JavaSpecialists

IntelliJ Super Productivity in 45 Minutes

Dr Heinz M. Kabutz

Last Updated 2024-11-06

© 2022-2025 Heinz Kabutz – All Rights Reserved

Why IntelliJ IDEA?

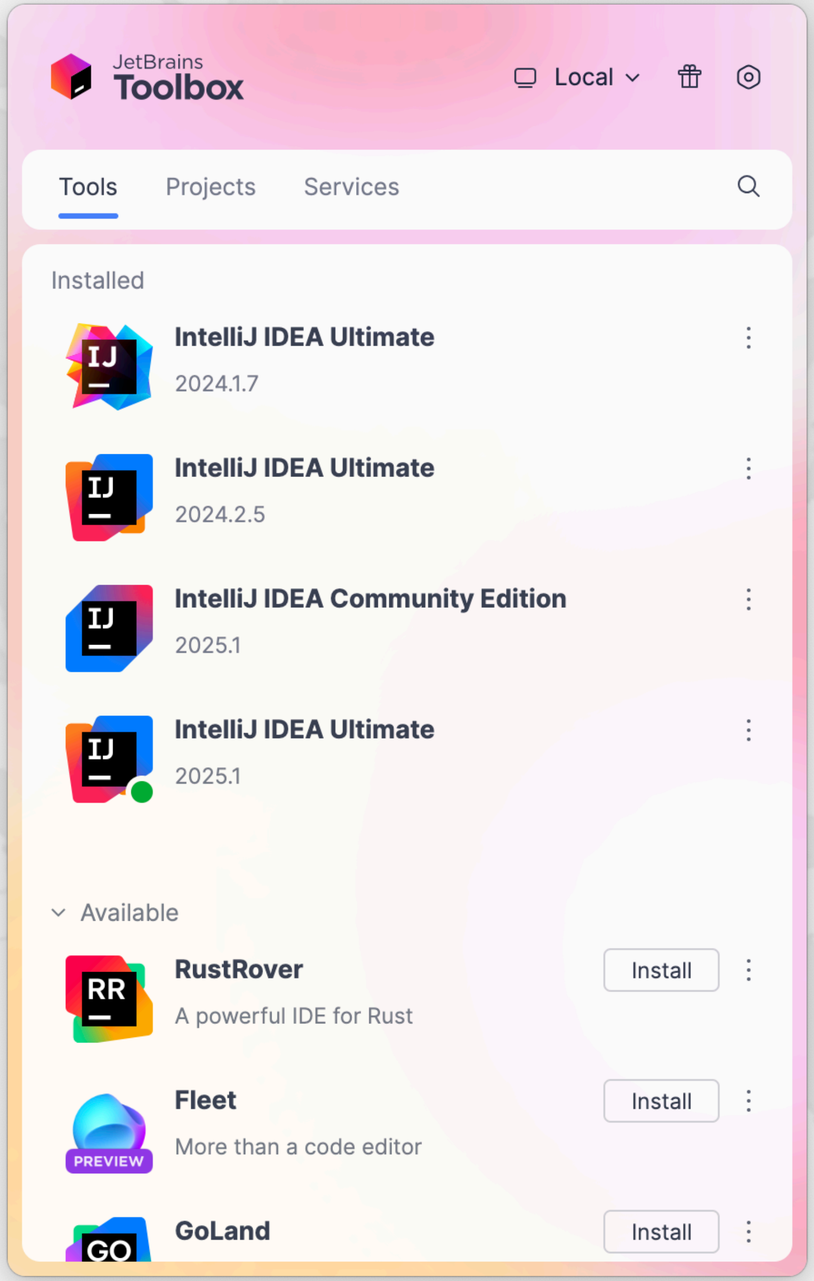
- My story
  - Started with Borland JBuilder 1997
  - Then used Eclipse for a year in 2002
  - Needed something to work with horrible messy Java code
  - Downloaded IntelliJ IDEA
    - No free version at the time
    - Used it for 30 days, then bought it
  - Paid twice
    - Once for the license and then reduced hours worked
      - But work far more pleasant, less frustration, better life

Disclaimer

- I do not work for JetBrains
  - Cannot speak on behalf of the company
  - Please do not ask about pricing and future plans
    - e.g. Why is AI Assistant not free? Why no free student version?

Download JetBrains Toolbox

- **Keeps the IDEs up to date**
  - **https://www.jetbrains.com/toolbox-app/**



Versions of IntelliJ

- **Ultimate Edition**
  - Paid version, has many great features
  - AI Assistant as extra subscription
- **Community Edition**
  - Free version, excellent tool for editing Java code

AI Assistant

- Plugin available since 2024.1 for all versions
  - Free 7 day trial for paid IDEs
  - www.jetbrains.com/ai/#plans-and-pricing
- Our code is not used for LLM training
  - www.jetbrains.com/help/ai/data-collection-and-use-policy.html
  - Soon they will have options for on-prem LLMs
- More information here
  - www.jetbrains.com/ai/#general-faq

