Version Control Basics

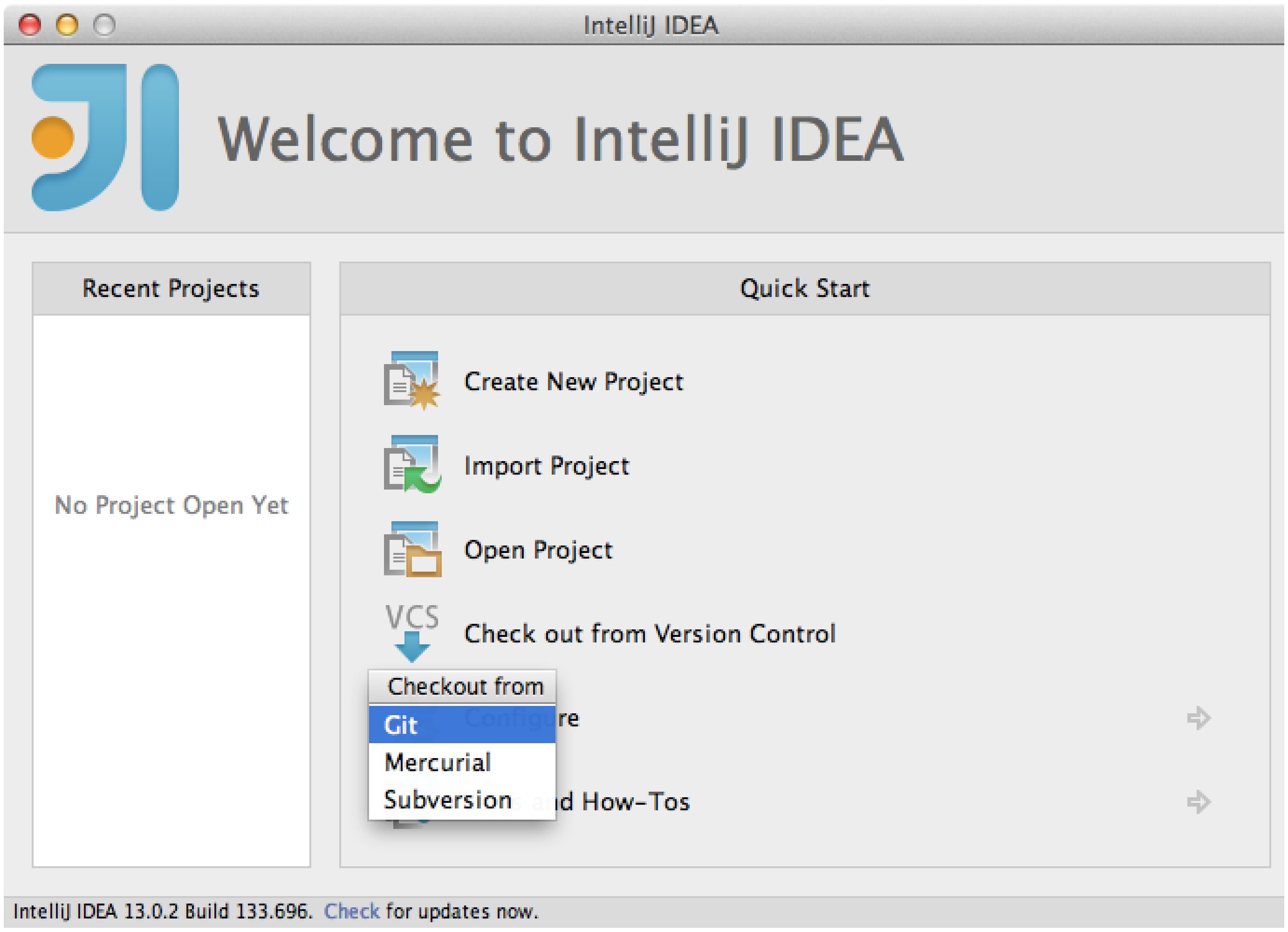
Previous | Intentions   Top | Quick Start   Next | Debugger

The license could not be verified: License Certificate has expired!

One of the nicest things about IntelliJ IDEA is its seamless integration with major version controls like Git, GitHub, Subversi on, Mercurial, Perforce, TFS, CVS, Visual SourceSafe and Rational ClearCase.

1. Check out a project from version control

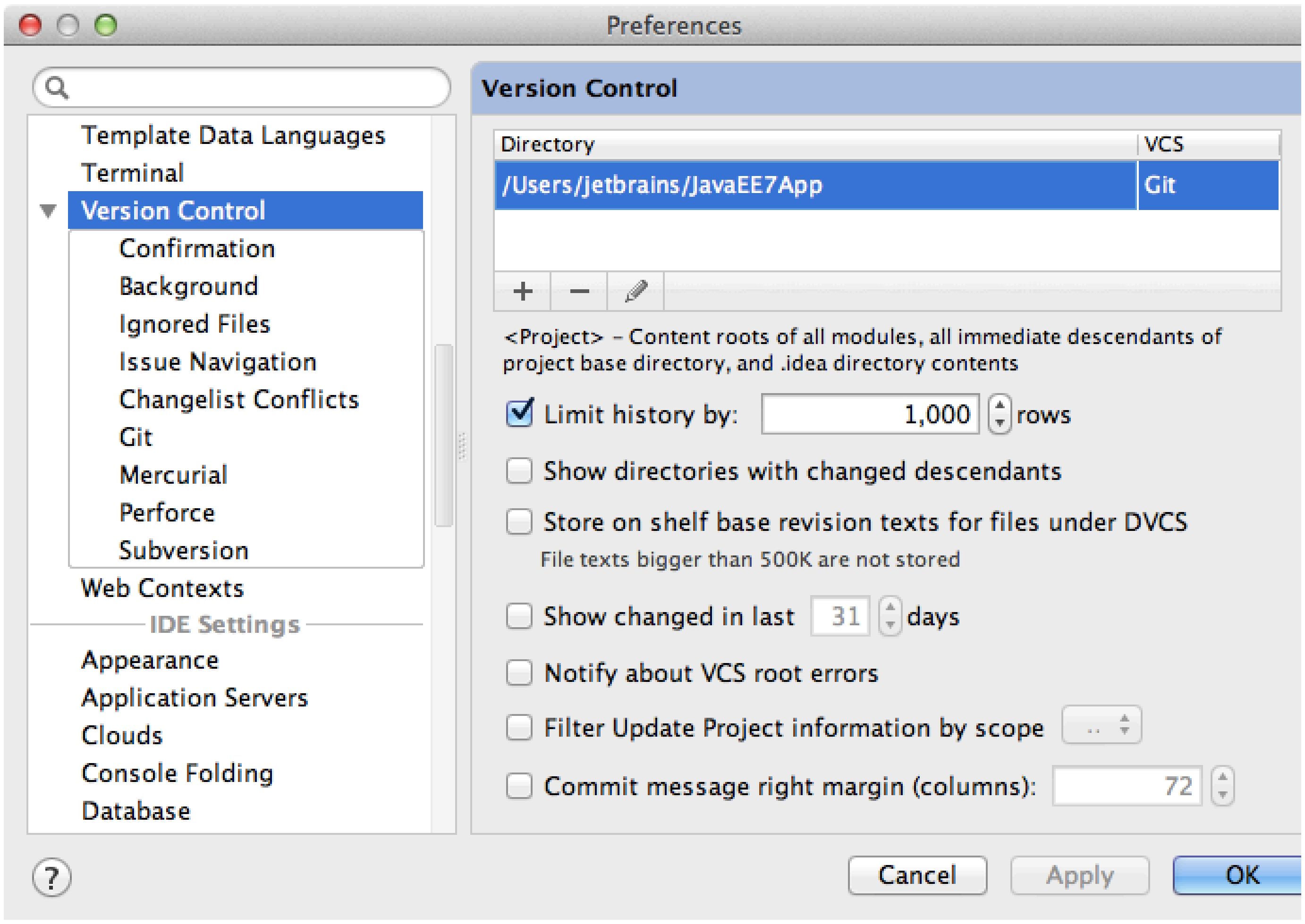
To import a project from version control click theCheck out from Version Controlbutton on theWelcome screen, or use the same command from theVCSon main menu.



