

Mike.Burton@MycoSystems.co.uk

De-Mystifying Java & JavaScript



What Is Java

- A Programming Language

- Released in '95
- Originally for set-top boxes, washing machines
- Now running on over 15 billion devices!
 - 930 million downloads each year
 - 3 billion mobile phones
 - 1 billion Androids run Java apps
 - 2 billion Java Cards? (5 billion made in 2007)
 - Java also powers set-top boxes, printers, Web cams, games, car navigation systems, lottery terminals, medical devices, parking payment stations
- **NOT JavaScript**
- **Yet we never hear about it (much!)**

What is a Programming Language

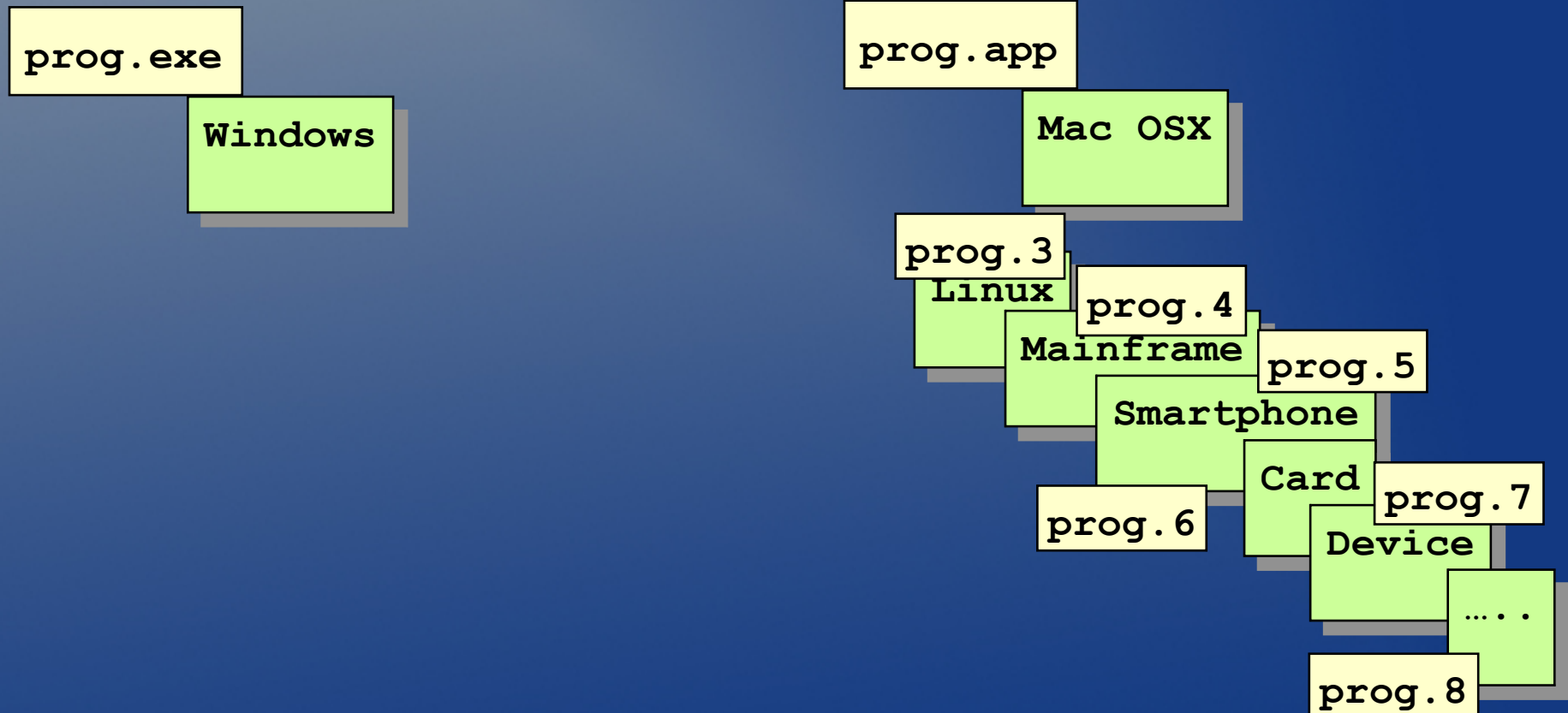
- Used to write programs

What else do you need

- prog.exe
- And then ? ...

