



IntelliJ IDEA Dojo

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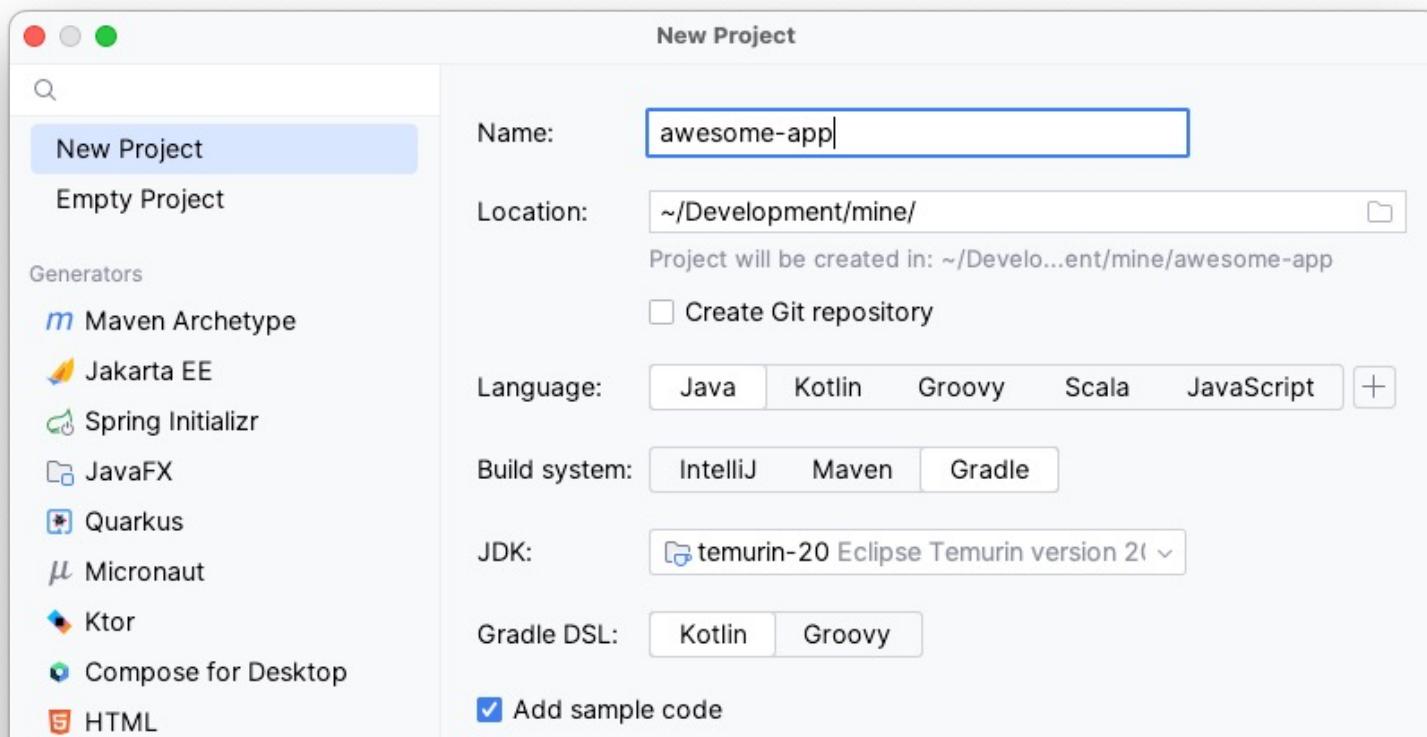


New Projects



New Projects

- Typically, projects are created outside the IDE, which a build tool. i.e., Maven, Gradle, etc.
- IntelliJ offers some good choices without resorting to “IntelliJ-only” type projects