If the project has Maven or Gradle build files, IntelliJ IDEA will offer to use them for configuration.

2. Version control settings

Project version control settings are accessed viaSettingsVersion Control. You can associate any of the project folders with a repository root. These associations can be removed at any time, or you can even opt to disable the version control integration entirely.



Version Control

Directory	VCS
/Users/jetbrains/JavaEE7App	Git

<Project> – Content roots of all modules, all immediate descendants of project base directory, and .idea directory contents

[✓] Limit history by: 1,000 rows

[ ] Show directories with changed descendants

[ ] Store on shelf base revision texts for files under DVCS

File texts bigger than 500K are not stored

[ ] Show changed in last 31 days

[ ] Notify about VCS root errors

[ ] Filter Update Project information by scope

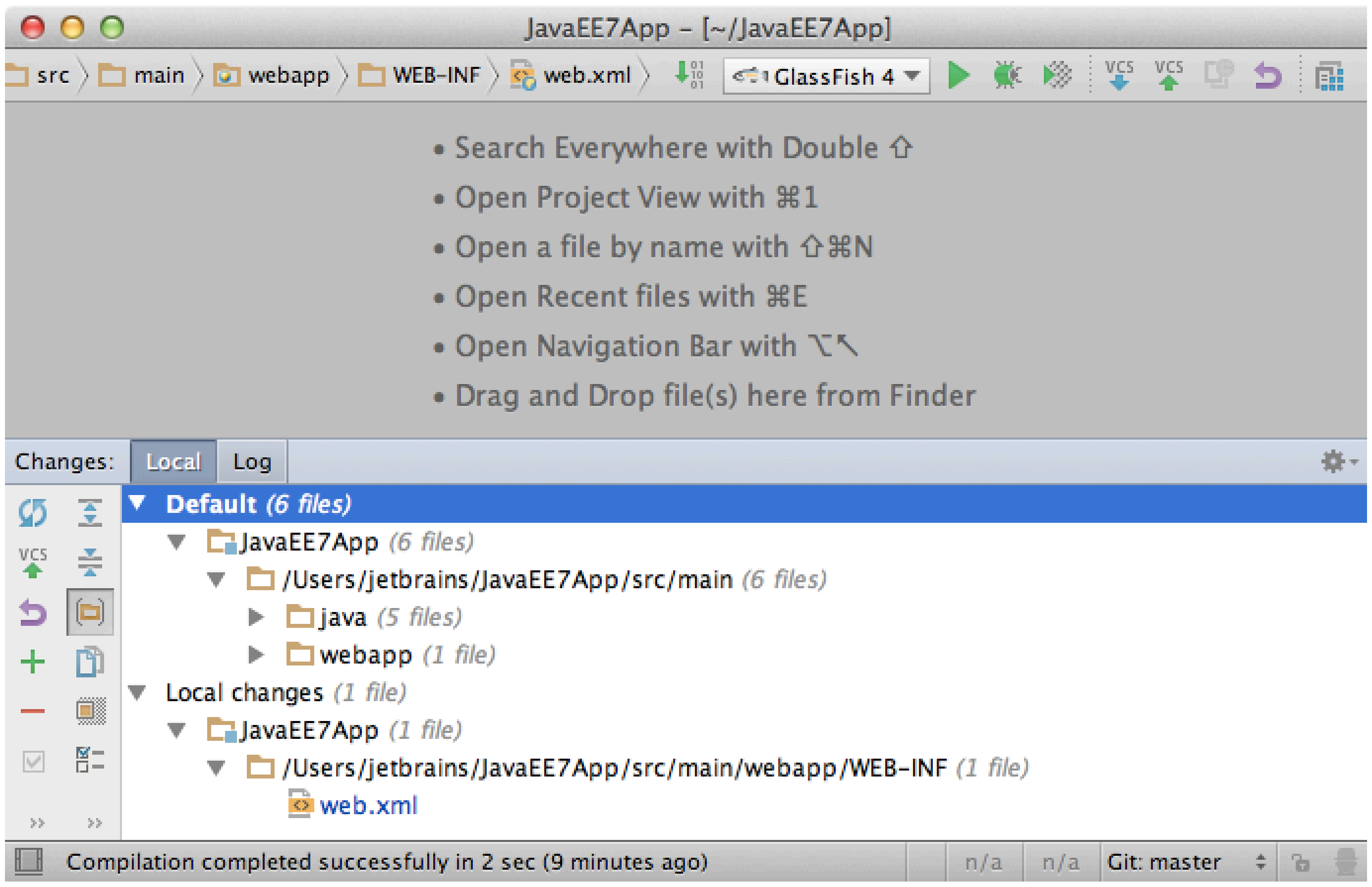
[ ] Commit message right margin (columns): 72

IntelliJ IDEA can handle multiple VCS repositories assigned to different folders of the project hierarchy and perform all VCS operations on them uniformly.

3. Changes tool window and changelists

After version control is enabled for a project, you can see and manage your local changes via theChangestool window. To quickly access the tool window use theAlt+9(Cmd+9for Mac) shortcut.

To make working with changes easier, all changes are organized into changelists that can be created, removed, and made active.