Runtime Platform

- Need a different program for each platform



Programming Language - Workings

- Compile source code into executable



Java Design goals

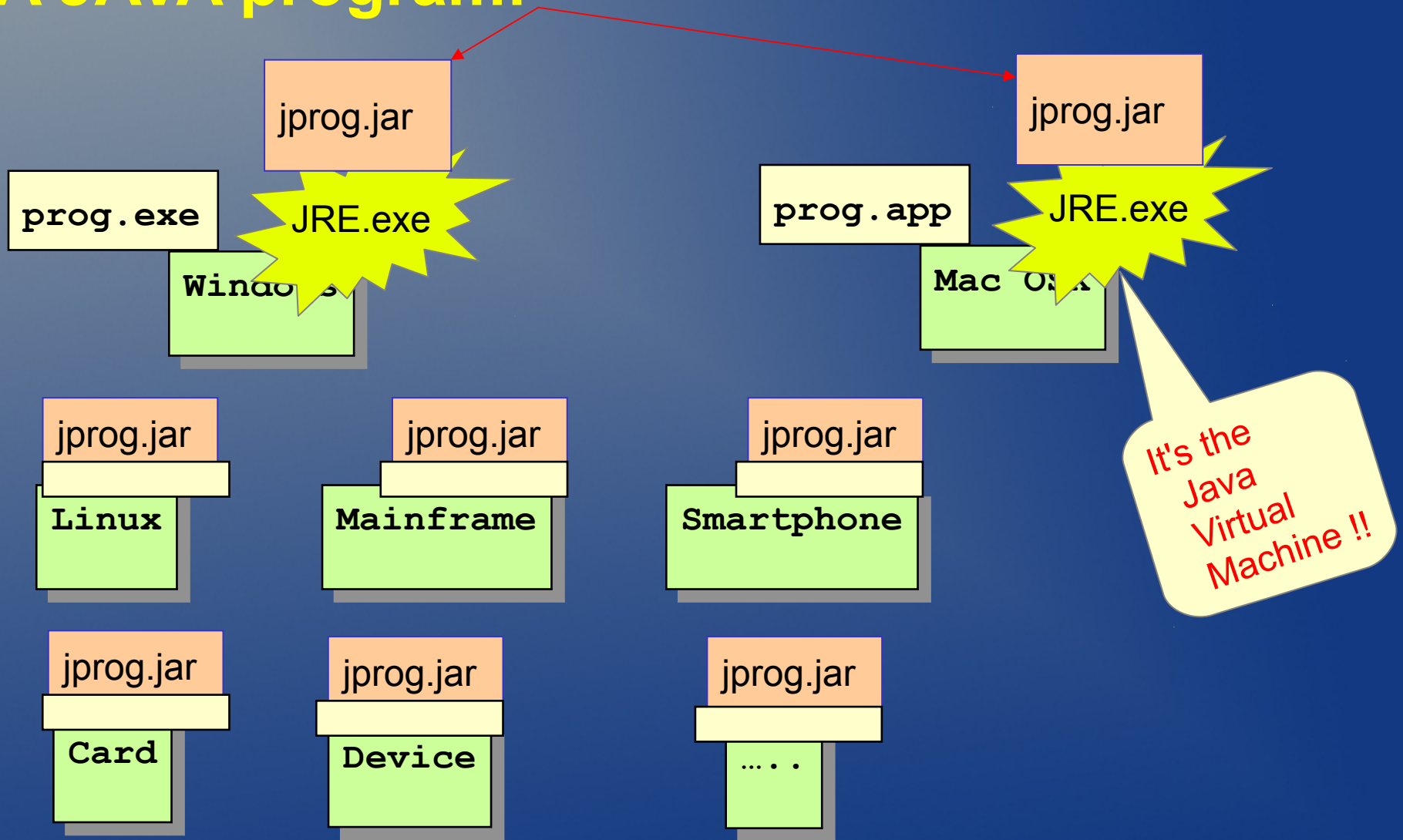
- Simple - High level (vs C). Memory management
- Robust - Built in exception handling
- Portable - Interpreted
- Fast - JIT compiler
- Connected - Built in networking
- Secure - Configurable permissions
- Concurrent - Built in multi-threading
- Portable - Interpreted

Java Design goals ...

