

# Curso Java COMPLETO

Capítulo: Introdução à linguagem Java

<http://educandoweb.com.br>

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Entendendo as versões do Java

<http://www.oracle.com/technetwork/java/javase>

**LTS** - Long Term Support

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Java - contextualização

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## O que é Java?

- Linguagem de programação (regras sintáticas)
- Plataforma de desenvolvimento e execução
  - Bibliotecas (API)
  - Ambientes de execução

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## Histórico

- Problemas resolvidos e motivo de seu sucesso:
  - Ponteiros / gerenciamento de memória
  - Portabilidade falha: reescrever parte do código ao mudar de SO
  - Utilização em dispositivos diversos
  - Custo
- Criada pela Sun Microsystems no meio da década de 1990
- Adquirida pela Oracle Corporation em 2010



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## Aspectos notáveis

- Código compilado para bytecode e executado em máquina virtual (JVM)
- Portável, segura, robusta
- Roda em vários tipos de dispositivos
- Domina o mercado corporativo desde o fim do século 20
- Padrão Android por muitos anos



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## Edições

- Java ME - Java Micro Edition - dispositivos embarcados e móveis - IoT
  - <http://www.oracle.com/technetwork/java/javame>
- Java SE - Java Standard Edition - core - desktop e servidores
  - <http://www.oracle.com/technetwork/java/javase>
- Java EE - Java Enterprise Edition - aplicações corporativas
  - <http://www.oracle.com/technetwork/java/javaee>

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## Plataforma Java SE

- Documentação
  - <https://docs.oracle.com/en/java/javase/11/>

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## Plataforma Java SE

- JVM - Java Virtual Machine
  - Máquina virtual do Java - necessário para executar sistemas Java

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## Compilação e interpretação

- Linguagens **compiladas**: C, C++
- Linguagens **interpretadas**: PHP, JavaScript
- Linguagens **pré-compiladas + máquina virtual**: Java, C#

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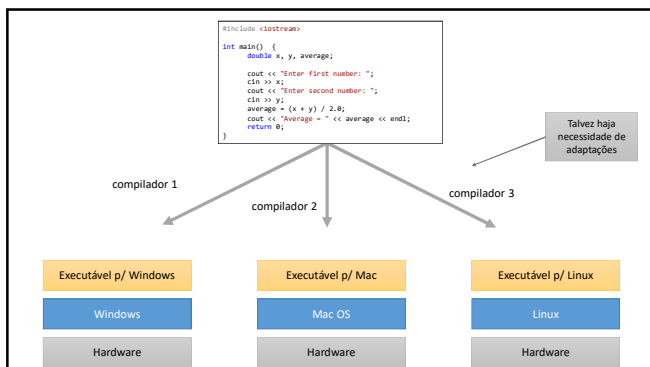
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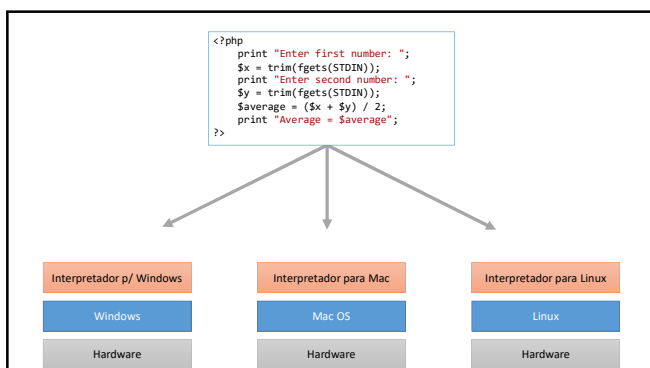
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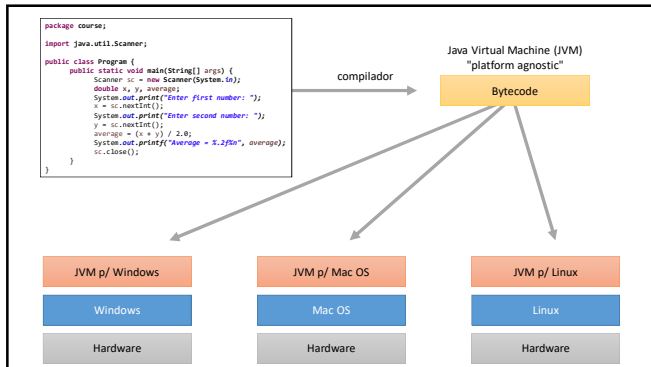
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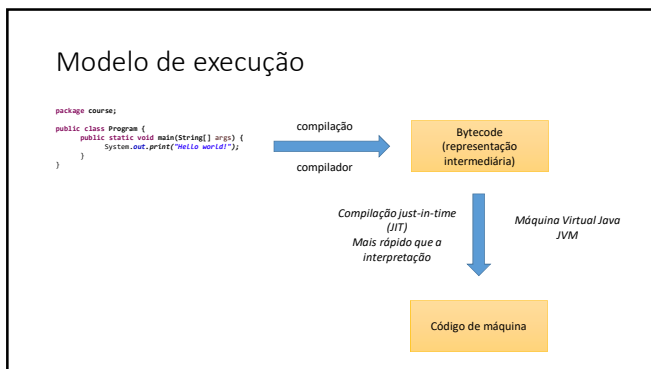
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## Estrutura de uma aplicação Java