Setting up IntelliJ IDEA

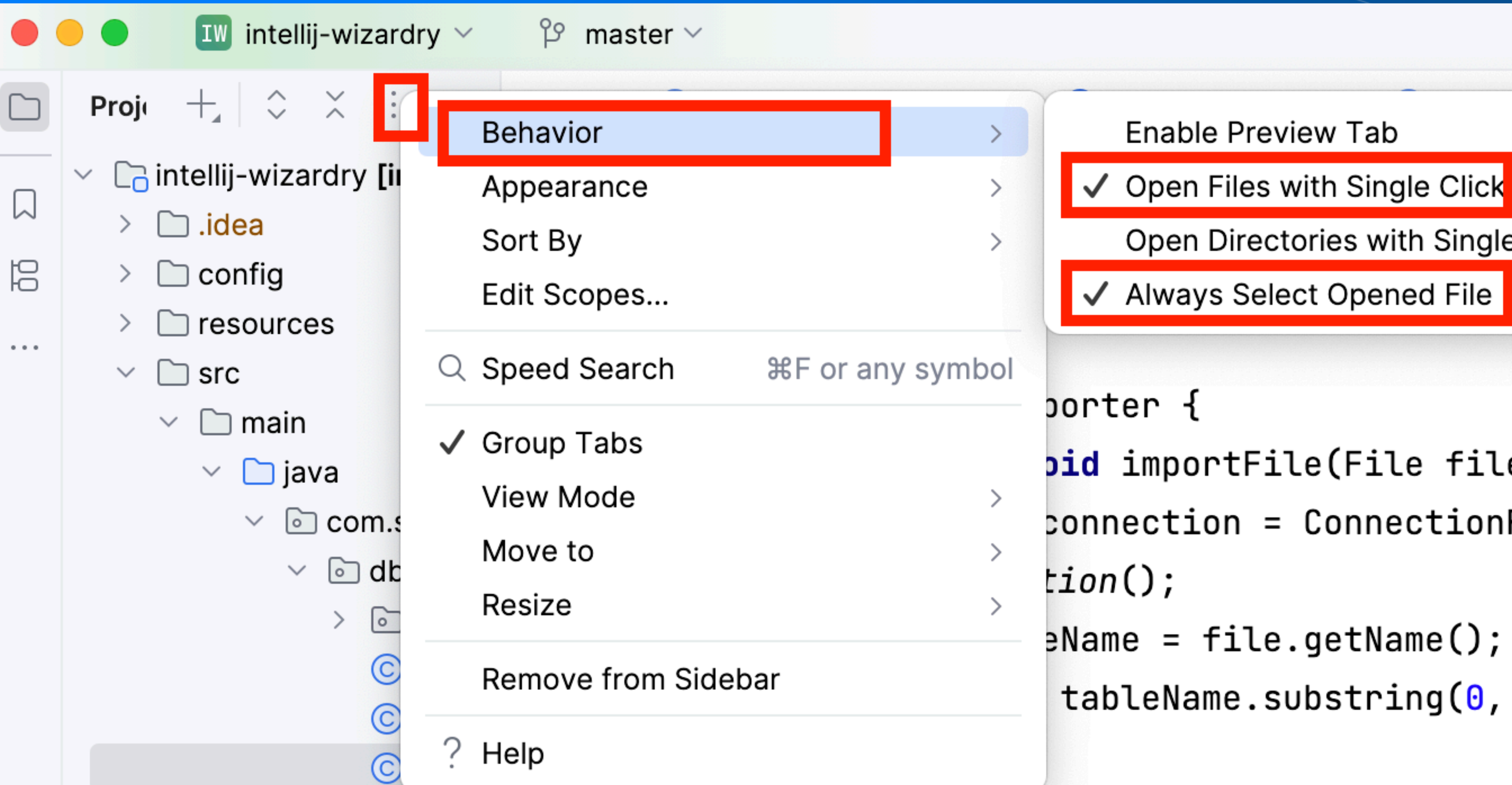
- Appearance & Behavior
  - Darcula Scheme most popular, but errors harder to see
  - Easy to switch between schemes with Ctrl + `
- Keymap, Mac OS X
  - IntelliJ IDEA classic has more finger friendly shortcuts on the Mac

Editor Settings

- **Editor →**
  - **General → Smart Keys: Select Use "CamelHumps" words**

Autoscroll to/from source

- Seems to be on by default now
  - Lots of times saw programmers editing the wrong file
  - ✓ Open Files with Single Click
  - ✓ Always Select Opened File