Opening Projects



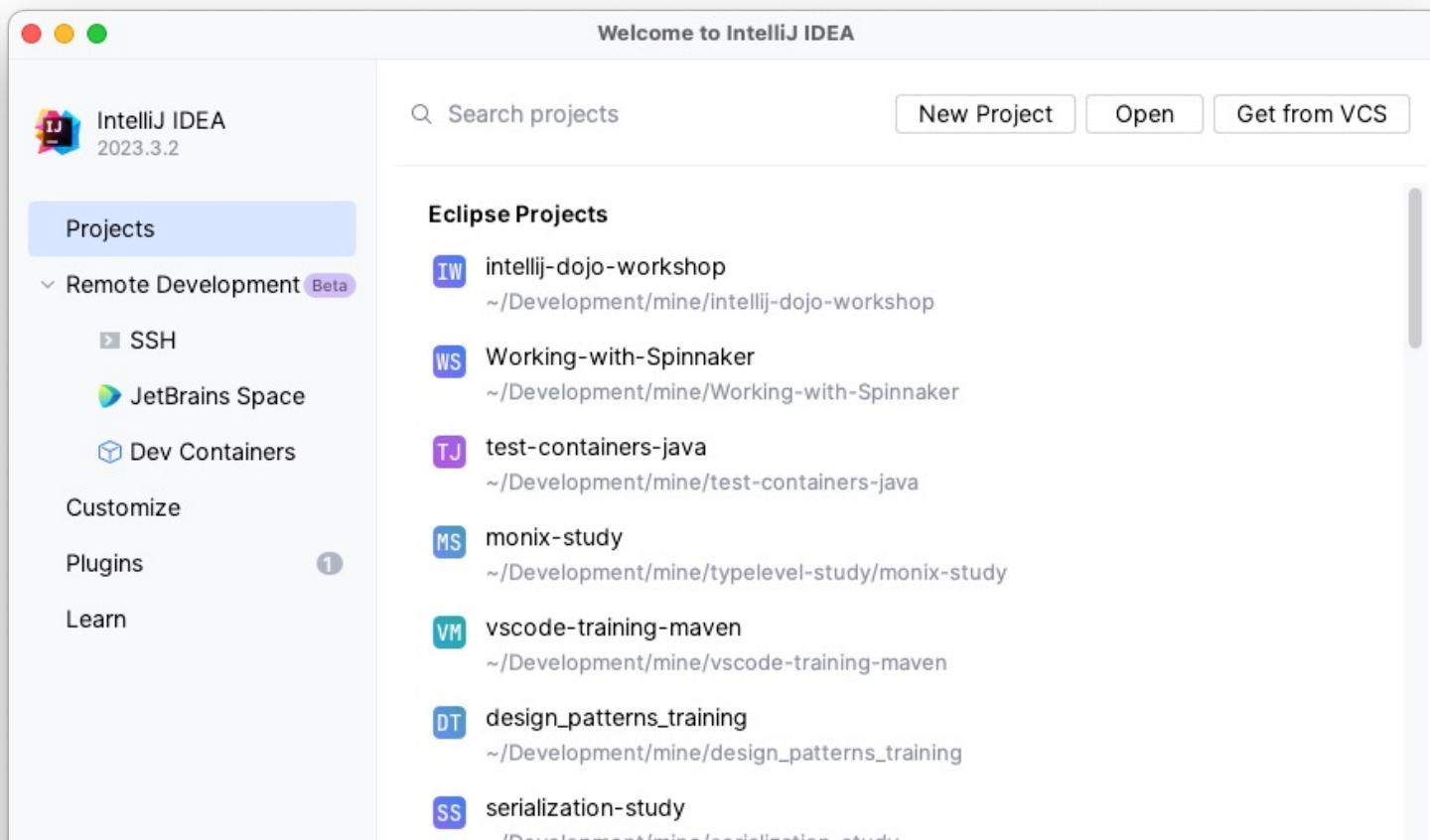
Opening Projects

- Typically, projects are created outside the IDE, which a build tool. i.e., Maven, Gradle, etc.
- Therefore, really all that needs to be done is open the project.
- This can be done with **[File > Open]** or **[File > Recent Projects]**



Opening Projects

- When you start IntelliJ for the first time, or when you close out of currently open projects, you can open your projects in the Welcome to IntelliJ window.





Command Line



Opening Projects using the Command Line

- If you want to open a project into IntelliJ from command line you can do so from command line by typing `idea .` After some setup...

