



# Java Foundations

1-2

Java: A Brief History

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# Objectives

- This lesson covers the following objectives:
  - Show examples of how people interact with Java in their daily lives
  - Summarize the history of Java
  - Understand Java technology product groups



# 20 Years of Java

- 2015 marks 20 years since the first version of Java was released for public use



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# Java Technology

- Java is the global standard for developing and delivering embedded and mobile applications, games, web-based content, and enterprise software
- Java enables you to efficiently develop, deploy, and use exciting applications and services
- From laptops to data centers, game consoles to scientific supercomputers, cell phones to the Internet, Java is everywhere!



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# Java's Place in the World

- Java is the single most widely used development language in the world today
- Over 9 million developers say they spend at least some of their time developing in Java, according to a recent Evans Data study
- That's out of a world population of about 14 million developers



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Evans Data, 2009, The 2009 Global Developer Population and Demographics Survey

# Java's Place in the World



**9 Million**  
Java Developers



**7 Billion**  
Devices



**#Java20**

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# Java Desktops

- 1.1 billion desktops running Java (Nielsen Online, Gartner 2010)
- 930 million Java Runtime Environment (JRE) downloads per year (August 2009–2010)
- 9.5 million Java Development Kit (JDK) downloads per year (August 2009–2010)



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The JDK and JRE are explained in the next lesson. But in short, the JRE is for users and the JDK is for developers.



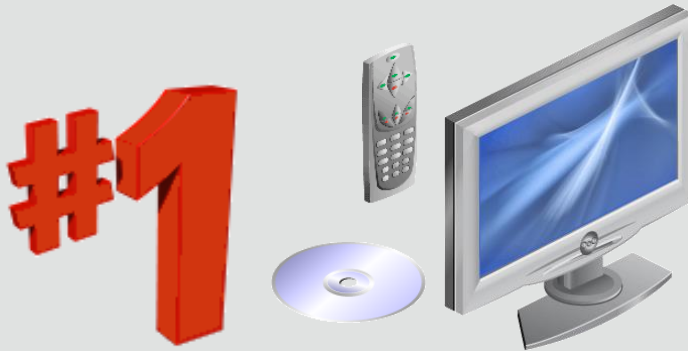
# Java Mobile Phones

- 3 billion mobile phones run Java



## Java TV and Card

- 100% of Blu-ray players run Java



# Java Is Now in the Cloud!



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71.2 million people connect to the web on Java-powered devices (InStat 2010).

# The Story of Java

- Once upon a time ...



# The Story of Java

- In 1990, Sun Microsystems began a research project to extend the power of network computing to consumer devices, such as video cassette recorders (VCRs) and televisions
- The belief was that the next wave in computing was the union of digital consumer devices and computers
- There were also frustrations with the use of the C/C++ language at Sun



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# The Story of Java

- The Green Team, a team of highly skilled software developers at Sun under the leadership of James Gosling, developed Java (originally called Oak) as their solution
  - Devices with different central processing units (CPUs) could be connected and share the same software enhancements through a single programming language



*James Gosling is considered the "Father of Java"*

# The Story of Java

- This initial concept was ahead of its time, as several deals with consumer device companies were unsuccessful
- The Green Team was forced to find another market for their new programming language
- Fortunately, the World Wide Web was becoming popular and the Green Team recognized that the Oak language was perfect for developing web multimedia components to enhance webpages.

# The Story of Java

- Initially, the Oak language was used for small applications, called applets, and programmers using the Internet adopted what eventually became the Java programming language
- The turning point for Java came in 1995, when Netscape incorporated Java into its browser
- Oracle acquired Sun Microsystems in 2010

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# Duke, the Java Mascot

- Duke is Java's official mascot
- The original Duke was created by the Green Team's graphic artist, Joe Palrang



# Java Version History

Java Version	Year
JDK Alpha and Beta	1995
JDK 1.0	1996
JDK 1.1	1997
JDK 1.2	1998
JDK 1.4	2000
JDK 5	2004
JDK 6	2006
<b>JDK 7</b>	<b>2011</b>
<b>JDK 8</b>	<b>2014</b>
<b>JDK 9</b>	<b>2017</b>
<b>JDK 10, JDK 11, JDK 12</b>	<b>2018-2019</b>