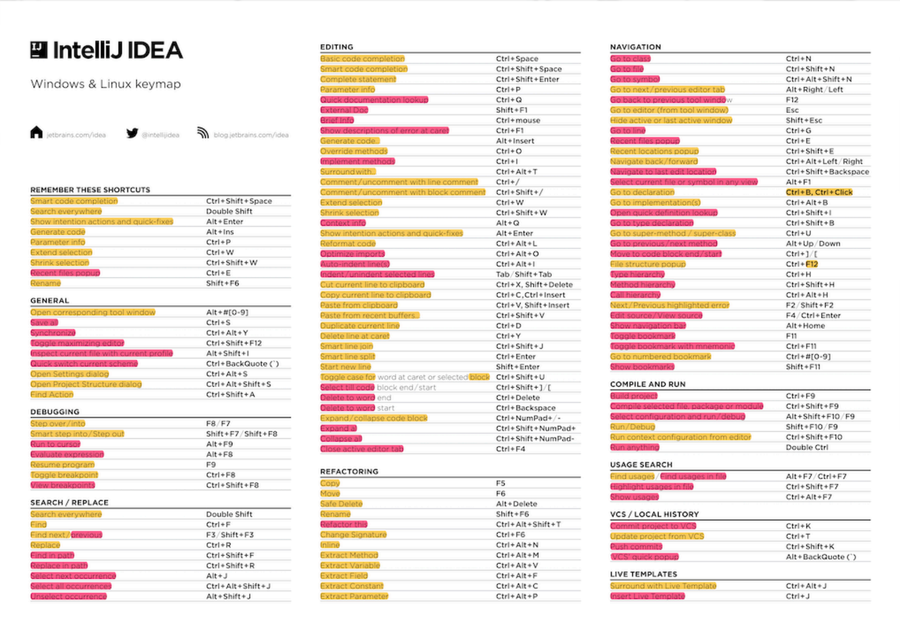

intellij-wizardry
master
Proj
intellij-wizardry [i
.idea
config
resources
src
main
java
com.s
db
Behavior
Appearance
Sort By
Edit Scopes...
Speed Search ⌘F or any symbol
Group Tabs
View Mode
Move to
Resize
Remove from Sidebar
Help
Enable Preview Tab
Open Files with Single Click
Open Directories with Single
Always Select Opened File
porter {
oid importFile(File file
connection = Connection
tion();
eName = file.getName();
tableName.substring(0,

JavaSpecialists

IntelliJ IDEA Philosophy

IntelliJ IDEA Philosophy

- **IntelliJ designed to be used mostly without mouse**
- **Hotkeys for almost everything**
  - **Print out Help → Keyboard Shortcuts PDF**
  - **Memorize one new shortcut per day ≈ 6 months**



IntelliJ IDEA

Windows & Linux keymap

jetbrains.com/idea @intellijidea blog.jetbrains.com/idea

REMEMBER THESE SHORTCUTS	
Smart code completion	Ctrl+Shift+Space
Search everywhere	Double Shift
Show intention actions and quick-fixes	Alt+Enter
Generate code	Alt+Ins
Parameter info	Ctrl+P
Extend selection	Ctrl+W
Shrink selection	Ctrl+Shift+W
Recent files popup	Ctrl+E
Rename	Shift+F6

GENERAL	
Open corresponding tool window	Alt+#[0-9]
Save all	Ctrl+S
Synchronize	Ctrl+Alt+Y
Toggle maximizing editor	Ctrl+Shift+F12
Inspect current file with current profile	Alt+Shift+I
Quick switch current scheme	Ctrl+BackQuote (`)
Open Settings dialog	Ctrl+Alt+S
Open Project Structure dialog	Ctrl+Alt+Shift+S
Find Action	Ctrl+Shift+A

DEBUGGING	
Step over / into	F8 / F7
Smart step into / Step out	Shift+F7 / Shift+F8
Run to cursor	Alt+F9
Evaluate expression	Alt+F8
Resume program	F9
Toggle breakpoint	Ctrl+F8
View breakpoints	Ctrl+Shift+F8

SEARCH / REPLACE	
Search everywhere	Double Shift
Find	Ctrl+F
Find next / previous	F3 / Shift+F3
Replace	Ctrl+R
Find in path	Ctrl+Shift+F
Replace in path	Ctrl+Shift+R
Select next occurrence	Alt+J
Select all occurrences	Ctrl+Alt+Shift+J
Unselect occurrence	Alt+Shift+J

EDITING	
Basic code completion	Ctrl+Space
Smart code completion	Ctrl+Shift+Space
Complete statement	Ctrl+Shift+Enter
Parameter info	Ctrl+P
Quick documentation lookup	Ctrl+Q
External Doc	Shift+F1
Brief Doc	Ctrl+mouse
Show descriptions of error at caret	Ctrl+F1
Generate code...	Alt+Insert
Override methods	Ctrl+O
Implement methods	Ctrl+I
Surround with...	Ctrl+Alt+T
Comment / uncomment with line comment	Ctrl+/
Comment / uncomment with block comment	Ctrl+Shift+/
Extend selection	Ctrl+W
Shrink selection	Ctrl+Shift+W
Contextual Info	Alt+Q
Show intention actions and quick-fixes	Alt+Enter
Reformat code	Ctrl+Alt+L
Optimize imports	Ctrl+Alt+O
Auto-indent lines	Ctrl+Alt+I
Indent / unindent selected lines	Tab / Shift+Tab
Cut current line to clipboard	Ctrl+X, Shift+Delete
Copy current line to clipboard	Ctrl+C, Ctrl+Insert
Paste from clipboard	Ctrl+V, Shift+Insert
Paste from recent buffers...	Ctrl+Shift+V
Duplicate current line	Ctrl+D
Delete line at caret	Ctrl+Y
Smart line join	Ctrl+Shift+J
Smart line split	Ctrl+Enter
Start new line	Shift+Enter
Toggle case for word at caret or selected block	Ctrl+Shift+U
Select till code block end / start	Ctrl+Shift+] / [
Delete to word end	Ctrl+Delete
Delete to word start	Ctrl+Backspace
Expand / collapse code block	Ctrl+NumPad+ / -
Expand all	Ctrl+Shift+NumPad+
Collapse all	Ctrl+Shift+NumPad-
Close active editor tab	Ctrl+F4