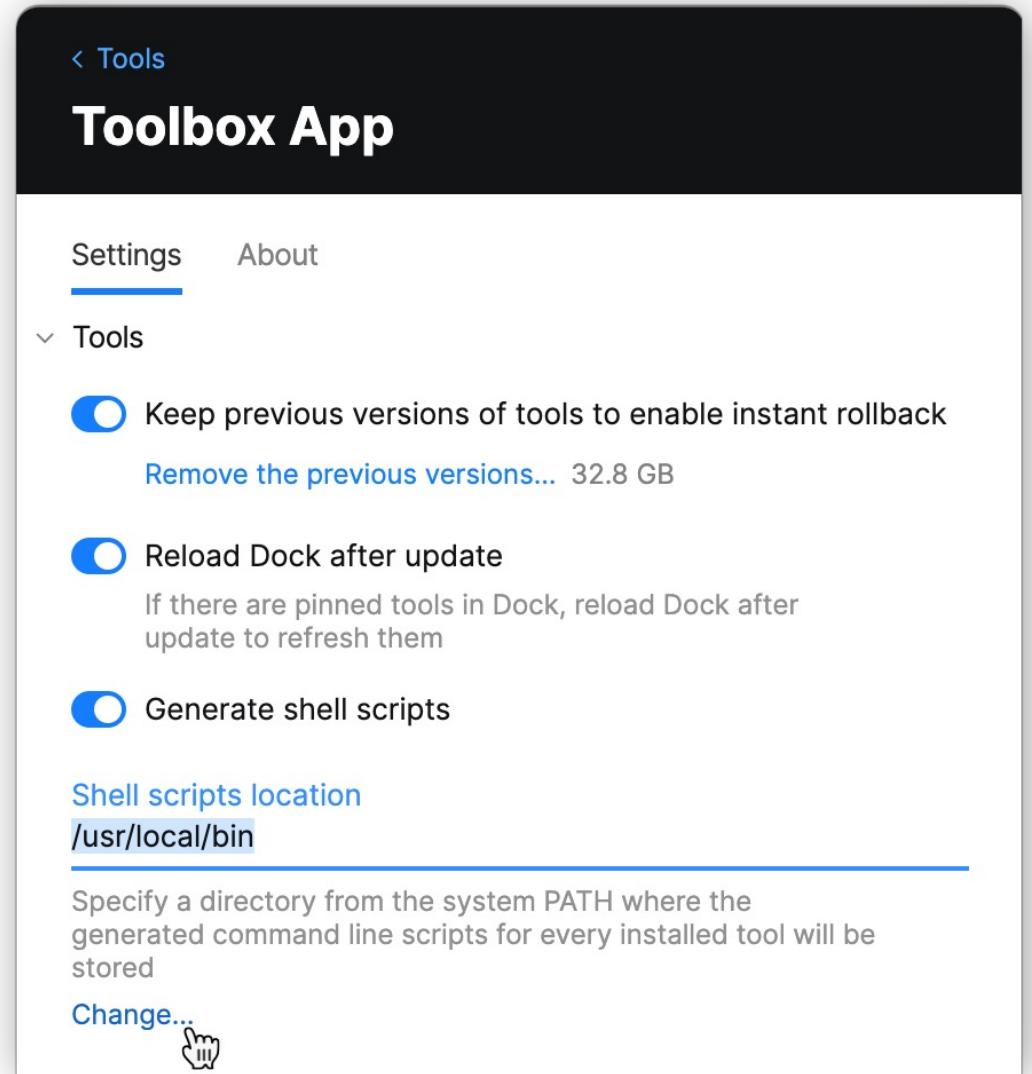
A screenshot of a terminal window on a Mac OS X system. The window title bar says "danno@MacBook-Pro:~/Development/mine/java-tdd". The terminal prompt "(base) -----" is followed by the command " ~/Development/mine/java-tdd (answers*) » idea ." with the cursor at the end of the command. The bottom right corner of the window shows the text "danno@MacBook-Pro".

```
danno@MacBook-Pro:~/Development/mine/java-tdd
(base) -----
~/Development/mine/java-tdd (answers*) » idea .
danno@MacBook-Pro
```



Generating Scripts

- In your JetBrains toolbox, click on the bolt. 
- Click on **Settings**
- Toggle on “Generate Shell Scripts” and either keep or override the location of the scripts
- For Windows users, put this location on your PATH



The screenshot shows the "Toolbox App" settings interface. At the top, there's a back arrow labeled "< Tools" and the title "Toolbox App". Below the title are two tabs: "Settings" (which is underlined) and "About". Under the "Tools" section, there are three toggle switches:

- Keep previous versions of tools to enable instant rollback
[Remove the previous versions...](#) 32.8 GB
- Reload Dock after update
If there are pinned tools in Dock, reload Dock after update to refresh them
- Generate shell scripts

A "Shell scripts location" field is set to `/usr/local/bin`. A note below it says: "Specify a directory from the system PATH where the generated command line scripts for every installed tool will be stored". At the bottom right of the field is a "Change..." button with a hand cursor icon pointing at it.