JavaEE7App – [~/JavaEE7App]

src 〉 main 〉 webapp 〉 WEB-INF 〉 web.xml 〉 GlassFish 4

- Search Everywhere with Double ⇧
- Open Project View with ⌘1
- Open a file by name with ⇧⌘N
- Open Recent files with ⌘E
- Open Navigation Bar with ⌥↖
- Drag and Drop file(s) here from Finder

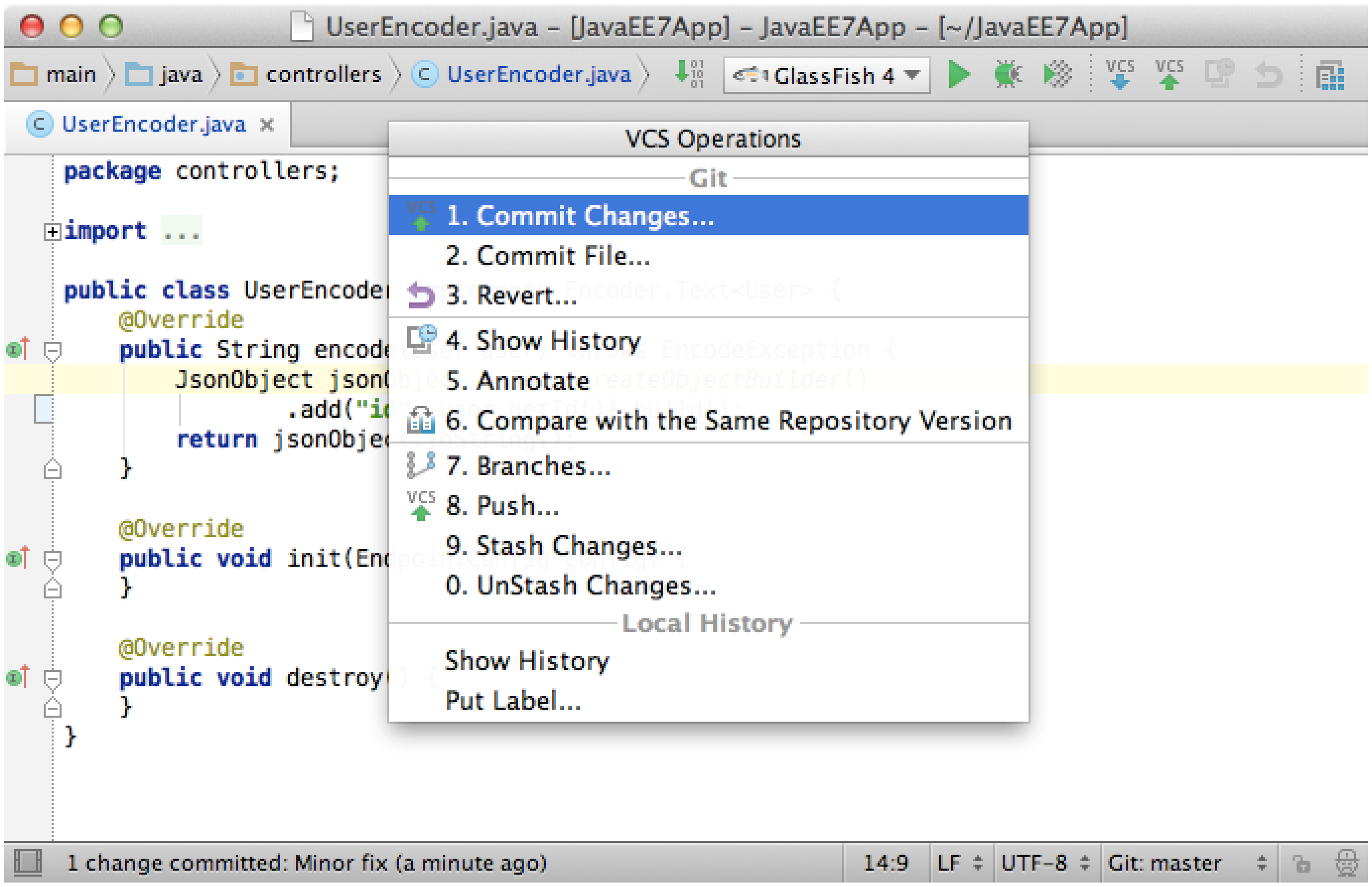
Changes: Local Log

```
▼ Default (6 files)
    ▼ JavaEE7App (6 files)
        ▼ /Users/jetbrains/JavaEE7App/src/main (6 files)
            ▶ java (5 files)
            ▶ webapp (1 file)
▼ Local changes (1 file)
    ▼ JavaEE7App (1 file)
        ▼ /Users/jetbrains/JavaEE7App/src/main/webapp/WEB-INF (1 file)
            web.xml
```

Compilation completed successfully in 2 sec (9 minutes ago) n/a n/a Git: master

4. VCS operations quick list

When you need to perform a VCS operation from on a currently selected file, directory, or even on the entire project, use theV CS operationsquick list via theAlt+Back Quote(Ctrl+Vfor Mac) shortcut.

