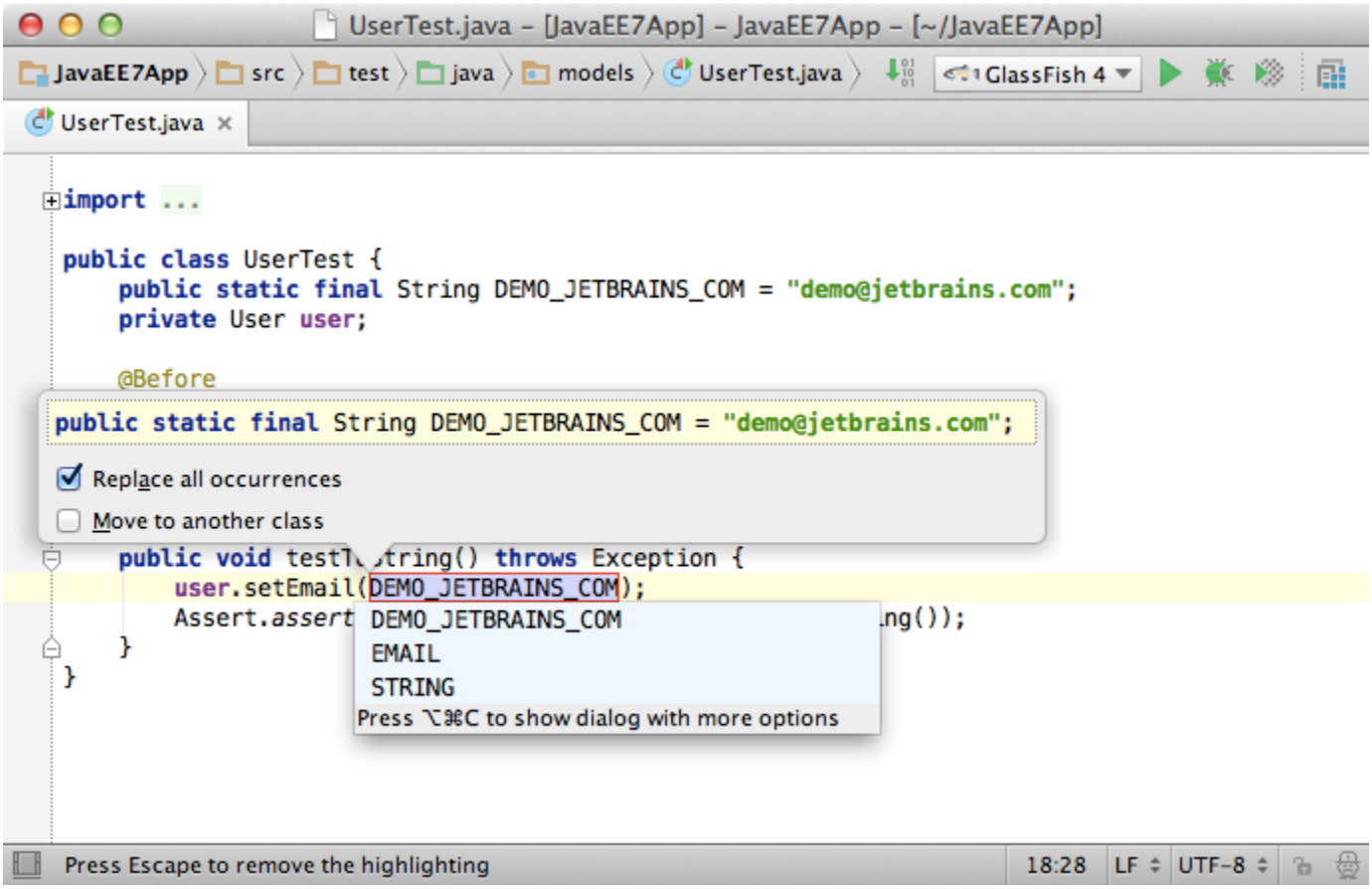
Another important thing to know is that IntelliJ IDEA lets you undo everything, and that includes refactorings, no matter how complex code transformations they cause. Just pressCtrl+Z(Cmd+Zfor Mac), and you're back to where you were before inadvertently scrambling a few thousands lines of code.

3. Mnemonics

IntelliJ IDEA encourages you to use the keyboard instead of the mouse. It's proven to be faster and in the end will make you more productive at writing and transforming your code.