Tool Windows



Tool Windows Navigation



ALT-0...ALT-9

Open Corresponding Tool Window

CTRL-E

View Recent Files, Includes Tool Windows

CTRL-SHIFT+E

View Recent Files, Includes Tool Windows

ESC

Return to the Editor

CTRL+SHIFT+F12

Maximize the Editor

SHIFT+ESCAPE

Close Current Tool Window

CTRL+ALT+SHIFT+LEFT/ CTRL+ALT+SHIFT+RIGHT

Shrink or Expand Tool Window



Tool Windows Navigation



COMMAND(⌘) + 0...COMMAND(⌘) + 9

Open Corresponding Tool Window

COMMAND(⌘)-E

View Recent Files, Includes Tool Windows

COMMAND(⌘)-SHIFT+E

View Recent Edited Locations

ESCAPE(⊟)

Return to the Editor

COMMAND(⌘)+SHIFT(⇧)+F12

Maximize the Editor

SHIFT(⇧)+ESCAPE(⊟)

Close Current Tool Window

CONTROL(^) + OPTION(⌥) + LEFT(←)/

CONTROL(^) + OPTION(⌥) + RIGHT(→)

Shrink or Expand Tool Window



Find Action



Action Keys



CTRL-SHIFT-A Find Action

CTRL-CTRL Run Anything

SHIFT-SHIFT Search Everywhere



Action Keys



SHIFT(⬆)+COMMAND(⌘) + A Find Action
CONTROL(^) + CONTROL(^) Run Anything
SHIFT(⬆)+ SHIFT(⬆) Search Everywhere



Tab Management



Tab Management Keys



ALT+RIGHT/LEFT

Go to Next or Previous Tab

CTRL+F4

Close Current Tab



Tab Management Keys



CONTROL(^) + RIGHT(→)/LEFT(←)

Go to Next or Previous Tab

COMMAND(⌘) + W

Close Current Tab

COMMAND(⌘) + SHIFT(⇧) + W

Close All Tabs



Dojo: Tool Windows



Finding Stuff



Finding Items



CTRL-N Go to class

CTRL-SHIFT-N Go to file

CTRL-ALT-SHIFT-N Go to symbol



Finding Items



COMMAND(⌘) + O Find Class

COMMAND(⌘) + SHIFT(⇧) + O Go to File

COMMAND(⌘) + OPTION(⌥) + O Go to Symbol



Dojo: Finding Items



Navigating Errors



Navigating Errors



F2

Move to the Next Highlighted Issue

ALT+ENTER

Propose a Fix



Navigating Errors



F2

Move to the Next Highlighted Issue

OPTION(⌥) + RETURN(↵)

Propose a Fix



Dojo: Finding Errors



Generating Files & Code



Generating Files and Code



ALT+INSERT Generate File or Code



Generating Files and Code



COMMAND(⌘) + N or
CONTROL(^) + RETURN(↵)
Generate File or Code



Formatting Code



Formatting Code



CTRL + ALT + L

Format All Code (includes imports)

CTRL + ALT + O

Optimize Imports

CTRL + ALT + I

Format Line by Line



Formatting Code



COMMAND(⌘) + OPTION(⌥) + L

Format All Code (includes imports)

CONTROL(^) + OPTION(⌥) + O

Optimize Imports

CONTROL(^) + OPTION(⌥) + I

Format Line by Line



Dojo: Generating Code



Structure



File Structure



ALT + 7

View the Structure of the Class

CTRL+F12

File Structure Popup



File Structure



COMMAND(⌘) + 7

View the Structure of the Class

COMMAND(⌘) + F12

File Structure Popup



The Blob



IRVIN S. TEAWORTH, JR.'s
THE BLOB
INDESCRIBABLE...
INDESTRUCTIBLE...
NOTHING CAN STOP IT!
TONY LYN presents
THE BLOB
starring
STEVE MCQUEEN,
ANETA CORSAUT, STEPHEN CHASE,
EARL ROWE, OLIN HOWLIN,
JOHN BENSON & GEORGE KARAS