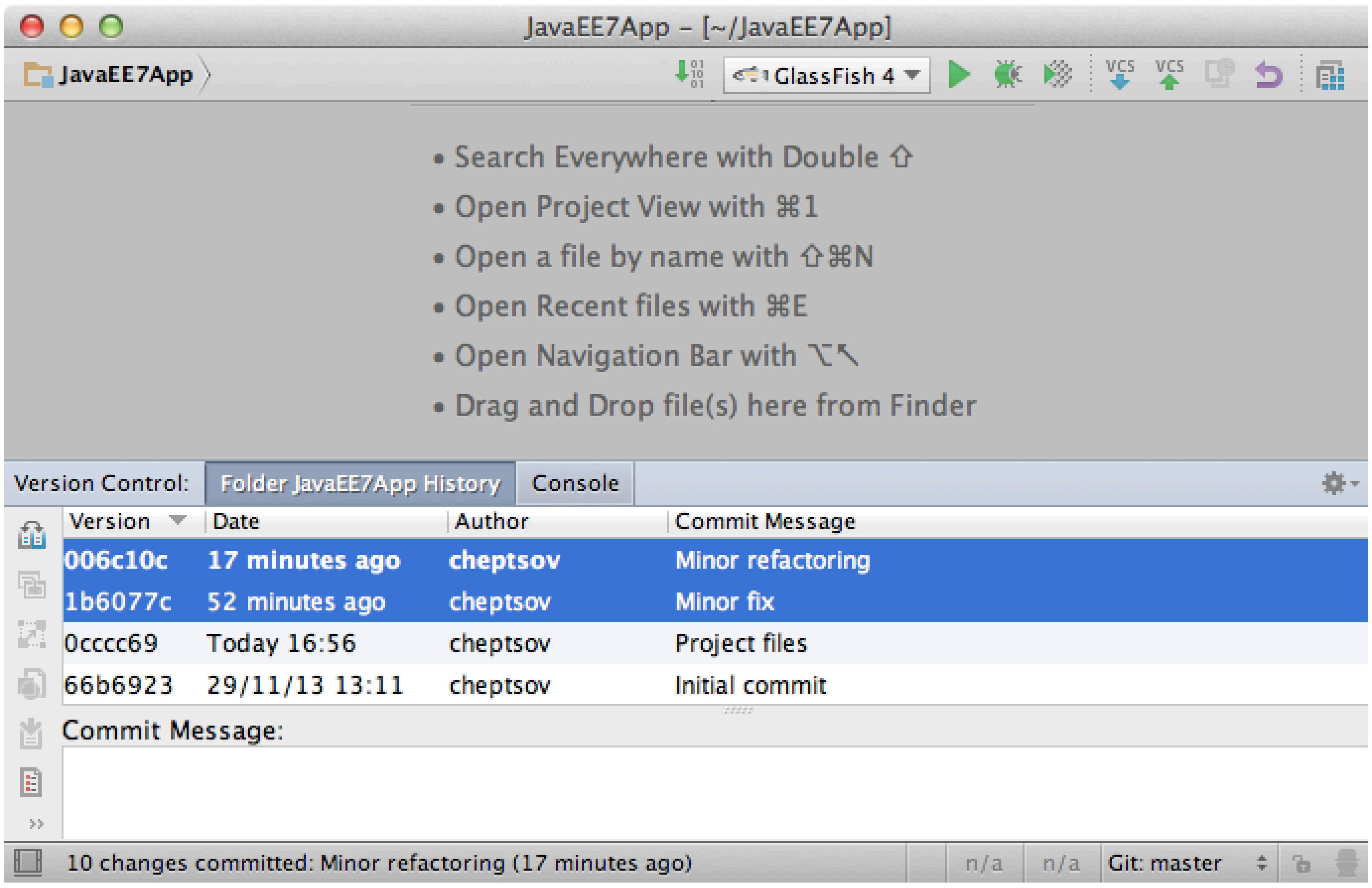


```
package controllers;

import ...

public class UserEncode
    @Override
    public String encode
        JsonObject json
                .add("i
        return jsonObje
    }

    @Override
    public void init(En
    }

    @Override
    public void destroy
    }
}
```

1 change committed: Minor fix (a minute ago)

5. Show history

The changes history is available for a set of files or directories via theVCS operationsquick list, or in the main menuVCS <Version control name> Show History, or the context menu <Version control name> Show History.


JavaEE7App – [~/JavaEE7App]
JavaEE7App
GlassFish 4
• Search Everywhere with Double ⇧
• Open Project View with ⌘1
• Open a file by name with ⇧⌘N
• Open Recent files with ⌘E
• Open Navigation Bar with ⌥↖
• Drag and Drop file(s) here from Finder
Version Control:
Folder JavaEE7App History
Console
Commit Message:
n/a
n/a
Git: master

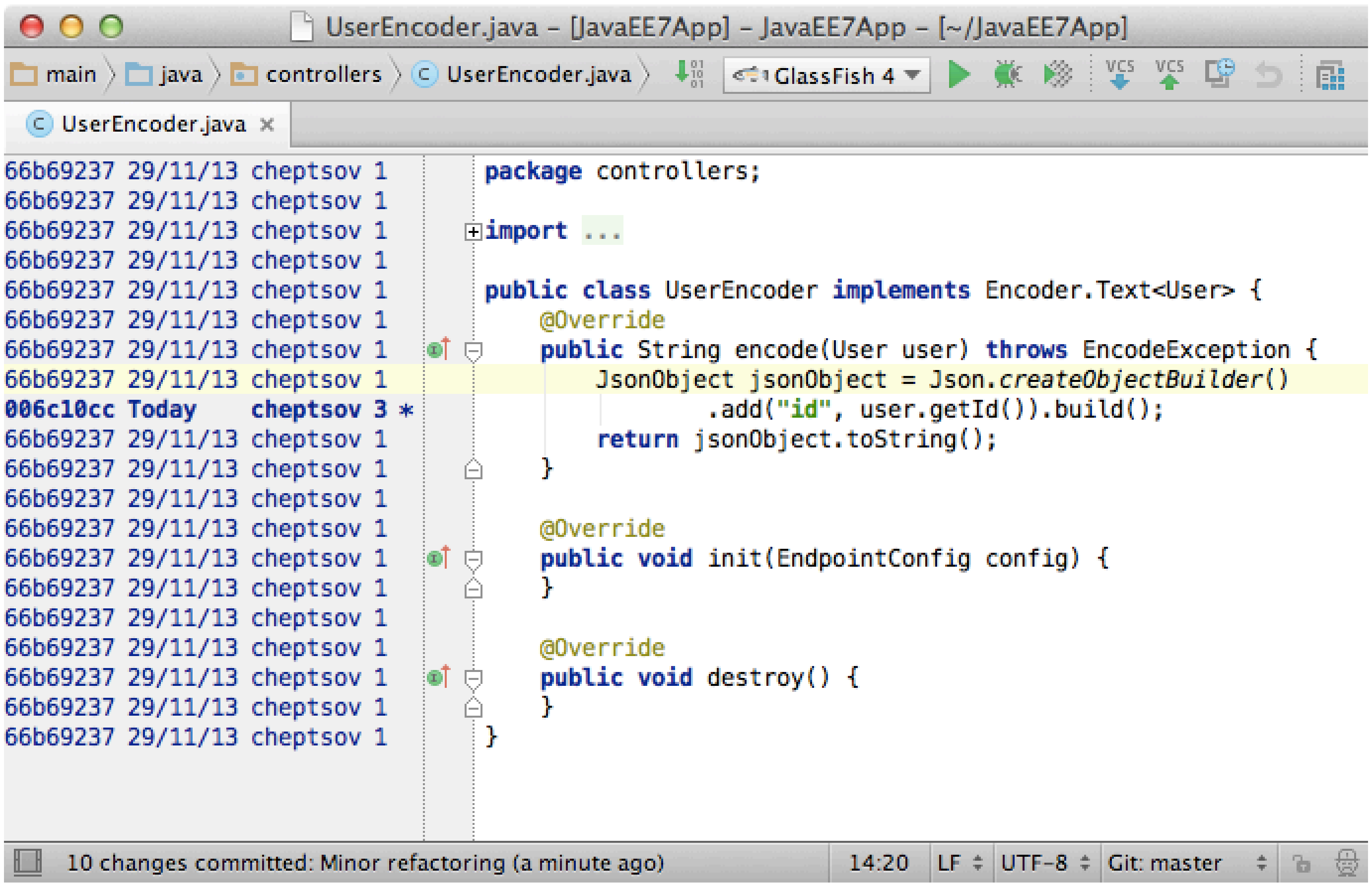
Version	Date	Author	Commit Message
006c10c	17 minutes ago	cheptsov	Minor refactoring
1b6077c	52 minutes ago	cheptsov	Minor fix
0cccc69	Today 16:56	cheptsov	Project files
66b6923	29/11/13 13:11	cheptsov	Initial commit

10 changes committed: Minor refactoring (17 minutes ago)

To see all changes for a specific piece of code, use theShow History for Selection action.