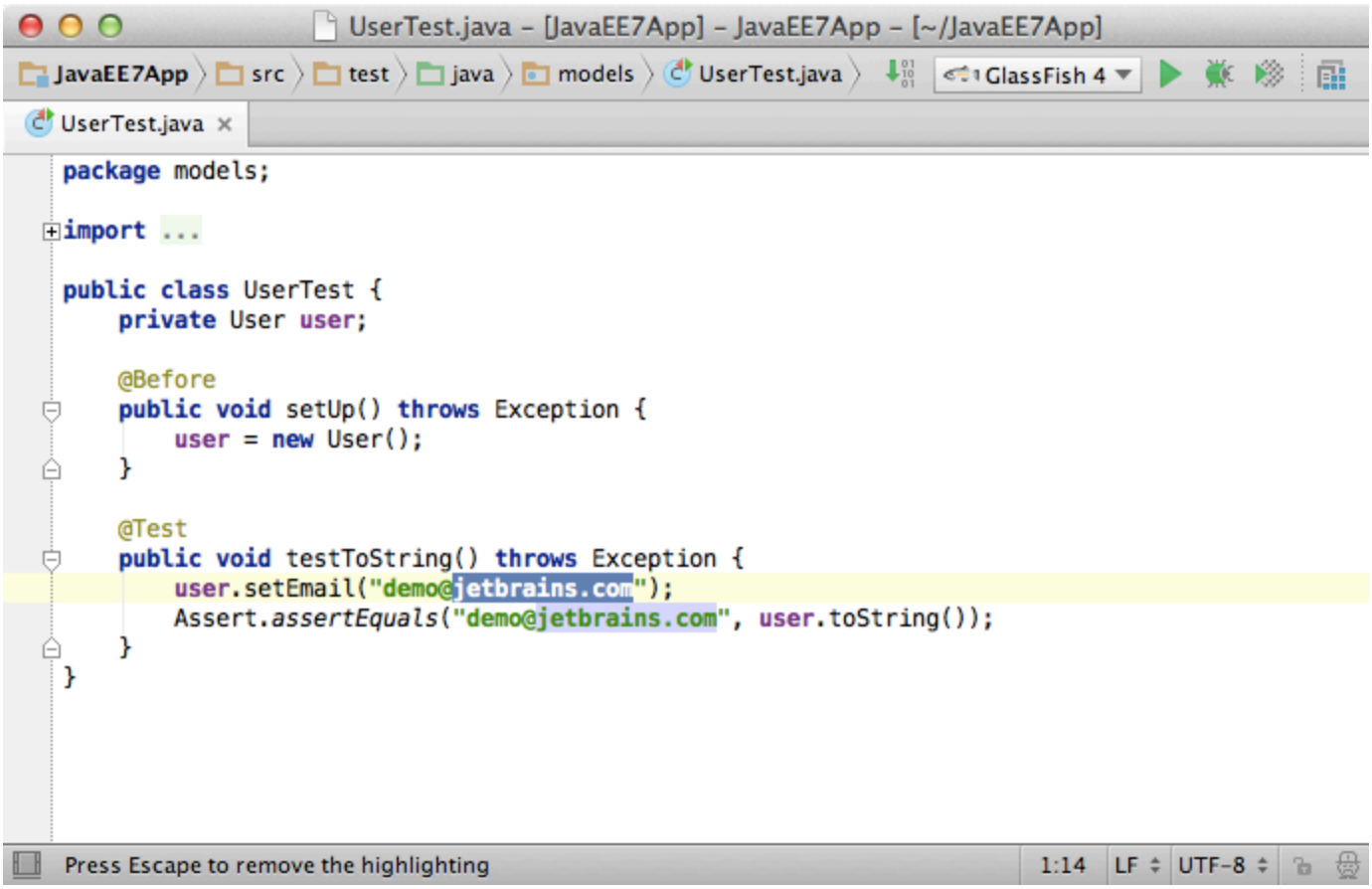
One thing that helps you easily use the keyboard to work with dialog boxes and popup windows is mnemonics---shortcut keys that are automatically assigned to each of the dialog elements. After you open a dialog, press and holdAltto let IntelliJ IDEA

highlight all available mnemonics. Then you can use them by pressing the highlighted key while holdingAltto access the elements you need.