- Simple - high level cf C, memory mgt
- Robust - built in exception handling
- Portable - interpreted
- Fast - JIT compiler
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- **PORTABLE** - interpreted

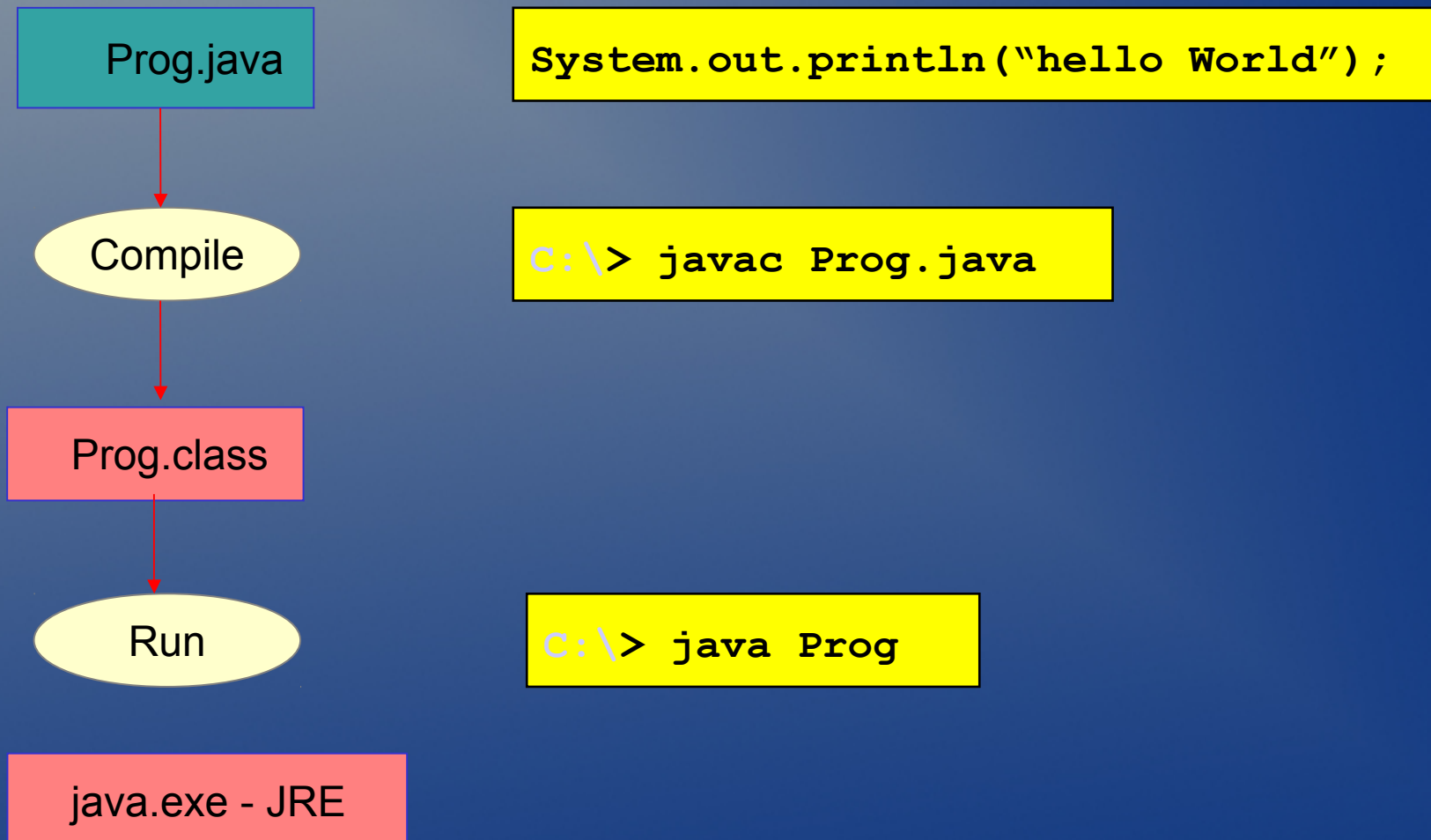
Runtime Platform – **PORTABLE**

- Not just a program,
- **A JAVA program!**



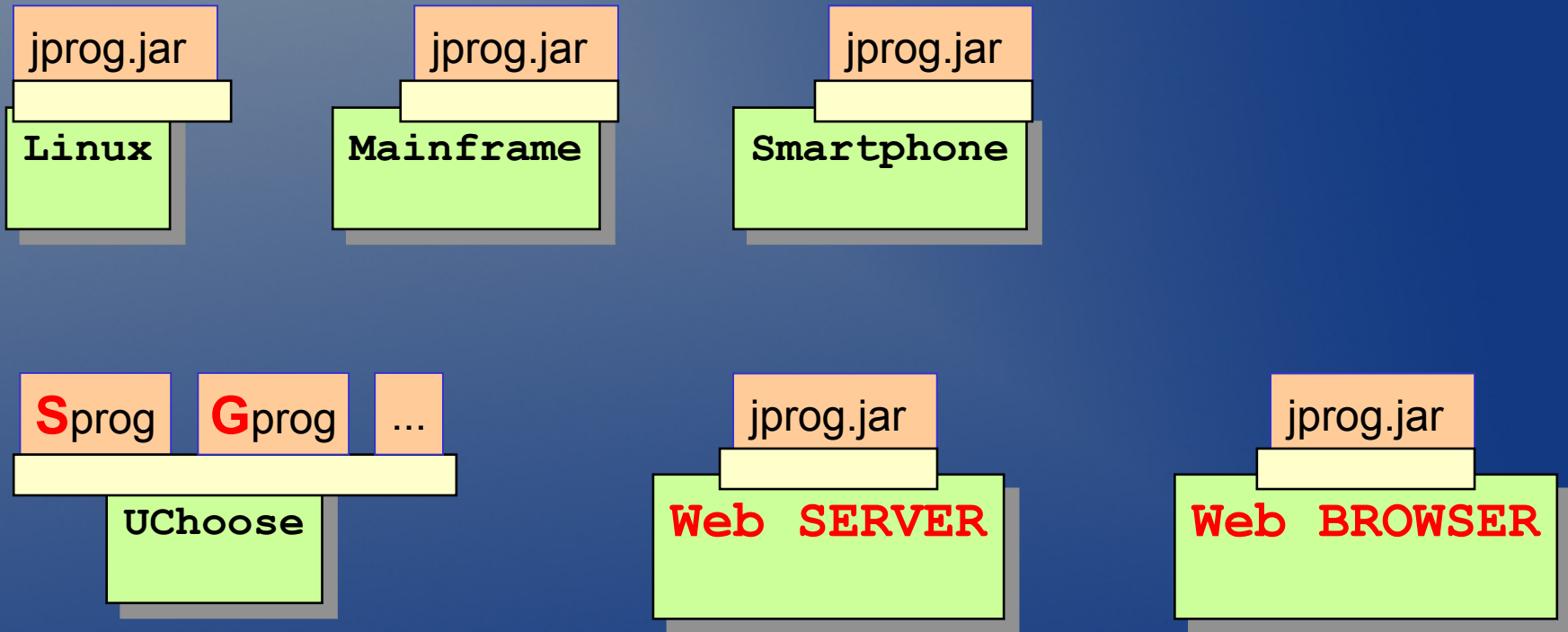