6. Annotation

Annotations are available from both the quick list, the main and context menus, and they allow you to see who and when changed this or that line of code.


UserEncoder.java – [JavaEE7App] – JavaEE7App – [~/JavaEE7App]
main
java
controllers
UserEncoder.java
GlassFish 4
UserEncoder.java
10 changes committed: Minor refactoring (a minute ago)
14:20
LF
UTF-8
Git: master

```
66b69237 29/11/13 cheptsov 1    package controllers;
66b69237 29/11/13 cheptsov 1
66b69237 29/11/13 cheptsov 1    import ...
66b69237 29/11/13 cheptsov 1
66b69237 29/11/13 cheptsov 1    public class UserEncoder implements Encoder.Text<User> {
66b69237 29/11/13 cheptsov 1        @Override
66b69237 29/11/13 cheptsov 1        public String encode(User user) throws EncodeException {
66b69237 29/11/13 cheptsov 1            JsonObject jsonObject = Json.createObjectBuilder()
006c10cc Today    cheptsov 3 *                  .add("id", user.getId()).build();
66b69237 29/11/13 cheptsov 1            return jsonObject.toString();
66b69237 29/11/13 cheptsov 1        }
66b69237 29/11/13 cheptsov 1
66b69237 29/11/13 cheptsov 1        @Override
66b69237 29/11/13 cheptsov 1        public void init(EndpointConfig config) {
66b69237 29/11/13 cheptsov 1        }
66b69237 29/11/13 cheptsov 1
66b69237 29/11/13 cheptsov 1        @Override
66b69237 29/11/13 cheptsov 1        public void destroy() {
66b69237 29/11/13 cheptsov 1        }
66b69237 29/11/13 cheptsov 1    }
```

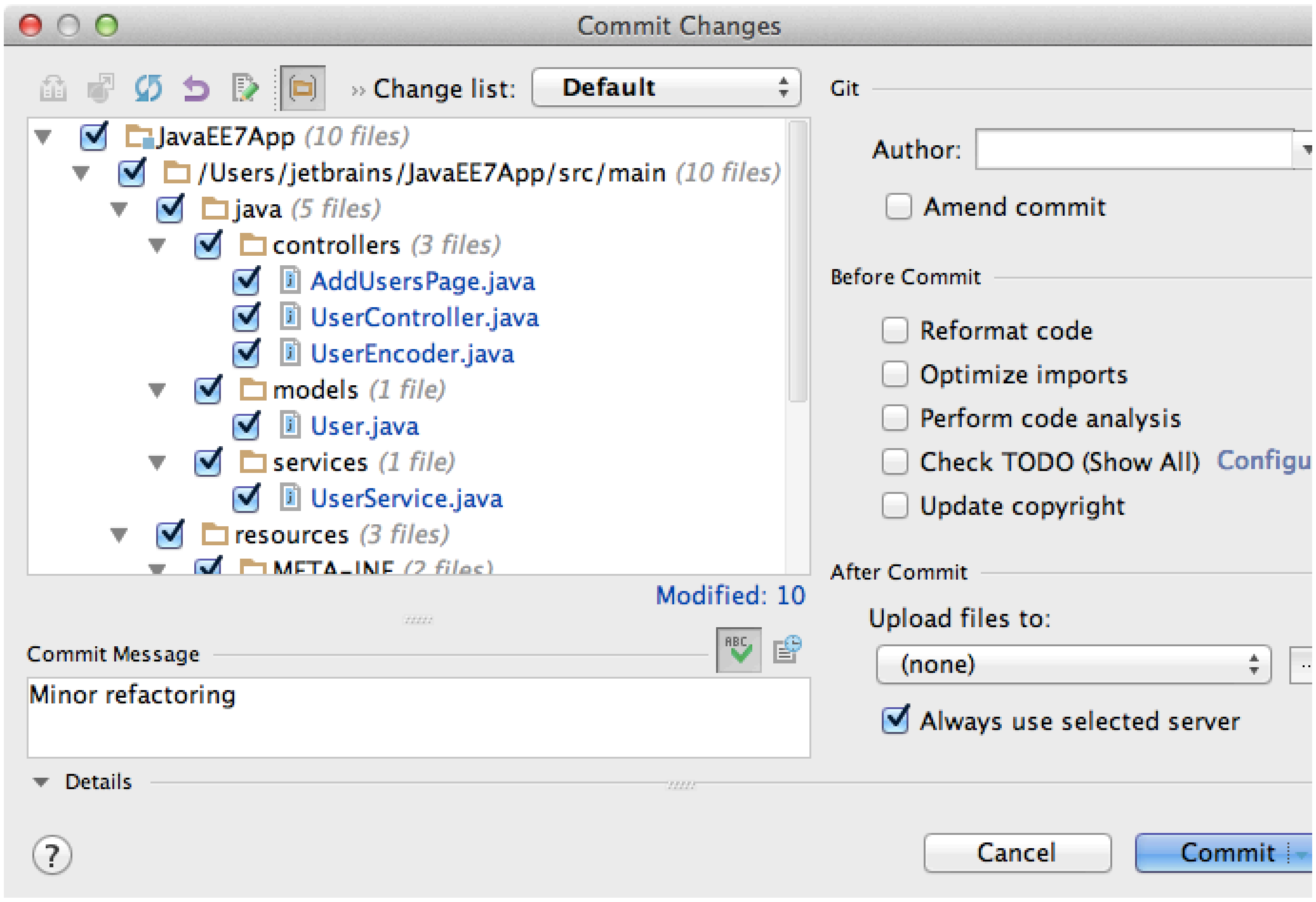
When you click the annotation, you will see the detailed information about the corresponding commit.

7. Useful shortcuts

- Commit current changelistCtrl+K(Cmd+Kfor Mac)
- Update the projectCtrl+T(Cmd+Tfor Mac)
- Mark selected files and folders as addedCtrl+Alt+A(Alt+Cmd+Afor Mac)
- Mark selected files and folders as changed (checked out) viaCtrl+Alt+E(Alt+Cmd+Efor Mac)
- Show diff (available in theChangestool window) viaCtrl+D(Cmd+Dfor Mac)
- Move changes to another change list (available in theChangestool window) viaF6
- Push commits to remote repositories viaCtrl+Shift+K(Cmd+Shift+Kfor Mac)

8. Commit options

When committing changes, IntelliJ IDEA lets perform a variety of operations: change the file set to commit to, join the changes with the previous commit by using theAmend commitoption, reformat the changed code, optimize imports, ensure that there are no inspection warnings, update the copyright information, or even upload the changes to a remote FTP server.