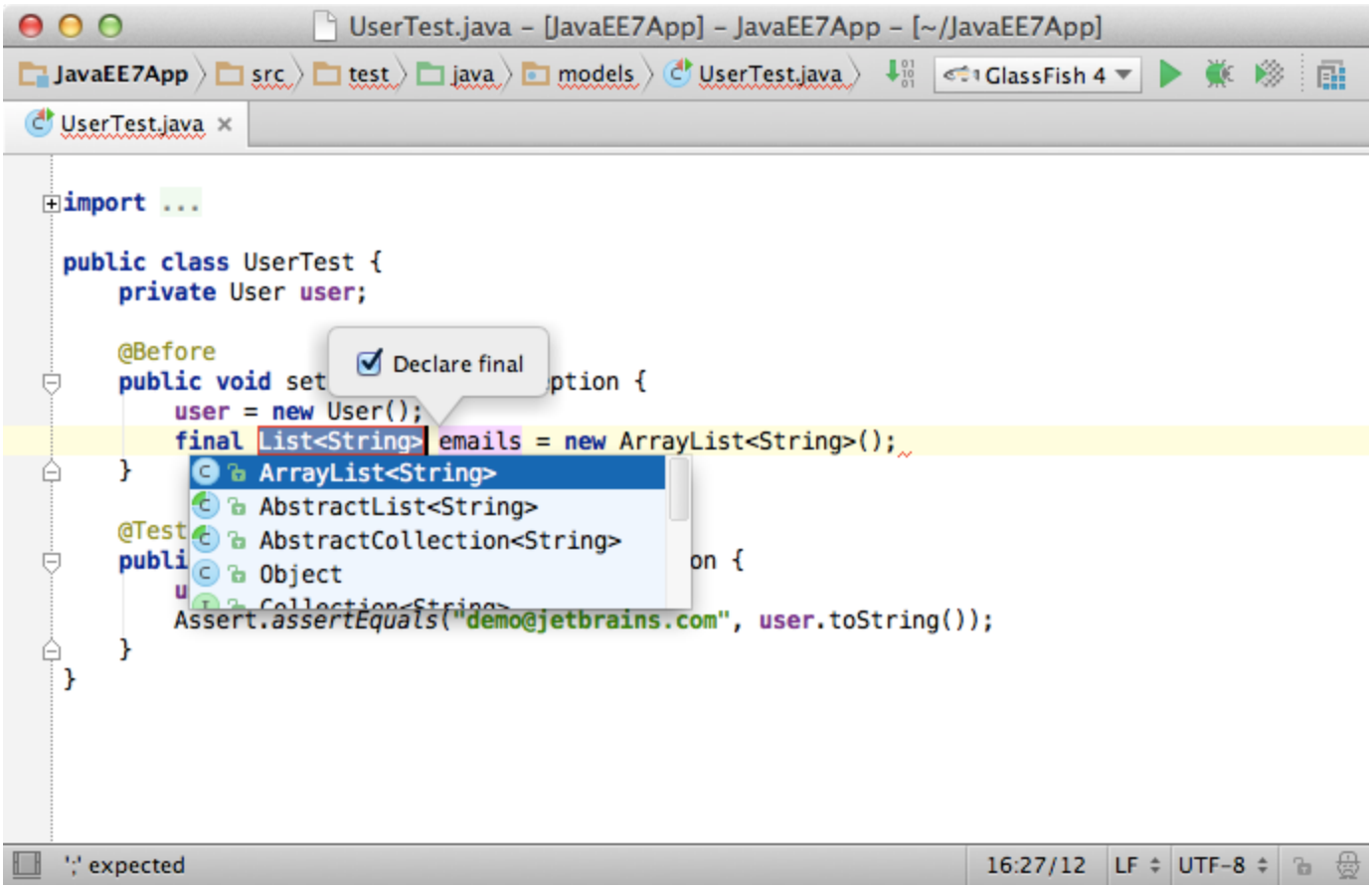
4. String fragments

A real time saver is the ability to extract a part of a string expression with the help of theExtract...refactorings. Just select a string fragment and apply a refactoring to replace all of the selected fragment usages with the introduced constant or variable.