REFACTORING	
Copy	F5
Move	F6
Safe Delete	Alt+Delete
Rename	Shift+F6
Refactor this	Ctrl+Alt+Shift+T
Change Signature	Ctrl+F6
Inline	Ctrl+Alt+N
Extract Method	Ctrl+Alt+M
Extract Variable	Ctrl+Alt+V
Extract Field	Ctrl+Alt+F
Extract Constant	Ctrl+Alt+C
Extract Parameter	Ctrl+Alt+P

NAVIGATION	
Go to class	Ctrl+N
Go to file	Ctrl+Shift+N
Go to symbol	Ctrl+Alt+Shift+N
Go to next / previous editor tab	Alt+Right / Left
Go back to previous tool window	F12
Go to editor (from tool window)	Esc
Hide active or last active window	Shift+Esc
Go to line	Ctrl+G
Recent files popup	Ctrl+E
Recent locations popup	Ctrl+Shift+E
Navigate back / forward	Ctrl+Alt+Left / Right
Navigate to last edit location	Ctrl+Shift+Backspace
Select current file or symbol in any view	Alt+F1
Go to declaration	Ctrl+B, Ctrl+Click
Go to implementation(s)	Ctrl+Alt+B
Open quick definition lookup	Ctrl+Shift+I
Go to type declaration	Ctrl+Shift+B
Go to super-method / super-class	Ctrl+U
Go to previous / next method	Alt+Up / Down
Move to code block end / start	Ctrl+] / [
File structure popup	Ctrl+F12
Type hierarchy	Ctrl+H
Method hierarchy	Ctrl+Shift+H
Call hierarchy	Ctrl+Alt+H
Next / Previous highlighted error	F2 / Shift+F2
F4 Source / view source	F4 / Ctrl+Enter
Show navigation bar	Alt+Home
Toggle bookmark	F11
Toggle bookmark with mnemonic	Ctrl+F11
Go to numbered bookmark	Ctrl+#[0-9]
Show bookmarks	Shift+F11

COMPILE AND RUN	
Build project	Ctrl+F9
Compile selected file, package or module	Ctrl+Shift+F9
Select configuration and run / debug	Alt+Shift+F10 / F9
Run / Debug	Shift+F10 / F9
Run context configuration from editor	Ctrl+Shift+F10
Run anything	Double Ctrl

USAGE SEARCH	
Find usages / Find usages in file	Alt+F7 / Ctrl+F7
Highlight usages in file	Ctrl+Shift+F7
Show usages	Ctrl+Alt+F7

VCS / LOCAL HISTORY	
Commit project to VCS	Ctrl+K
Update project from VCS	Ctrl+T
Push commits	Ctrl+Shift+K
VCS quick popup	Alt+BackQuote (`)

LIVE TEMPLATES	
Surround with Live Template	Ctrl+Alt+J
Insert Live Template	Ctrl+J

IntelliJ IDEA

Windows & Linux keymap

jetbrains.com/idea @intellijidea blog.jetbrains.com/idea

REMEMBER THESE SHORTCUTS

Smart code completion	Ctrl+Shift+Space
Search everywhere	Double Shift
Show intention actions and quick-fixes	Alt+Enter
Generate code	Alt+Ins
Parameter info	Ctrl+P
Extend selection	Ctrl+W
Shrink selection	Ctrl+Shift+W
Recent files popup	Ctrl+E
Rename	Shift+F6

GENERAL

Open corresponding tool window	Alt+#[0-9]
Save all	Ctrl+S
Synchronize	Ctrl+Alt+Y
Toggle maximizing editor	Ctrl+Shift+F12
Inspect current file with current profile	Alt+Shift+I
Quick switch current scheme	Ctrl+BackQuote (`)
Open Settings dialog	Ctrl+Alt+S
Open Project Structure dialog	Ctrl+Alt+Shift+S
Find Action	Ctrl+Shift+A

DEBUGGING

Step over/into	F8/F7
Smart step into/Step out	Shift+F7/Shift+F8
Run to cursor	Alt+F9
Evaluate expression	Alt+F8
Resume program	F9
Toggle breakpoint	Ctrl+F8
View breakpoints	Ctrl+Shift+F8

SEARCH / REPLACE

Search everywhere	Double Shift
Find	Ctrl+F
Find next/previous	F3/Shift+F3
Replace	Ctrl+R
Find in path	Ctrl+Shift+F
Replace in path	Ctrl+Shift+R
Select next occurrence	Alt+J
Select all occurrences	Ctrl+Alt+Shift+J
Unselect occurrence	Alt+Shift+J