12



Selecting Code Blocks



CTRL + W Increase Code Block

CTRL + SHIFT + W Decrease Code Block



Selecting Code Blocks



OPTION(⌥) + UP(↑) Increase Code Block

OPTION(⌥) + DOWN(↓) Decrease Code Block



Editing Basics



Editing Basics



CTRL+Y Delete Line at Caret

CTRL+D Duplicate Line at Caret

CTRL+X Cut Line at Caret

CTRL+C Copy Line at Caret

CTRL+V Paste Line at Caret

CTRL+SHIFT+V Paste From History



Editing Basics



COMMAND(⌘)+DELETE(⌫)

Delete Line at Caret

COMMAND(⌘)+D

Duplicate Line at Caret

COMMAND(⌘)+X

Cut Line at Caret

COMMAND(⌘)+C

Copy Line at Caret

COMMAND(⌘)+V

Paste Line at Caret

COMMAND(⌘)+SHIFT(⇧)+V

Paste From History



Prefer Tab over Enter

```
@Test  
void testMath() {  
    var result = Math.abs(30);  
}
```

Tab or Enter ?

```
new *  
  
@Test  
void testMath() {  
    var result = Math.dabs(30);  
}
```

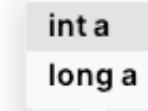
(m) **decrementExact**(int a)
(m) **decrementExact**(long a)

int
long



What happens with Enter

```
new *  
@Test  
void testMath() {  
    var result = Math.decrementExact(Math.abs(30));  
}
```



A callout bubble is positioned above the word 'abs'. It contains two options: 'int a' and 'long a'. The word 'abs' is underlined with a red wavy line, indicating it is being considered for conversion.



What happens with Tab

```
new *  
@Test  
void testMath() {  
    var result = Math.decrementExact(30);  
}
```



Surround Blocks and Selections



Surround Blocks and Selections



CTRL + ALT + T Surround Block or Selection



Surround Blocks and Selections



COMMAND(⌘) + OPTION(⌥) + T

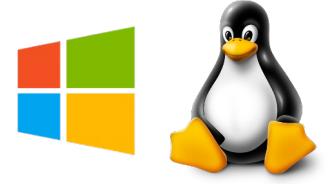
Surround Block or Selection



Dojo: Using Blobs



Usages



CTRL + ALT + B Go to Implementation

CTRL + B Go to Declaration

ALT + F7 Find Usages

CTRL + F7 Find in Files

CTRL + ALT + LEFT / RIGHT

 Navigate back / forward



Usages



COMMAND(⌘) + OPTION(⌥) + B

Go to Implementation

COMMAND(⌘) + B

Go to Declaration

OPTION (⌥) + F7

Find Usages

COMMAND(⌘) + SHIFT(⇧) + F7

Find In Files

**COMMAND(⌘) + OPTION(⌥) + LEFT(←) /
RIGHT(→)**

Navigate back / forward



Route "Find in Files" to Find Window

Find in Files 21 matches in 1 file File mask: *.**java** Cc W .*

In Project Module Directory Scope

System.out.println(ansi())		Game.java 25
System.out.println(ansi())		Game.java 32
System.out.println(ansi().reset());		Game.java 42
System.out.println("You need to [H]it or [S]tand");		Game.java 75
System.out.println("You Busted, so you lose. ");		Game.java 89

Game.java src/main/java/com/jitterted/ebp/blackjack

```
22     Game game = new Game();
23
24     AnsiConsole.systemInstall();
25     System.out.println(ansi()
26             .bgBright(Ansi.Color.WH
27             .eraseScreen()
28             .cursor(1, 1)
29             .fgGreen().a("Welcome to
30             .fgRed().a(" JitterTed'")
```

Open results in new tab



Dojo: Usages



Code Completion



Code Completion



CTRL + SPACE

Basic Code Completion

CTRL + ALT + SPACE

Code Completion that shows inaccessible members

CTRL + SHIFT + SPACE

Type Sensitive Code Completion

CTRL + SHIFT + ENTER

Complete Statement

CTRL + P

Parameter Info

CTRL + SHIFT+P

Type Info



Code Completion



CONTROL(^) + SPACE

Basic Code Completion

CONTROL(^) + OPTION (⌥) + SPACE

Code Completion that shows inaccessible members

CONTROL(^) + SHIFT(⇧) + SPACE

Type Sensitive Code Completion

COMMAND(⌘) + SHIFT(⇧) + RETURN(⏎)