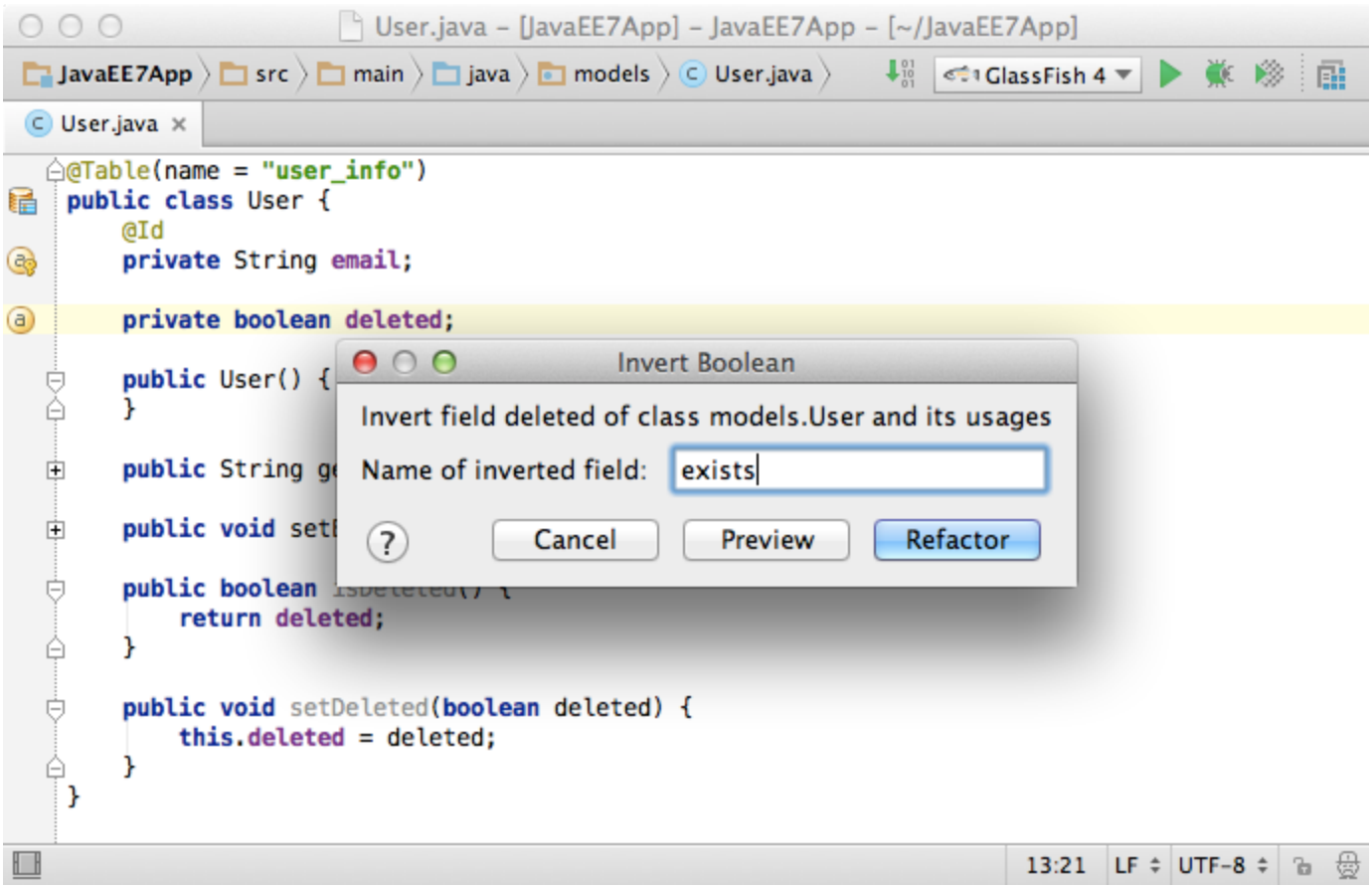
5. Change variable type

Note that you can select a variable type when using theExtract variablerefactoring. Press Shift+Tab when editing the variable name, and IntelliJ IDEA will offer you to select the variable type (e.g., you can tell it use the interface instead of implementation, or vice versa).