EDITING

Basic code completion	Ctrl+Space
Smart code completion	Ctrl+Shift+Space
Complete statement	Ctrl+Shift+Enter
Parameter info	Ctrl+P
Quick documentation lookup	Ctrl+Q
External Doc	Shift+F1
Brief Info	Ctrl+mouse
Show descriptions of error at caret	Ctrl+F1
Generate code...	Alt+Insert
Override methods	Ctrl+O
Implement methods	Ctrl+I
Surround with...	Ctrl+Alt+T
Comment/uncomment with line comment	Ctrl+/
Comment/uncomment with block comment	Ctrl+Shift+/
Extend selection	Ctrl+W
Shrink selection	Ctrl+Shift+W
Context info	Alt+Q
Show intention actions and quick-fixes	Alt+Enter
Reformat code	Ctrl+Alt+L
Optimize imports	Ctrl+Alt+O
Auto-indent line(s)	Ctrl+Alt+I
Indent/unindent selected lines	Tab/Shift+Tab
Cut current line to clipboard	Ctrl+X, Shift+Delete
Copy current line to clipboard	Ctrl+C, Ctrl+Insert
Paste from clipboard	Ctrl+V, Shift+Insert
Paste from recent buffers...	Ctrl+Shift+V
Duplicate current line	Ctrl+D
Delete line at caret	Ctrl+Y
Smart line join	Ctrl+Shift+J
Smart line split	Ctrl+Enter
Start new line	Shift+Enter
Toggle case for word at caret or selected block	Ctrl+Shift+U
Select till code block end/start	Ctrl+Shift+]/[
Delete to word end	Ctrl+Delete
Delete to word start	Ctrl+Backspace
Expand/collapse code block	Ctrl+NumPad+/-
Expand all	Ctrl+Shift+NumPad+
Collapse all	Ctrl+Shift+NumPad-
Close active editor tab	Ctrl+F4

REFACTORING

Copy	F5
Move	F6
Safe Delete	Alt+Delete
Rename	Shift+F6
Refactor this	Ctrl+Alt+Shift+T
Change Signature	Ctrl+F6
Inline	Ctrl+Alt+N
Extract Method	Ctrl+Alt+M
Extract Variable	Ctrl+Alt+V
Extract Field	Ctrl+Alt+F
Extract Constant	Ctrl+Alt+C
Extract Parameter	Ctrl+Alt+P

NAVIGATION

Go to class	Ctrl+N
Go to file	Ctrl+Shift+N
Go to symbol	Ctrl+Alt+Shift+N
Go to next/previous editor tab	Alt+Right/Left
Go back to previous tool window	F12
Go to editor (from tool window)	Esc
Hide active or last active window	Shift+Esc
Go to line	Ctrl+G
Recent files popup	Ctrl+E
Recent locations popup	Ctrl+Shift+E
Navigate back/forward	Ctrl+Alt+Left/Right
Navigate to last edit location	Ctrl+Shift+Backspace
Select current file or symbol in any view	Alt+F1
Go to declaration	Ctrl+B, Ctrl+Click
Go to implementation(s)	Ctrl+Alt+B
Open quick definition lookup	Ctrl+Shift+I
Go to type declaration	Ctrl+Shift+B
Go to super-method / super-class	Ctrl+U
Go to previous/next method	Alt+Up/Down
Move to code block end/start	Ctrl+]/[
File structure popup	Ctrl+F12
Type hierarchy	Ctrl+H
Method hierarchy	Ctrl+Shift+H
Call hierarchy	Ctrl+Alt+H
Next/Previous highlighted error	F2/Shift+F2
Edit source/View source	F4/Ctrl+Enter
Show navigation bar	Alt+Home
Toggle bookmark	F11
Toggle bookmark with mnemonic	Ctrl+F11
Go to numbered bookmark	Ctrl+#[0-9]
Show bookmarks	Shift+F11

COMPILE AND RUN

Build project	Ctrl+F9
Compile selected file, package or module	Ctrl+Shift+F9
Select configuration and run/debug	Alt+Shift+F10/F9
Run/Debug	Shift+F10/F9
Run context configuration from editor	Ctrl+Shift+F10
Run anything	Double Ctrl

USAGE SEARCH

Find usages/Find usages in file	Alt+F7/Ctrl+F7
Highlight usages in file	Ctrl+Shift+F7
Show usages	Ctrl+Alt+F7

VCS / LOCAL HISTORY

Commit project to VCS	Ctrl+K
Update project from VCS	Ctrl+T
Push commits	Ctrl+Shift+K
'VCS' quick popup	Alt+BackQuote (`)

LIVE TEMPLATES

Surround with Live Template	Ctrl+Alt+J
Insert Live Template	Ctrl+J

Help → My Productivity

- **Track progress in how productive you have become**

Productivity Guide

IntelliJ IDEA uptime: 19 hr, 36 min, idle time: 3 sec, 423 ms
Code completion has saved you from typing at least 995.3K characters since 2014-01-08 (~572 per working day)
Quick-fixes have saved you from 25,578 possible bugs since 2014-01-11 (~15 per working day)

Feature	Group	Used	Last Used
Syntax aware selection	Code Editing	186,409 times	9 minutes ago
Variable name completion	Code Completion	162,218 times	18 minutes ago
Basic code completion	Code Completion	109,543 times	14 hours ago
Go to declaration	Navigation	34,516 times	17 hours ago
Replace By when using loo...	Code Completion	30,909 times	18 minutes ago

Expand code selection

Press ⌘ W to expand code selection. Each time you press ⌘ W, the selection expands to other areas of code.