Complete Statement

COMMAND(⌘) + P

Parameter Info

CONTROL(^) + SHIFT(⇧) + P

Type Info



Moving Code



Moving Code



CTRL + SHIFT + UP/DOWN

Move either line or method, depending on caret location



Moving Code



SHIFT (⬆) + COMMAND(⌘) + UP(↑)/DOWN(↓)

Move either line or method, depending on
caret location



Dojo: Moving Code



Code Documentation
& Help



Code Documentation and Help



CTRL + Q

Quick Documentation Lookup

CTRL + SHIFT + I

Quick Definition Lookup

ALT+Q

Context Info

CONTROL(^) + SHIFT (^) + P

Type Info (Twice to show more)



Code Documentation and Help



CONTROL(^) + J

Quick Documentation

OPTION(⌥) + SPACE or COMMAND (⌘) + Y

Quick Definition Lookup

CONTROL(^) + SHIFT (⇧) + Q

Context Info

CONTROL(^) + SHIFT (⇧) + P

Type Info (Twice to show more)



Dojo: Documentation and Info



Running



Running



All runs are contextual, this includes main methods, tests, test folders, HTTP files, and more.

CTRL + SHIFT + F10

Run and mark your context configuration

SHIFT + F10

Run the last context configuration

ALT+SHIFT+F10

Select context configuration and run



Running



All runs are contextual, this includes main methods, tests, test folders, HTTP files, and more.

CONTROL(^) + SHIFT (⇧) + R

Run and mark your context configuration

CONTROL(^) + R

Run the last context configuration

CONTROL(^) + OPTION(⌥) + R

Select context configuration and run



Testing



CTRL + SHIFT + T

Toggle Between Test and Production



Testing



COMMAND(⌘) + SHIFT (⇧) + T

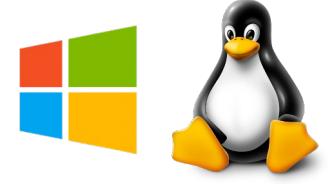
Toggle Between Test and Production



Dojo: Running and Testing



Debugging



CTRL+F8

Toggle Breakpoint

CTRL + SHIFT+ F8

View Breakpoints

CTRL+SHIFT+F9

Run Context Configuration Debug

SHIFT+F9

Debug the Last Context Configuration

ALT+SHIFT+F9

Select Context Configuration and Debug



Debugging



COMMAND(⌘) + F8

Toggle Breakpoint

COMMAND(⌘) + SHIFT (⇧) + F8

View Breakpoints

CONTROL(^) + SHIFT (⇧) + D

Debug and Mark your Context Configuration

CONTROL(^) + D

Run Previous Test Selection

CONTROL(^) + OPTION(⌥) + R

Select Context Configuration and Debug



Dojo: Debugging



Refactoring



Refactoring (Part 1)



CTRL + ALT+ SHIFT + T

Refactor This...

F5

Copy item

F6

Move item

SHIFT+F6

Rename globally

ALT+DELETE

Safe Delete



Refactoring (Part 2)



Ctrl + Alt + N Inline

Ctrl + Alt + M Extract Method

Ctrl + Alt + V Extract Variable

Ctrl + Alt + F Extract Field

Ctrl + Alt + C Extract Constant

Ctrl + Alt + P Extract Parameter



Refactoring (Part 1)



CONTROL(^) + T

Refactor This

F5

Copy item

F6

Move item

SHIFT(⇧)+F6

Rename globally

COMMAND(⌘)+DELETE

Safe Delete



Refactoring (Part 2)



COMMAND(⌘) + OPTION(⌥) + N

Inline

COMMAND(⌘) + OPTION(⌥) + M

Extract Method

COMMAND(⌘) + OPTION(⌥) + V

Extract Variable



Refactoring (Part 3)



COMMAND(⌘) + OPTION(⌥) + F

Extract Field

COMMAND(⌘) + OPTION(⌥) + C

Extract Constant

COMMAND(⌘) + OPTION(⌥) + P

Extract Parameter



Dojo: Refactoring



HTML/XML Editing



HTML/XML Editing

<http://docs.emmet.io/abbreviations/syntax/>

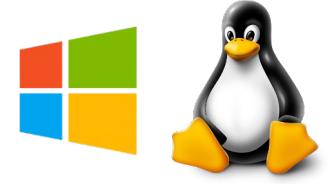
<https://docs.emmet.io/cheat-sheet/>



Dojo: Hey Emmet



Version Control



ALT + 0

Version Control Window

CTRL + K

Commit

CTRL+T

Update Project

CTRL + SHIFT + K

Push

ALT + ` (Backquote)