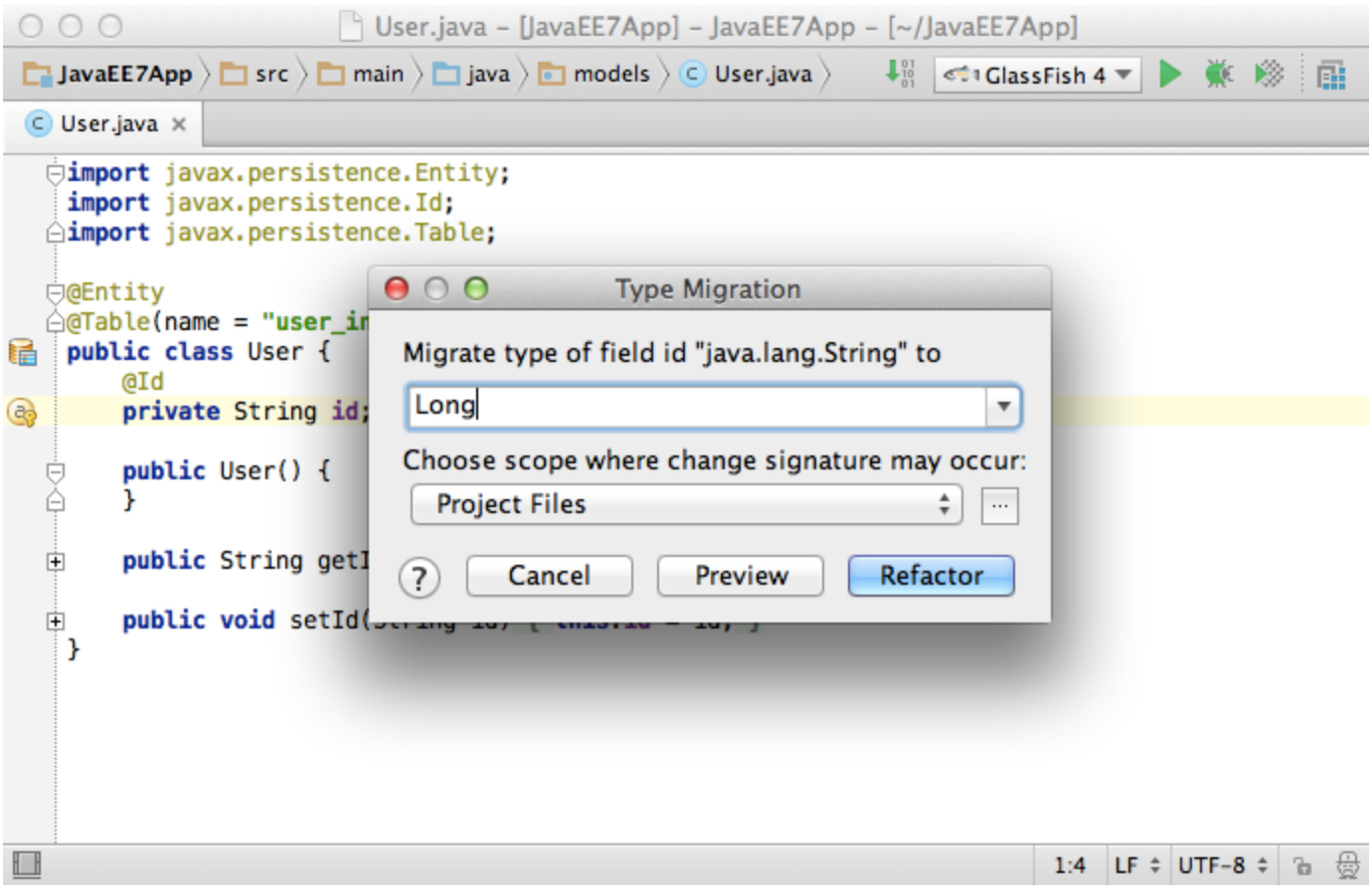
6. Invert boolean

One basic but very helpful refactoring is theInvert Boolean, which inverts the semantics along with the data flow dependent expressions for any Boolean variable, parameter, field or method.



7. Type migration

TheType Migrationrefactoring, as its name suggests, lets you automatically change the type for any class member, along with the dataflow-dependent type entries such as method return types, local variables, parameters, etc.



