Java SE 17 Fundamentals

CREATING YOUR FIRST JAVA APP

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Overview

- Create and run an app with IntelliJ IDEA
- Run an app from the command line
- Basics of statement syntax
- Line and block comments
- Packages and code organization

Version Check

This version was created by using:

- Java 17
- IntelliJ Idea 2021.3.2

Version Check

This course is 100% applicable to:

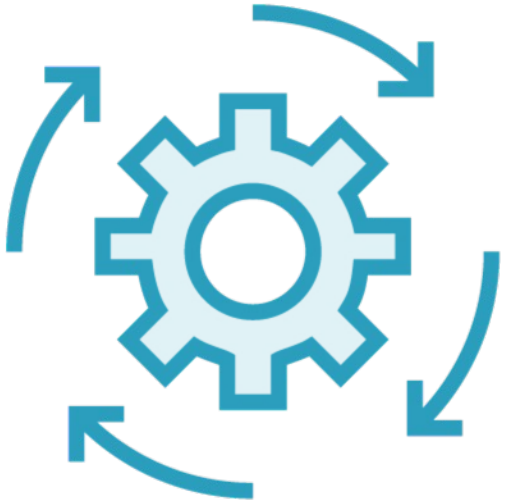
- Java 14 to 17
- Any version of IntelliJ Idea from 2016 to 2021