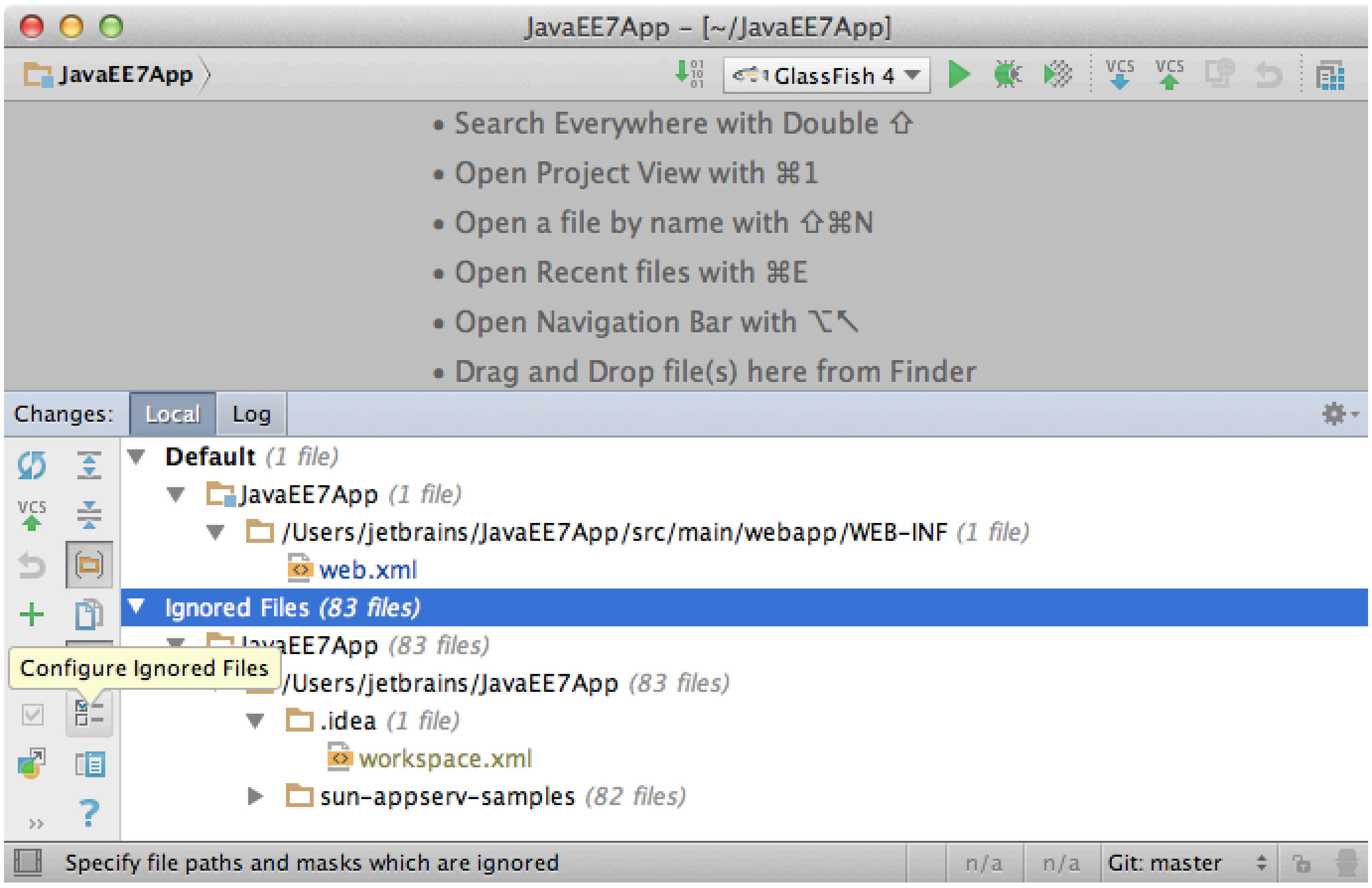


✓ JavaEE7App (10 files)
✓ /Users/jetbrains/JavaEE7App/src/main (10 files)
✓ java (5 files)
✓ controllers (3 files)
✓ AddUsersPage.java
✓ UserController.java
✓ UserEncoder.java
✓ models (1 file)
✓ User.java
✓ services (1 file)
✓ UserService.java
✓ resources (3 files)
✓ META-INF (2 files)

Minor refactoring

9. Ignored files

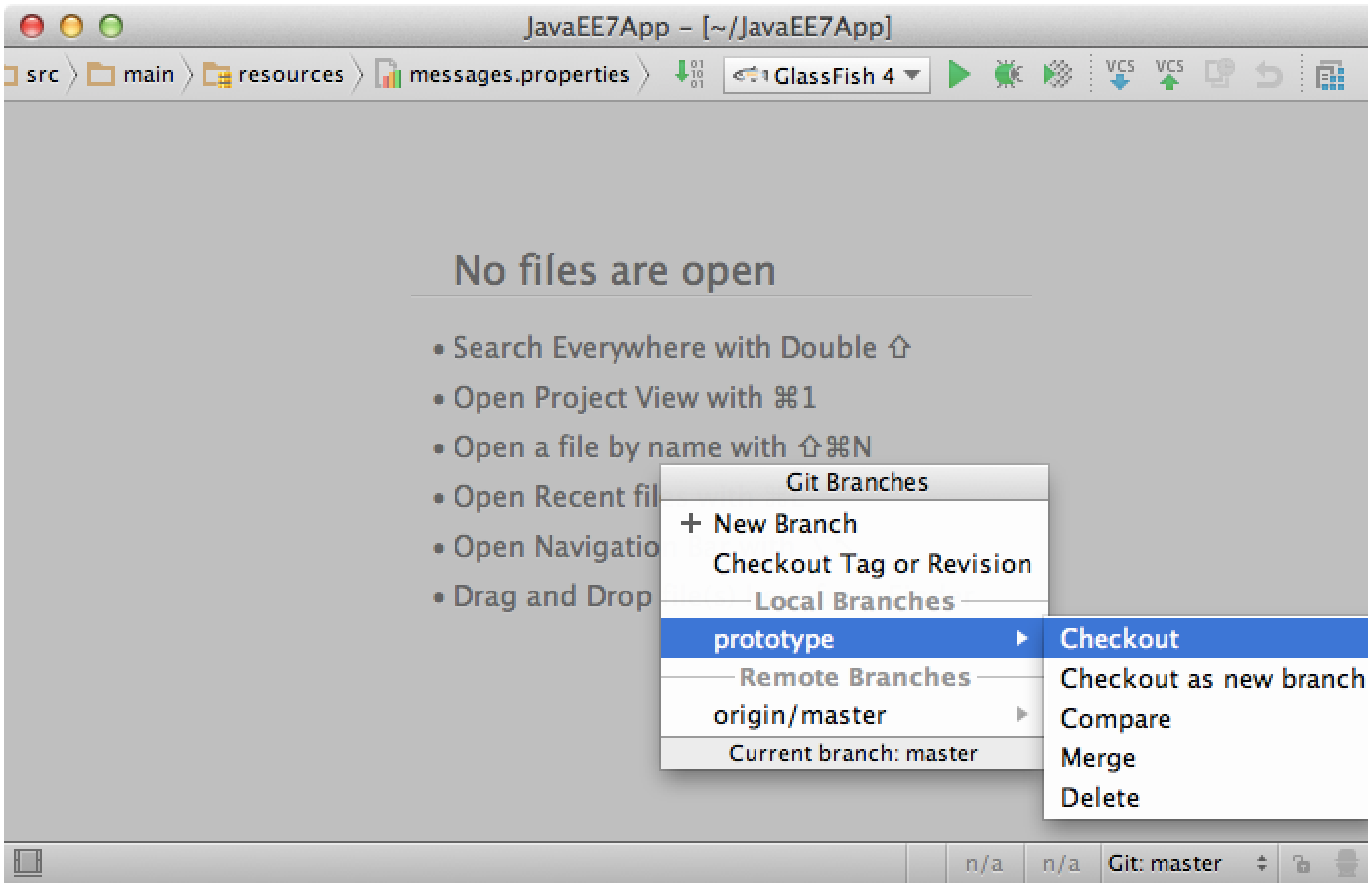
To configure the ignored files go toSettingsVersion Control, or use the corresponding button in theChangestool window.