8. Essential refactoring shortcuts

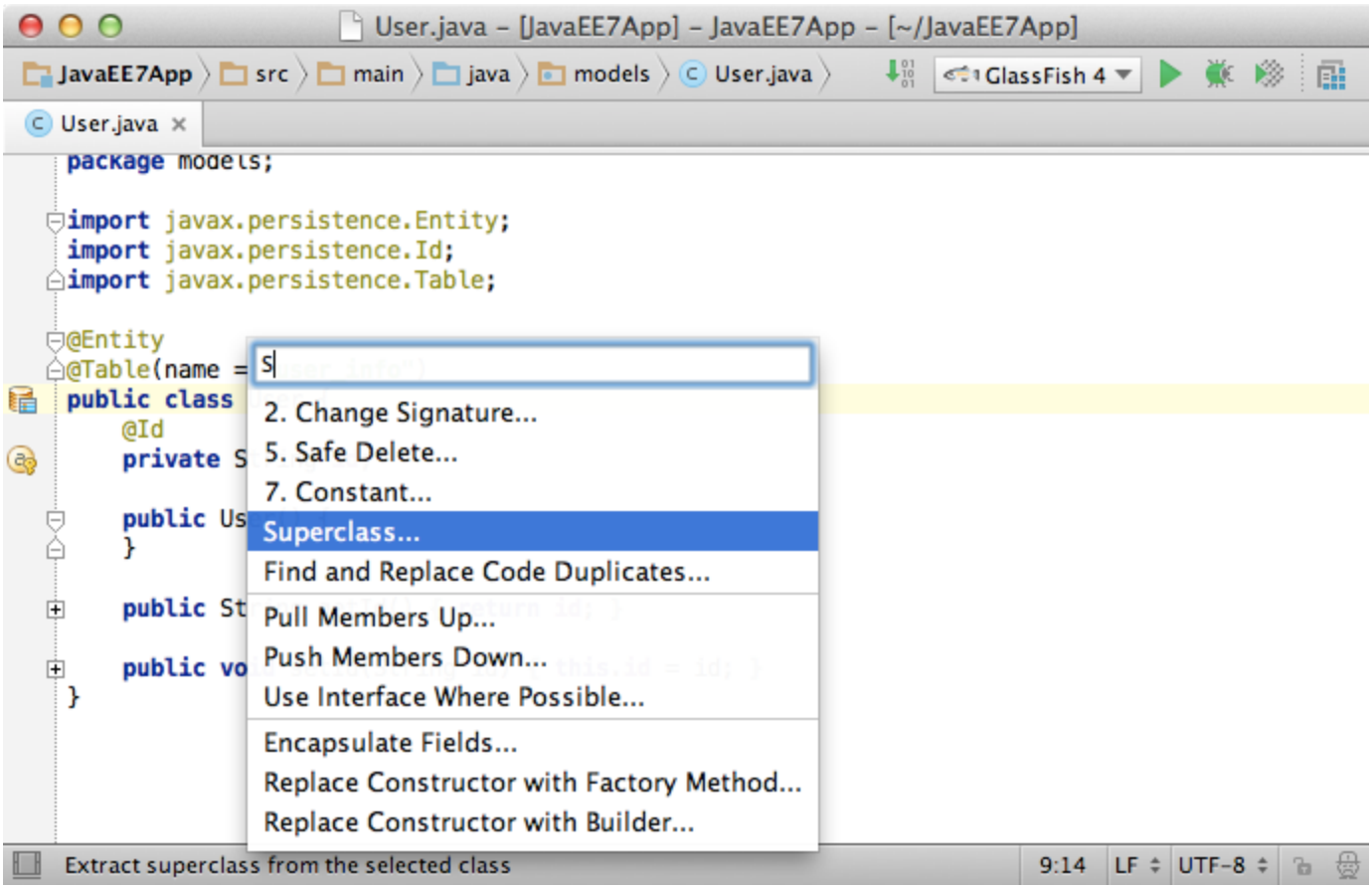
- Rename:Shift+F6
- Copy a class or file:F5
- Move a class or file:F6
- Extract a constant:Alt+Ctrl+C(Alt+Cmd+Cfor Mac)
- Extract a variable:Alt+Ctrl+V(Alt+Cmd+Vfor Mac)
- Extract a method:Alt+Ctrl+M(Alt+Cmd+Mfor Mac)
- Extract a field:Alt+Ctrl+F(Alt+Cmd+Ffor Mac)
- Extract a parameter:Alt+Ctrl+P(Alt+Cmd+Pfor Mac)
- Inline a class or method:Alt+Ctrl+N(Alt+Cmd+Nfor Mac)
- Change signature:Ctrl+F6(Cmd+F6for Mac)

9. Other useful refactorings

- Pull members up/down
- Extract a super class
- Extract an interface
- Convert an anonymous class to an inner class

10. Refactor this

If you cannot recall the shortcut for a particular refactoring, or you're just not sure what to do next, simply use 'Refactor this action' by pressingCtrl+Shift+Alt+T(Cmd+Shift+Alt+T). You will see the list of refactorings available in the current context.



This is it for the refactoring basics. See the following tutorials for more advanced topics.

Previous | Quick Popups Top | Quick Start Next | Folding