JRE, JDK, and IDE

JRE

Java Runtime Environment

Enables Java code execution



JDK

Java Development Kit

Provides tools required to create Java apps

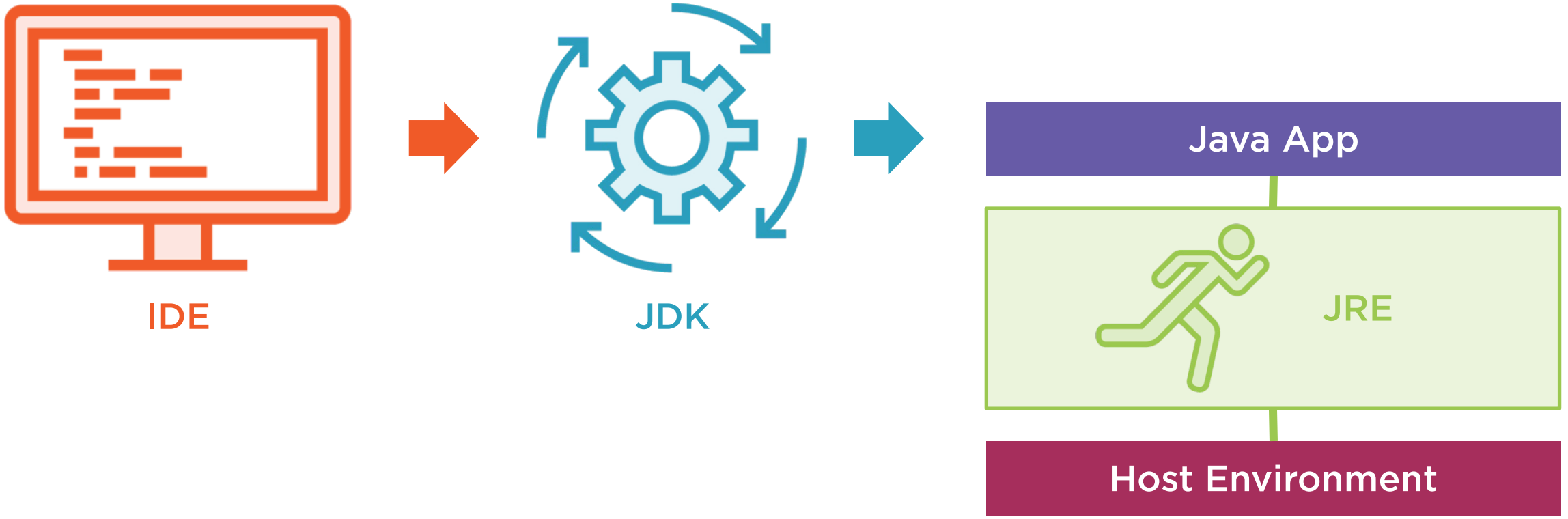
Open source version known as OpenJDK

IDE

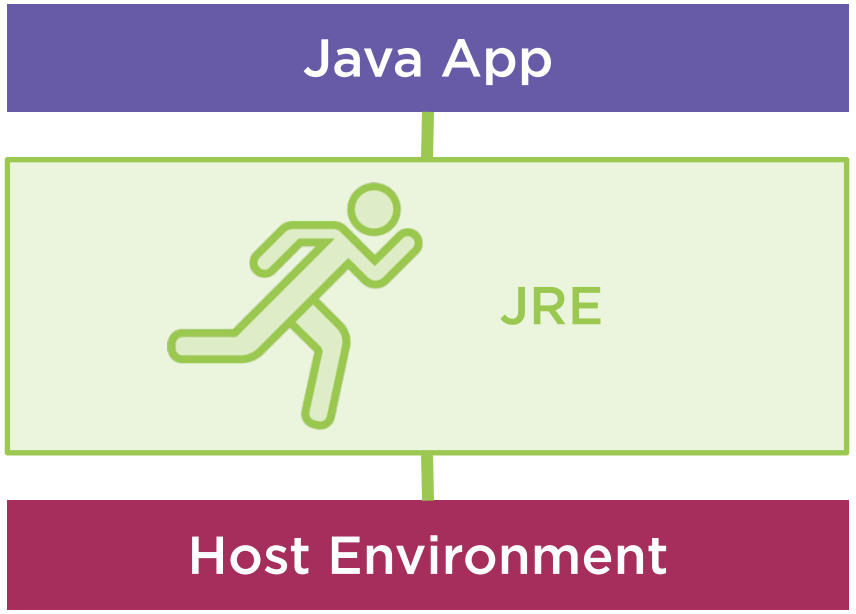
Integrated Development Environment

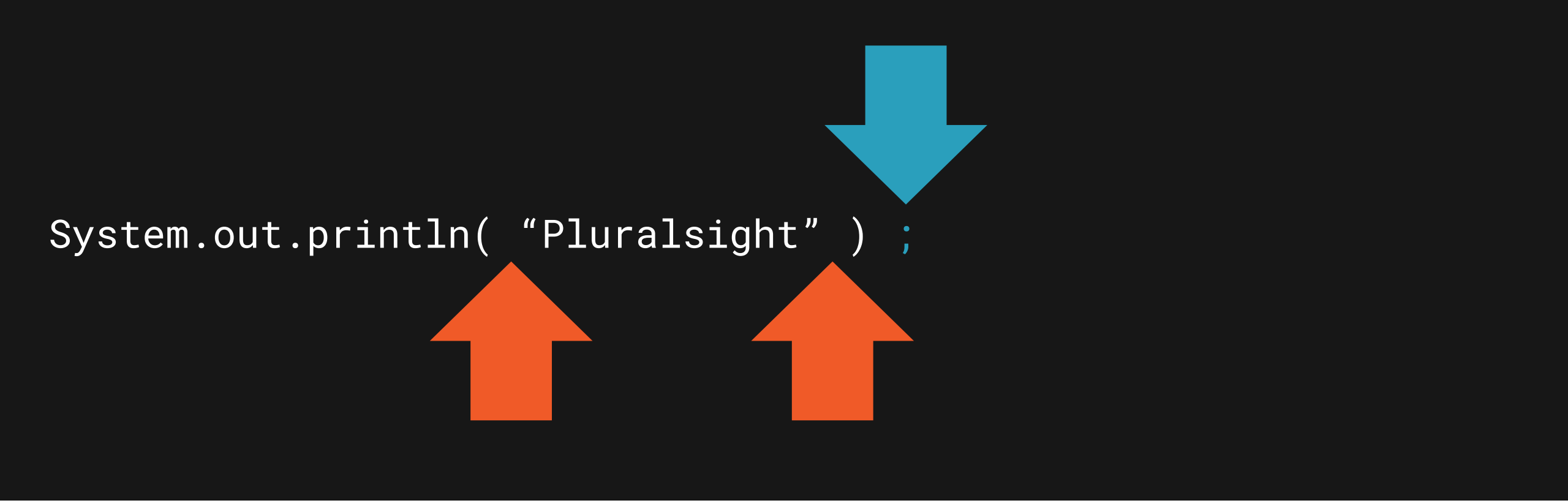
Edit, build, run, debug

The Developer's Java Experience



The User's Java Experience





Statement Structure

Programs are made up of statements

Statements end with a semicolon

Parts separated by zero or more whitespace

- Space, tab, newline

Statement Whitespace

```
System.out.println( “Pluralsight” ) ;

System.out.println(“Pluralsight”);

System.out.println (     “Pluralsight” )         ;

System.out.println
      (
  “Pluralsight”
               )
     ;
```

Comments

Add human-readable notes to source code

“Hide” source code without deleting

Types of Comments

Line comment

Text ignored until end of current line

Block comment

Text ignored within the block

Javadoc comment

Compiler treats similar to block comment

Can be used to generate documentation

```
package com.pluralsight.example;
public class Main {
  public static void main(String[] args) {
    // . . .
  }
}
```

Packages

Packages provide organization

Follow standard naming convention

Affect source code structure

```
package com.pluralsight

package com.pluralsight

package com.pluralsight.humanresources
```

Package Naming Conventions

All lowercase

Use reverse domain name notation to assure global uniqueness

Add further qualifiers to assure uniqueness within a company or group

```
package com.pluralsight.example;
public class Main {
  public static void main(String[] args) {
    // . . .
  }
}
```

Type Names Are Qualified by Their Package

Main

```java
package com.pluralsight.example;

public class Main {

  public static void main(String[] args) {

    // . . .

  }

}
```

Package Names Affect Source Code Organization

```
src
└── com
    └── pluralsight
        └── example
            └── Main.java
```

Summary

Integrated Development Environment

- Edit, build, run, debug

Java Development Kit

- Tools required to create Java apps
- OpenJDK is open source version

Java Runtime Environment

- Enables Java code execution

Summary

Programs made up of a statements

- Statements end with a semicolon
- Parts separated by zero or more whitespaces

Comments

- Allow human-readable notes
- Hide statements from the compiler

Packages

- Provide type uniqueness
- Source code file structure tied to package name