JavaEE7App – [~/JavaEE7App]
JavaEE7App
GlassFish 4
• Search Everywhere with Double ⇧
• Open Project View with ⌘1
• Open a file by name with ⇧⌘N
• Open Recent files with ⌘E
• Open Navigation Bar with ⌥↖
• Drag and Drop file(s) here from Finder
Changes:
Local
Log
Default (1 file)
JavaEE7App (1 file)
/Users/jetbrains/JavaEE7App/src/main/webapp/WEB-INF (1 file)
web.xml
Ignored Files (83 files)
JavaEE7App (83 files)
/Users/jetbrains/JavaEE7App (83 files)
.idea (1 file)
workspace.xml
sun-appserv-samples (82 files)
Configure Ignored Files
Specify file paths and masks which are ignored
n/a
n/a
Git: master

The actual list of ignored files can be displayed in theChangestool window next to the changelists by clicking the corresponding button.

10. Branches

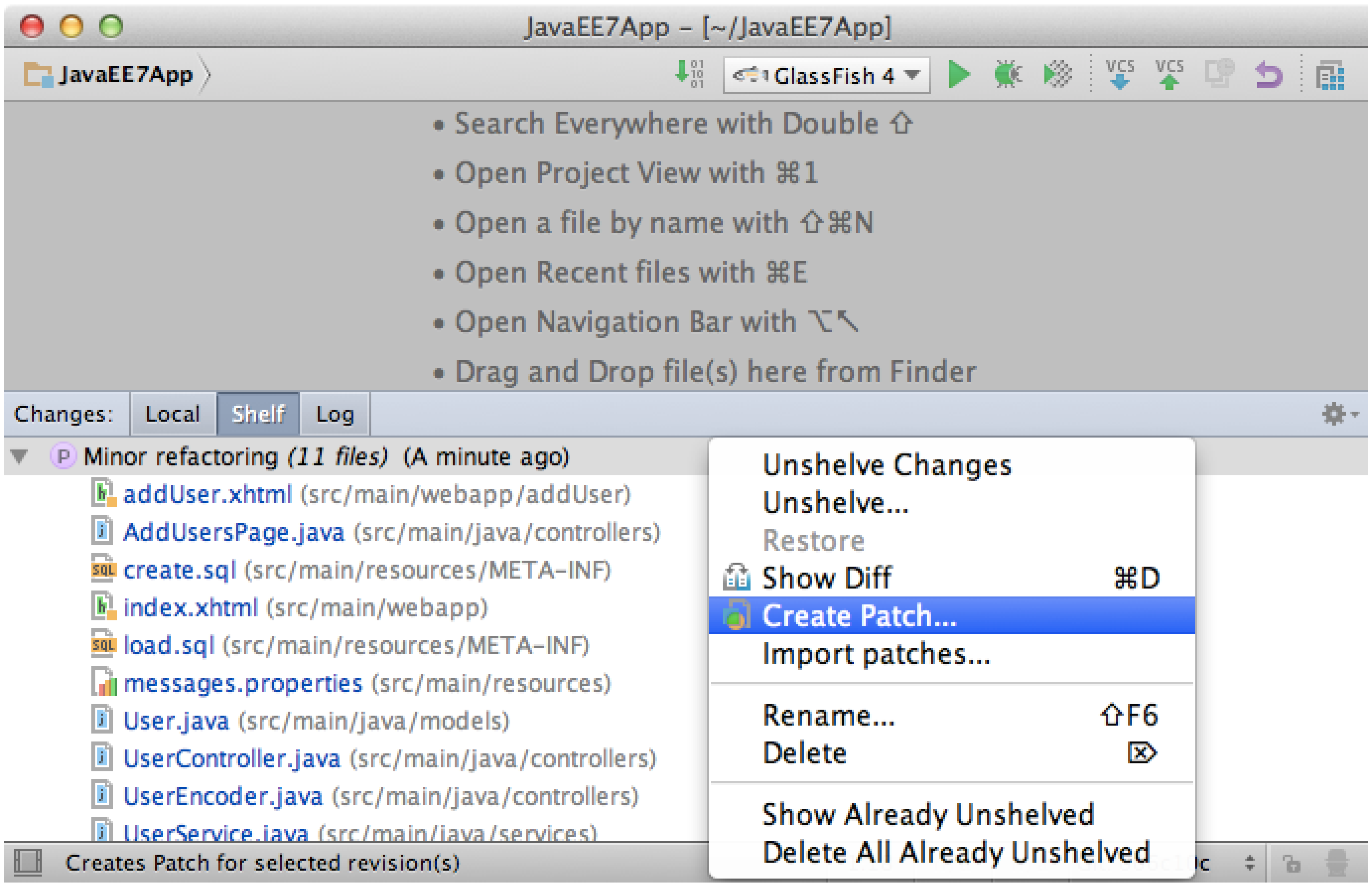
With IntelliJ IDEA you can easily create, switch, merge, compare and delete branches (Git and Mercurial only). To see a list of existing branches or create a new one, use either theBranchesfrom the main or context menu, or theVCS operationsquick list, or the widget on the right side of the status bar.