For example, the selection expands from a method name to the expression calling this method, then to the whole statement, then to the containing block, and so on.

Searching

- "Search Everywhere"
  - Windows/Linux: Double Shift
  - Mac OS X: ⇧⇧
- "Search Everywhere and Include non-project items"
  - Windows/Linux: Quadruple Shift
  - Mac OS X: ⇧⇧⇧⇧
- Kept on hitting this by mistake when pressing ↑

JavaSpecialists

When IntelliJ IDEA Hangs Up

Livelock from Corrupt Local Files

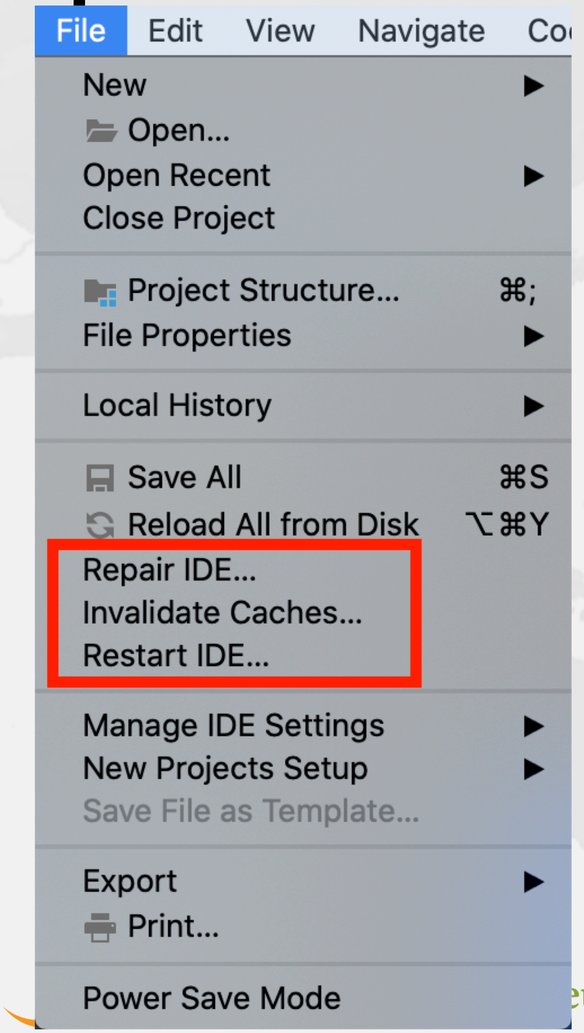
WildFactorizer.java – [Concurrency] – [~/svn/courses/concurrency/samples/Concurrency] – IntelliJ IDEA (Nika) IU-111.255

```
package concurrency.ch06_task_execution.solution_6_1;

import concurrency.math.*;

import java.util.concurrent.atomic.*;

public class WildFactorizer {
  public static void main(String[] args) {
    long start = (1 << 19) - 1; // known Mersenne prime
    AtomicLong next = new AtomicLong(start);
    for (int i = 0; i < 10000; i++) {
      long number = next.getAndIncrement();
      long[] factors = Factorizer.factor(number);
      if (factors.length == 1) {
        System.out.println(factors[0]);
      }
    }
  }
}
```

Compilation aborted (moments ago)

Recovering from Broken Indexes

- IntelliJ gets into a bad state if indexes are corrupted
  - File → Repair IDE...
    - Try this first, stepping through until everything works
  - File → Invalidate Caches...
    - Usually takes a while to reindex
      - But solves most of the problems
      - Try to not lose local history



Opening old projects

- Modern versions of IntelliJ IDEA might go into infinite loops
  - Need to kill with -9
- Create new project with existing sources and overwrite old project files

JavaSpecialists

Essential Shortcuts

Superkey for fixing almost anything

- "Show intention actions and quick-fixes"
  - Windows/Linux: Alt + Enter
  - Mac OS X: ⌥↩

Generate new code

- "Generate Code"
  - Windows/Linux: Alt + Ins
  - Mac OS X (Official): ⌘N
  - Mac OS X (Heinz): ^↩ or ^N
- Quick demo creating playground.Person
  - Add final field, show difference between ^↩ and ⌥↩

Before we continue ...

- **Get our Data Structures in Java Course here**
  - **tinyurl.com/jax-25**
  - **Coupon expires Wednesday at 18:00**
    - **You have life-time access to course**
- **For those watching the recording**
  - **Sign up to The Java Specialists' Newsletter**
    - **www.javaspecialists.eu**
    - **Reply to the welcome mail that you would like this course**

Live Templates

- We can generate code quickly with live templates
  - psvm or main: Main method
  - sout, soutv, soutm, soutp: Output
  - iter, fori, itco, itar: Iteration

tinyurl.com/jax-25

Navigation

- "Go to declaration"
  - Windows/Linux: Ctrl + B or Ctrl + Click
  - Mac OS X: ⌘B or ⌘Click
- "Navigate back / forward"
  - Windows/Linux: Ctrl + Alt + Left / Right
  - Mac OS X: ⌘⌥← / ⌘⌥→

tinyurl.com/jax-25

Should you throw away your mouse?