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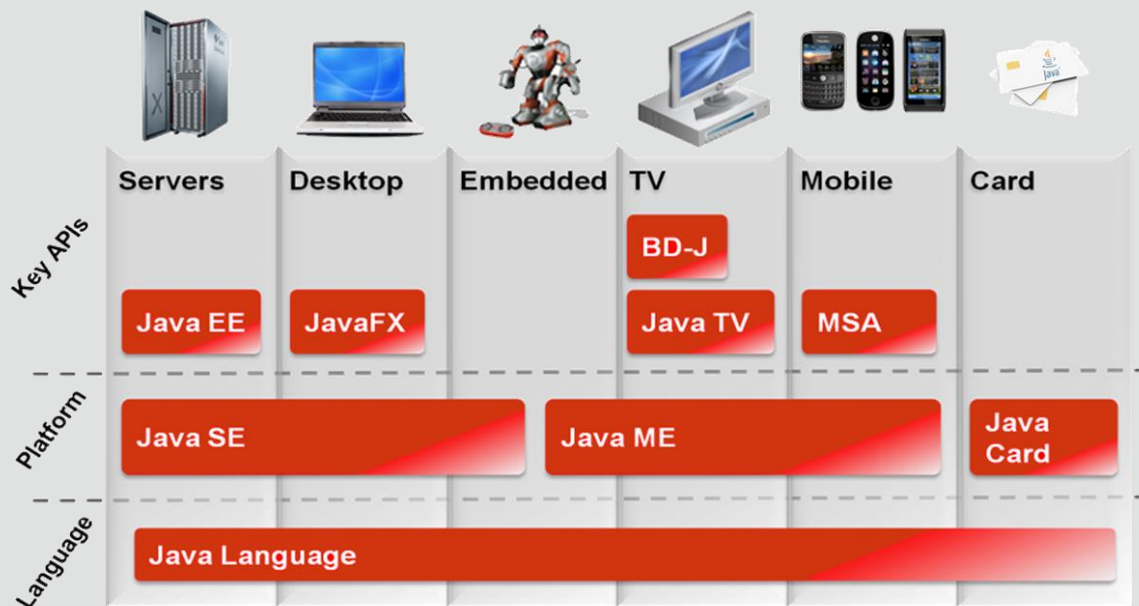
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# Java Technology Product Groups

- There are four Java technology product groups and their target device types:
  - Java Platform, Standard Edition (Java SE)
  - Java Platform, Enterprise Edition (Java EE)
  - Java Platform, Micro Edition (Java ME)
  - Java Card

# Target Device Types



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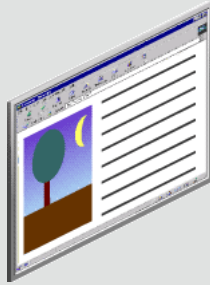
The figure illustrates the Java technology product groups and their target device types.

Terms:

- Application Programming Interface (API)
- Blu-ray Disc Java. (BD-J)
- Mobile Service Architecture (MSA)

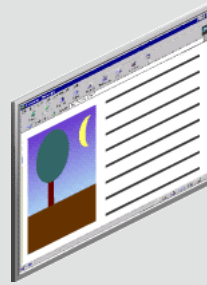
# Java SE

- Is used to develop applications that run on desktop computers



# Java EE

- Is used to create large enterprise, server-side, and client-side distributed applications



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Java EE is used to create large enterprise, server-side, and client-side distributed applications. For example, you can use the Java EE JDK to create a web shopping (eCommerce) application for a retail company's website.

Java EE is built on top of the Java SE platform, extending it with additional support for large-scale, high-performance enterprise software.

Some of the kinds of functionality supported include objects, UI, integration, persistence, transactions, and security.

# Java ME

- Is used to create applications for devices with limited storage, display, and power capacities
- Is used to develop applications for mobile phones, PDAs, TV set-top boxes, smart cards, Raspberry Pi, and many more



# Java Card

- 5 billion Java Cards are in use
  - It's used to create applications that can run securely on smart cards and similar small-memory devices
- Java Card is typically used in the following areas (and many more):
  - Identity
  - Security
  - Transactions
  - Mobile phone SIMs



1.4 billion Java Cards are manufactured every year (InStat 2010).



# Summary

- In this lesson, you should have learned how to:
  - Show examples of how people interact with Java in their daily lives
  - Summarize the history of Java
  - Understand Java technology product groups