For multiple repositories IntelliJ IDEA performs all VCS operations on all branches simultaneously, so you don't need to switch between them manually.

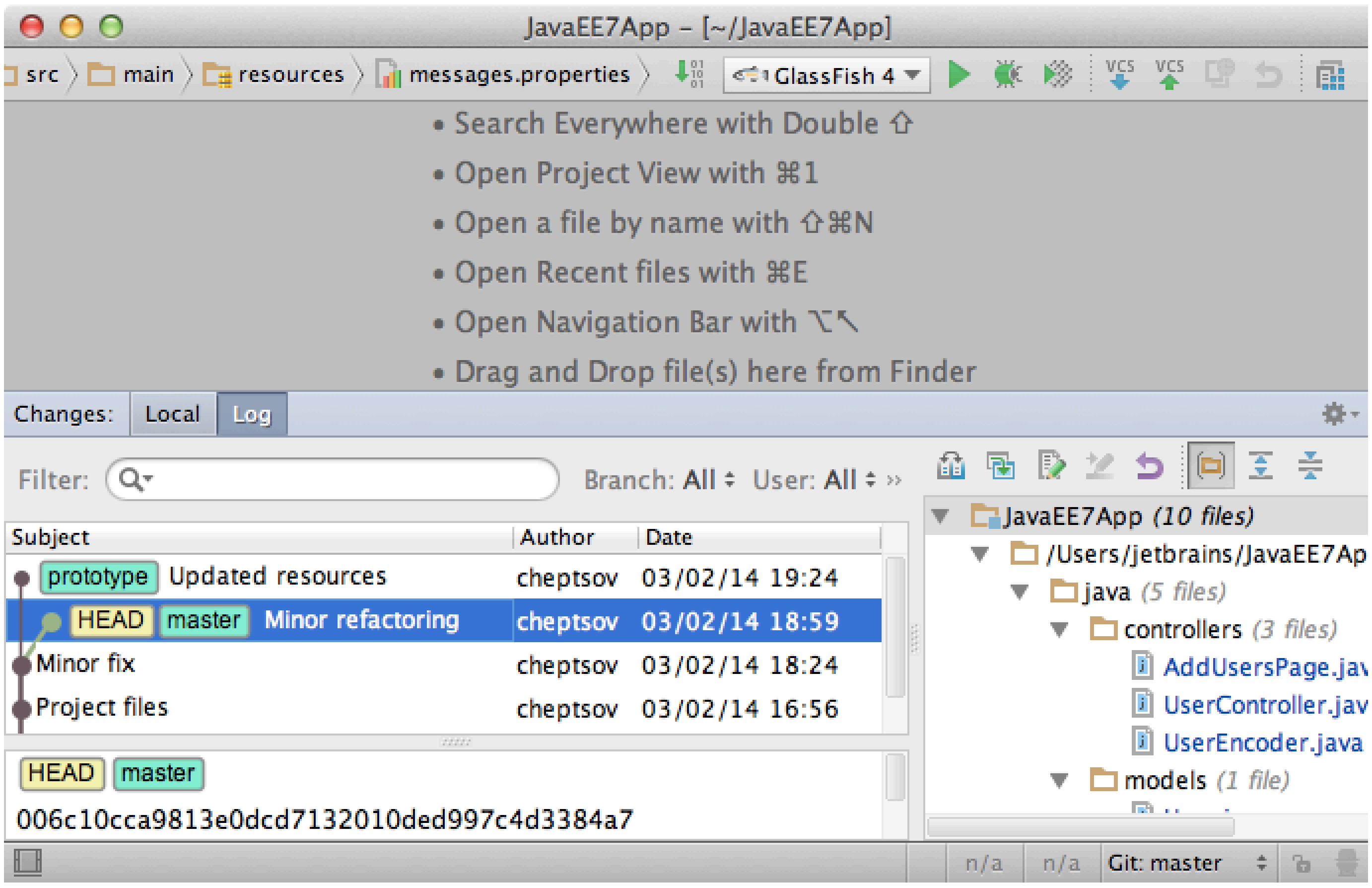
11. Shelves, stashes, and patches

TheShelvesandStasheshelp you when you need to put away some of local changes without committing them to repository, then switch to repository version of files, and then come back to your changes later. They differ slightly in that theShelvesare handled by IntelliJ IDEA itself and are stored in local file system, while stashes are kept in a VCS repository. ThePatchesallow you to save a set of changes to a file that can be transferred via email or file sharing and then applied to the code. It’s helpful for when you're working remotely without having a constant connection to your VCS repository and still need to contribute.


JavaEE7App – [~/JavaEE7App]
JavaEE7App
GlassFish 4
• Search Everywhere with Double ⇧
• Open Project View with ⌘1
• Open a file by name with ⇧⌘N
• Open Recent files with ⌘E
• Open Navigation Bar with ⌥↖
• Drag and Drop file(s) here from Finder
Changes:
Local
Shelf
Log
Minor refactoring (11 files) (A minute ago)
addUser.xhtml (src/main/webapp/addUser)
AddUsersPage.java (src/main/java/controllers)
create.sql (src/main/resources/META-INF)
index.xhtml (src/main/webapp)
load.sql (src/main/resources/META-INF)
messages.properties (src/main/resources)
User.java (src/main/java/models)
UserController.java (src/main/java/controllers)
UserEncoder.java (src/main/java/controllers)
UserService.java (src/main/java/services)
Unshelve Changes
Unshelve...
Restore
Show Diff ⌘D
Create Patch...
Import patches...
Rename... ⇧F6
Delete ⌦
Show Already Unshelved
Delete All Already Unshelved
Creates Patch for selected revision(s)

12. Log

To see the entire list of commits in a repository, sorted and filtered by branch, user, date, folder, or even a phrase in description, use theLogtab in theChangestool window. This is the easiest way to find a particular commit, or to just browse through the history.



- Search Everywhere with Double ⇧
- Open Project View with ⌘1
- Open a file by name with ⇧⌘N
- Open Recent files with ⌘E
- Open Navigation Bar with ⌥↖
- Drag and Drop file(s) here from Finder

Subject	Author	Date
prototype Updated resources	cheptsov	03/02/14 19:24
HEAD master Minor refactoring	cheptsov	03/02/14 18:59
Minor fix	cheptsov	03/02/14 18:24
Project files	cheptsov	03/02/14 16:56

HEAD master
006c10cca9813e0dcd7132010ded997c4d3384a7

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

Previous | Intentions Top | Quick Start Next | Debugger