- Everything can be done with keyboard in IDEA
  - It is useful to learn to touch type
  - I usually have left hand on keyboard and right on mouse
    - Easy enough to find the correct keys - index fingers on F & J
  - Change to US keyboard instead of German - the ; is better placed
    - Or use Kotlin :-)
- For navigating, I find the mouse faster
  - Hold down Ctrl or ⌘ and everything becomes a hyperlink
  - Scrolling with mouse or touchpad smoother

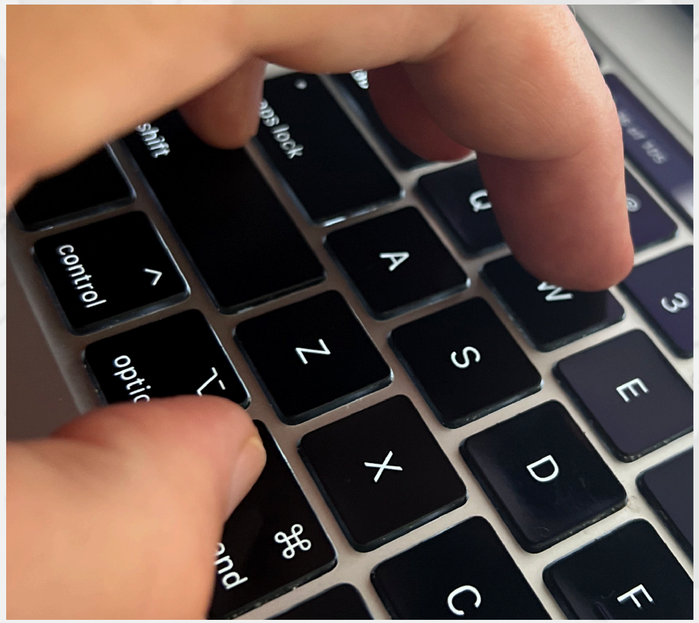
Bookmarks

- Quick navigation between locations in project
- Set with
  - Windows/Linux: Ctrl + Shift + #[0-9]
  - Mac OS X: ^⇧0 ... ^⇧9
- Navigate with
  - Windows/Linux: Ctrl + #[0-9]
  - Mac OS X: ^0 ... ^9

Syntax Aware Selection

- **"Extend Selection"**
  - **Windows/Linux: Ctrl + W**
  - **Mac OS X (Official): ⌥↑**
  - **Mac OS X (Heinz): ⌘W**
    - **Closes windows in other Mac OS X programs**
- **"Shrink Selection"**
  - **Windows/Linux: Ctrl + Shift + W**
  - **Mac OS X (Official): ⌥↓**
  - **Mac OS X (Heinz): ⌘⇧W**

Feature	Group	Used
Syntax aware selection	Code Editing	186,409 times
Variable name completion	Code Completion	162,218 times
Basic code completion	Code Completion	109,543 times



Move code up / down

- "Move Code Up"
  - Windows/Linux: Ctrl + Shift + Up
  - Mac OS X: ⌘⇧↑
- "Move Code Down"
  - Windows/Linux: Ctrl + Shift + Down
  - Mac OS X: ⌘⇧↓
- Note: If nothing is selected, current line is selected

JavaSpecialists

Turbo-boosted Productivity

Surround with Live Template

- "Surround with Live Template"
  - Windows/Linux: Ctrl + Alt + J
  - Mac OS X: ⌘⌥J
- Again context aware, for example with Java

  C. Surround with Callable
  RL. Surround with ReadWriteLock.readLock
  WL. Surround with ReadWriteLock.writeLock
  I. Iterate Iterable or array
- Demo: changing main(String[]) to main(String...)

Define your own Live Templates

- **Preferences -> Editor -> Live Templates**
- **e.g. Wrap code in System.nanoTime()**
  - **Fantastic for demos, use JMH for serious benchmarks**

```
Abbreviation: nanoTime
Description: System.nanoTime()
Template text:

long $TIME$ = System.nanoTime();
try {
  $SELECTION$
} finally {
  $TIME$ = System.nanoTime() - $TIME$;
  System.out.printf("$TIME$ = %dms%n",
    ($TIME$/1_000_000));
}
```

Column Select Editing

- With the mouse
  - Windows/Linux: Alt + Drag Mouse
  - Mac OS X: ⌥+drag mouse
- With keyboard toggle column selection mode
  - Windows/Linux: Alt + Shift + Insert
  - Mac OS X (Official): ⌘⇧8
  - Mac OS X (Heinz): ⌘^⇧C
  - Make sure to turn column selection mode off afterwards

Demo

- **Inside the FruitSpec, create an enum that holds all the fields**

```
public enum Field {
    BARCODE("BarCode"),
    RUNNUMBER("RunNumber"),
    PUC("PUC"),
    /* etc. ... */
    GTIN("GTIN");
    private final String name;

    Field(String name) {
        this.name = name;
    }
}
```

AI Assistant

- **Let's try with the AI Assistant**

JavaSpecialists

Tips for Speakers

Assign shortcut for Presentation Mode

- I used Command + Option P, same as for Keynote
- Change fonts or zoom level for presentation mode in
  - Appearance & Behavior -> Appearance -> Presentation Mode