Version Control Quick Help



Version Control



COMMAND(⌘) + 0

Version Control Window

COMMAND(⌘) + K

Commit

COMMAND(⌘) + T

Update Project

COMMAND(⌘) + SHIFT(⇧) + K

Push

CONTROL(^) + V

Version Control Quick Help



Version Control Conflicts



Version Control Conflicts

Merge Revisions for /Users/danno/tmp/beginning-java_2023-05-30/src/main/java/com/salesforce/Person.java

3 changes. 5 conflicts.

```
Result
```

Your version

```
import java.util.Optional;
import java.util.StringJoiner;
import java.util.function.Supplier;

public class Person {
    private final String firstName;
    private final String lastName;
    private final String middleName;
    private final LocalDate birthLocalDate;
    private final Supplier<LocalDate> todaysLocalDate;

    protected Person(String firstName, String middleName,
                     String lastName, LocalDate birthLocalDate,
                     Supplier<LocalDate> todaysLocalDate) {
        this.firstName = firstName;
        this.middleName = middleName;
        this.lastName = lastName;
        this.birthLocalDate = birthLocalDate;
        this.todaysLocalDate = todaysLocalDate;
    }

    public static Person withNoMiddleName(String firstName,
                                         String lastName,
                                         LocalDate birthLocalDate) {
        return new Person(firstName, null, lastName, birthLocalDate);
    }

    public static Person withMiddleName(String firstName, String middleName,
                                       LocalDate birthDay) {
        return new Person(firstName, middleName, lastName, birthDay);
    }

    public String getFirstName() {
        return firstName;
    }

    public String getLastName() {
        return lastName;
    }

    public String getFullName() {
        if (middleName == null) {
            return String.format("%s %s", firstName, lastName);
        } else {
            return String.format("%s %s %s", firstName, middleName, lastName);
        }
    }
}
```

Changes from server (revision cb0e7b28fb39483ca282a29a799003a19a57251)

```
import java.util.Objects;
import java.util.Optional;
import java.util.StringJoiner;
import java.util.function.Supplier;

public class Person {
    private String firstName;
    private String lastName;
    private String middleName;
    private LocalDate birthDate;
    private final Supplier<LocalDate> todaysDate;

    protected Person(String firstName, String middleName,
                     String lastName, LocalDate birthDate,
                     Supplier<LocalDate> todaysDate) {
        this.firstName = firstName;
        this.middleName = middleName;
        this.lastName = lastName;
        this.birthDate = birthDate;
        this.todaysDate = todaysDate;
    }

    public static Person withNoMiddleName(String firstName,
                                         String lastName,
                                         LocalDate birthDate) {
        return new Person(firstName, null, lastName, birthDate);
    }

    public static Person withMiddleName(String firstName, String middleName,
                                       LocalDate birthdate) {
        return new Person(firstName, middleName, lastName, birthdate);
    }

    public String getFirstName() {
        return firstName;
    }

    public String getLastName() {
        return lastName;
    }

    public Optional<String> getMiddleName() {
        return Optional.ofNullable(middleName);
    }

    public int getAge() {
        return (int) ChronoUnit.YEARS.between(birthDate, todaysDate);
    }
}
```

Accept Left Accept Right Cancel Apply



Accept or Merge

Conflicts

Merging branch **Discover_IDEA** into branch **check_lost_content**

Name	Yours (check...)	Theirs (Discov...	
current.help.version ~/IdeaProjects/help-sources	Modified	Modified	Accept Yours
Discover_IntelliJ_IDEA.xml ~/IdeaProjects/help-sources/intellij-pl	Modified	Modified	Accept Theirs
ij.tree ~/IdeaProjects/help-sources/intellij-platform	Modified	Modified	Merge...
Manage_branches.xml ~/IdeaProjects/help-sources/intellij-platfc	Modified	Modified	
project.ihp ~/IdeaProjects/help-sources/intellij-platform	Modified	Modified	

Group files by directory

Close



Color Meanings

Merge Revisions for /Users/anna.gasparyan/IdeaProjects/help-sources/intellij-platform/topics/Big_Data_Tools_Configuration.xml

8 changes. 1 conflict.