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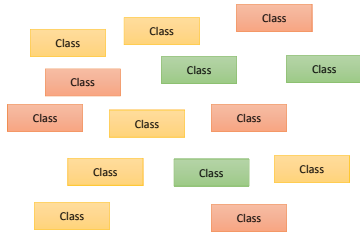
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Uma aplicação é composta por classes



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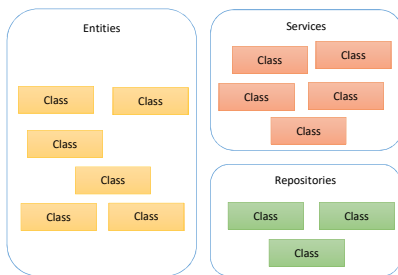
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package = agrupamento LÓGICO de classes relacionadas



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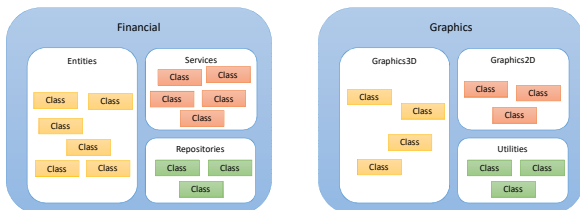
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Módulo (Java 9+) = Agrupamento lógico de pacotes relacionados  
Runtime = Agrupamento físico



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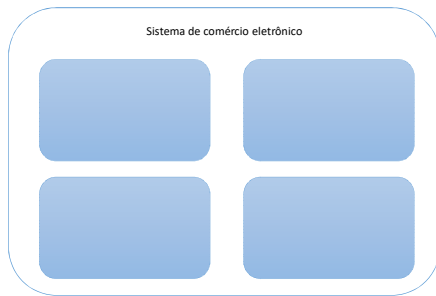
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Aplicação = Agrupamento de módulo relacionados



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## Instalação do Java e Eclipse no Windows

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## Checklist

- Baixar e instalar o Java JDK
  - <https://www.oracle.com/java/technologies/javase-jdk11-downloads.html>
- Configurar variáveis de ambiente do sistema
  - Painel de Controle -> Variáveis de Ambiente
    - JAVA\_HOME:
      - C:\Program Files\Java\jdk-11.0.4
    - Path: **incluir**
      - C:\Program Files\Java\jdk-11.0.4\bin
  - Testar no terminal de comando: `java -version`
- Baixar e descompactar o Eclipse
  - <https://www.eclipse.org/downloads/packages/>
  - Testar: rodar o Eclipse e escolher um "workspace" (pasta onde você vai salvar seus projetos)

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## Primeiro programa em Java e utilização básica do Eclipse

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- Workspace (selecione a pasta aonde os projetos serão salvos)
- Mudar o layout: Window -> Perspective -> Open Perspective -> Java
- Zerar o layout: Window -> Perspective -> Reset Perspective
- Mostrar a aba Console: Window -> Show View -> Console
- Criar projeto: File -> New -> Java Project

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- Criar classe:
  - Botão direito na pasta "src" -> New -> Class
  - Package: deixe em branco
  - Nome da classe: Main (com M maiúsculo)
  - Marque a opção: `public static void main(String[] args)`
- Mudar o tamanho da fonte:
  - CTRL +
  - CTRL -

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