Define different Color Schemes for Resolutions

- E.g. Darcula Talks 1080p, Darcula Talks 720p, etc.
  - Fonts should be easily readable when watching on a smart phone
- Might need to use white background with bad projector
- Switch quickly with Control + `

JavaSpecialists

Code Completion

Basic Code Completion

- **Code completion traditionally uses Ctrl+Space**
  - **Windows/Linux: Ctrl + Space**
  - **Mac OS X: ^Space**

```
public class Demo {
    public static void main(Strin
        List<String> names = new ArrayList<>();
    }
}
```

Tab to complete Full Line completion runs locally

Tab to complete

- Appendable java.lang
- ArithmeticException java.lang
- ArrayDeque<E> java.util
- ArrayIndexOutOfBoundsException java.lang
- ArrayList<> (java.util)
- ArrayStack (org.apache.commons.collections)
- ~~ArrayStack<> (org.apache.commons.collections~~
- ArrayStoreException java.lang
- AssertionError java.lang
- AutoCloseable java.lang
- BitSet java.util

Press ^. to choose the selected (or first) suggestion and insert a dot after

Smart Code Completion

- **This gives much better result - I always use this**
  - **Windows/Linux: Ctrl + Shift + Space**
  - **Mac OS X: ^⇧Space**

```
public class Demo {
    public static void main(String... args) {
        List<String> names = new ArrayList<>();  ⌥→ to complete wo
    }
}
```

```
AbstractSequentialList<String>{
AbstractSerializableListDecorato
AbstractSerializableListDecorato
ArrayList<> (java.util)
ArrayStack (org.apache.commons.
ArrayStack<> (org.apache.common
CanvasGraphicsNode (org.apache.
CompositeGraphicsNode (org.apac
CopyOnWriteArrayList<> (java.ut
```

Commenting Out Code

- "Comment / uncomment with line comment"
  - Windows/Linux: Ctrl + /
  - Mac OS X: ⌘ /
- By default, puts the // at the beginning of line
  - Change in Settings → Editor → Code Style → Java → Code Generation →

JavaSpecialists

Refactoring

Alter Class / Field / Method

- "Move"
  - Windows/Linux: F6
  - Mac OS X: F6
- "Rename ..."
  - Windows/Linux: Shift + F6
  - Mac OS X: ⇧F6
- "Change Signature" - applies to methods
  - Windows/Linux: Ctrl + F6
  - Mac OS X: ⌘F6

Extract Method

- Select a block of code and "Extract Method"
  - Windows/Linux: Ctrl + Alt + M
  - Mac OS X: ⌘⌥M
- Some restrictions
  - Cannot have more than one return value
  - Block must represent a set of statements or expressions
- Additional benefits
  - Extracting a method can discover other, similar, code

Demo

- **generatePcdRemarks() method in PcdGenerator**

```
String remark = resultSet.getString("Remark1");
if (!"".equals(remark)) {
    remarks.put(remark, remark);
}

remark = resultSet.getString("Remark2");
if (!"".equals(remark)) {
    remarks.put(remark, remark);
}

remark = resultSet.getString("Remark3");
if (!"".equals(remark)) {
    remarks.put(remark, remark);
}
```

Inline Code

- Applies to methods, fields, local variables
- "Inline"
  - Windows/Linux: Ctrl + Alt + N
  - Mac OS X: ⌘⌥N
- Conveniently close to "Extract Method" shortcut

Postfix Completion

- Write a postfix after your expression and press tab
  - ! - Negates a boolean expression
  - nn - Adds a check verifying that an expression is not null
  - null - Adds a check verifying that an expression is null
  - try - Inserts a statement in a try-catch block
  - var - Introduces a local variable for an expression
- Demo

JavaSpecialists

Analyzer

Analyzer

- IntelliJ shines with its code analyzer and refactoring
- Code → Inspect Code ...
  - Whole project
    - Or: Right-click in project → Analyze → Inspect Code ...
  - Inspection profile: Default IDE
- It checks for the most glaring code inconsistencies
  - Let's try it out together

Java Language Migration Aids

- Demos
  - Use enhanced switch in
    - CdsGenerator#generateCfg()
    - PcdGenerator#generatePcdTemplate()
  - Use pattern variable in ElegantTable#initGui()
  - Use try-with-resource in LineSocket#receiveFile()

JavaSpecialists

Conclusion

The Java Specialists' Newsletter

- Make sure to subscribe
  - www.javaspecialists.eu/archive/subscribe/
- Readers in 150+ countries
- Over 22 years of newsletters on advanced Java
  - All previous newsletters available on www.javaspecialists.eu
  - Courses, additional training, etc.

Don't forget ...

- Get our Data Structures in Java Course here
  - tinyurl.com/jax-25
  - Coupon expires Wednesday at 18:00
    - You have life-time access to course
- For those watching the recording
  - Sign up to The Java Specialists' Newsletter
    - www.javaspecialists.eu
    - Reply to the welcome mail that you would like this course

Conclusion IntelliJ Super Productivity

- Many more keystrokes and features to learn
- One new one per day
- Happy coding!