Deleted line

Modified line

Newly added line

Conflicting changes

Result			
Mandatory parameters:</p>		49	50
<list>		50	51
<control>URL</c		51	52
<control>Login</c		52	53
</list>		53	54
<p> Optionally, you can set		54	55
<list>		55	56
<control>Name</c		56	57
<control>Login as a		57	58
<control>Per projec		58	59
Deselect it if you		59	60
<control>Enable con		60	61
By default, the new		61	62
<control>Scala Vers		62	63
plugin bundles. If		63	64
<control>Enable HTT		64	65
connection with the		65	

Accept Left Accept Right Cancel Apply



Accepting Conflicts

```
hDay, LocalDa 32 return  
          33 }  
          34  
String middl 35 @ public sta  
, birthDay, l 36 ✖ X , Loca  
          37 return  
          38 }  
          39  
          40 public St  
          41 return  
          42 }
```



Ignoring Conflicts

A screenshot of a code editor showing a conflict between two 'public' declarations. The code is as follows:

```
45    46    47    48    49    pub
, lastName);
ame, middleName,
        50    51    52    53    54    pub
        55    56    57    58    59    @Ov
        59 ⏵    pub
```

The line 'ame, middleName,' is highlighted in green. The line ' 55' is highlighted in red. A tooltip box labeled 'Ignore' is positioned over the green highlight.

A screenshot of a code editor showing a conflict between 'sDate.getDate()' and 'else;' statements. The code is as follows:

```
47
48
49
50
51
52
53
54
55
56
57
58
59
```

The line 'sDate.getDate()' is highlighted in red. A tooltip box labeled 'Ignore' and 'Ctrl+click to resolve conflict' is positioned over the red highlight.



Version Control Conflicts



F7

Next Difference

SHIFT+F7

Previous Difference



Version Control



F7

Next Difference

SHIFT(↑) + F7

Previous Difference



Column Selection Mode



Column Selection Mode



ALT+SHIFT+INSERT Column Selection Mode



Column Selection Mode



SHIFT(⬆)+COMMAND(⌘) + 8

Column Selection Mode



Multicursors



Multicursors



ALT+SHIFT+ [Click]

Start Multicursors

Delete Single Multicursor

Note: Can be used in selections (blobs) as well

ALT+J

Select Next Word Occurrence

ALT+SHIFT+J

Select All Word Occurrences

Can be used with Find...

ALT + SHIFT + G

Add Carets At The End of Lines in Selected Block



Multicursors



OPTION(⌥) + SHIFT(⇧) + [Click]

Start Multicursors

Delete Single Multicursor

Note: Can be used with selections (blobs) as well

CONTROL(^) + G

Select Next Word Occurrence

CONTROL(^) + COMMAND(⌘) + G

Select All Word Occurrences

Can be used with Find...

OPTION(⌥) + SHIFT(⇧) + G

Add Carets At The End of Lines in Selected Block



Hierarchies



Hierarchies



CTRL+H

Type Hierarchy - Show Parent and Child Classes

CTRL+SHIFT+H

Method Hierarchy – Show subclasses where the method overrides the selected method as well as what is overridden

CTRL+ALT+H

Call Hierarchy – Callers (Supertypes) or Callees (Subtypes) of a method, if on a field it will show the methods that interact with it



Hierarchies



CONTROL(^) + H

Type Hierarchy - Show Parent and Child Classes

CONTROL(^) + SHIFT(↑) + H

Method Hierarchy – Show subclasses where the method overrides the selected method as well as what is overridden

CONTROL(^) + OPTION(⌥) + H

Call Hierarchy – Callers (Supertypes) or Callees (Subtypes) of a method, if on a field it will show the methods that interact with it



Presentation Mode



Build Tools Support



Build Tools Support



- Maven
- Gradle
- SBT
- Leiningen
- Rake
- Buildr
- Ant
- Gant



Live Templates



Live Templates



- Use live templates to insert common constructs into your code, such as
 - Loops,
 - Conditions,
 - Various declarations
 - Print statements



Dojo: Live Templates



Alternative Languages



Alternate Languages



- Kotlin
- Scala
- Groovy
- Ruby/JRuby
- Python
- JavaScript
- Haskell
- Other Languages



Audience Favorites

Thanks!

Email: dhinojosa@evolutionnext.com
Mastodon: <https://mastodon.social/@dhinojosa>