Java - Workings

- Compile source code into byte-code
- Run byte-code on Java Runtime Environment

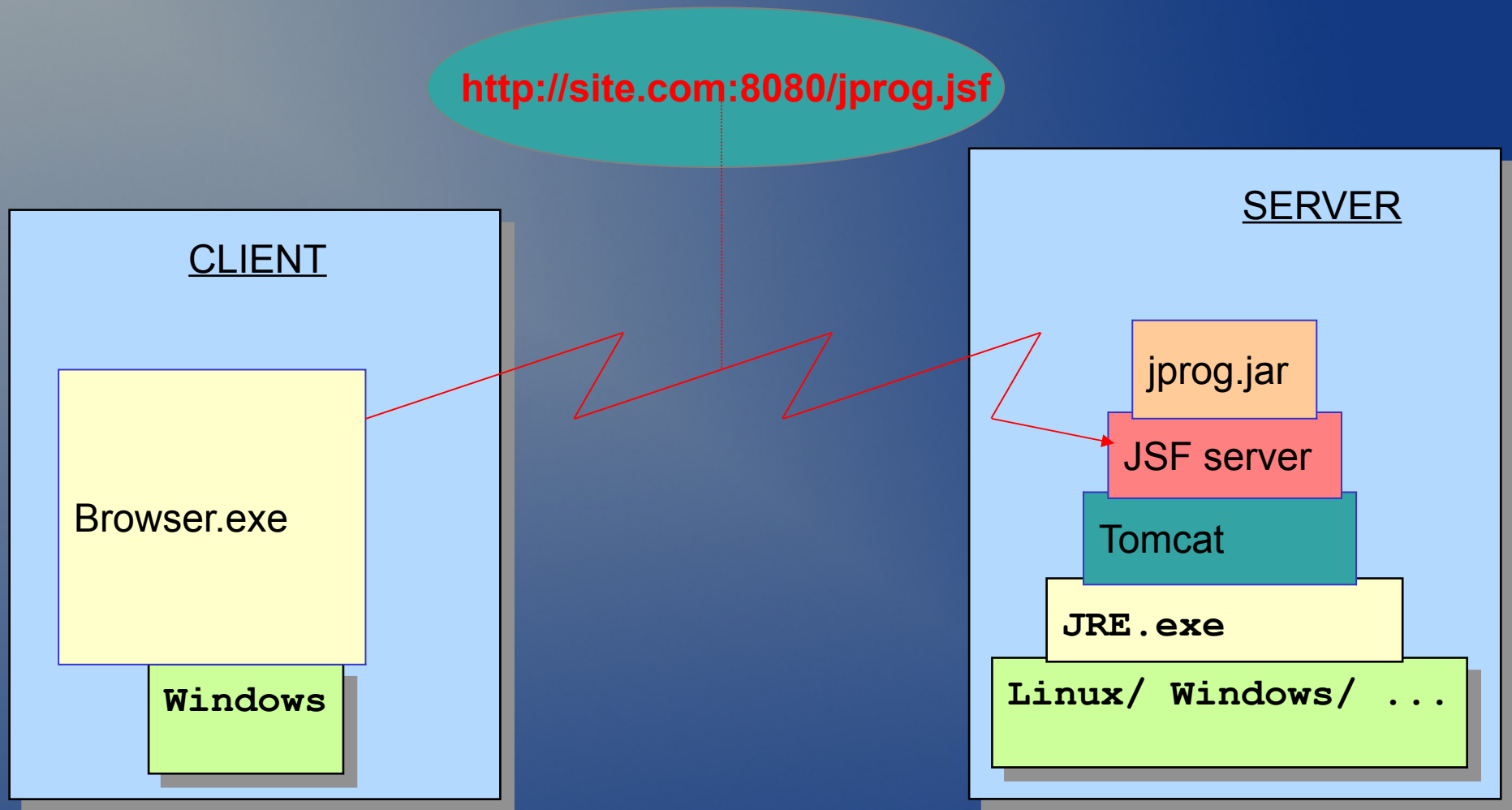


More Platforms – **still portable**

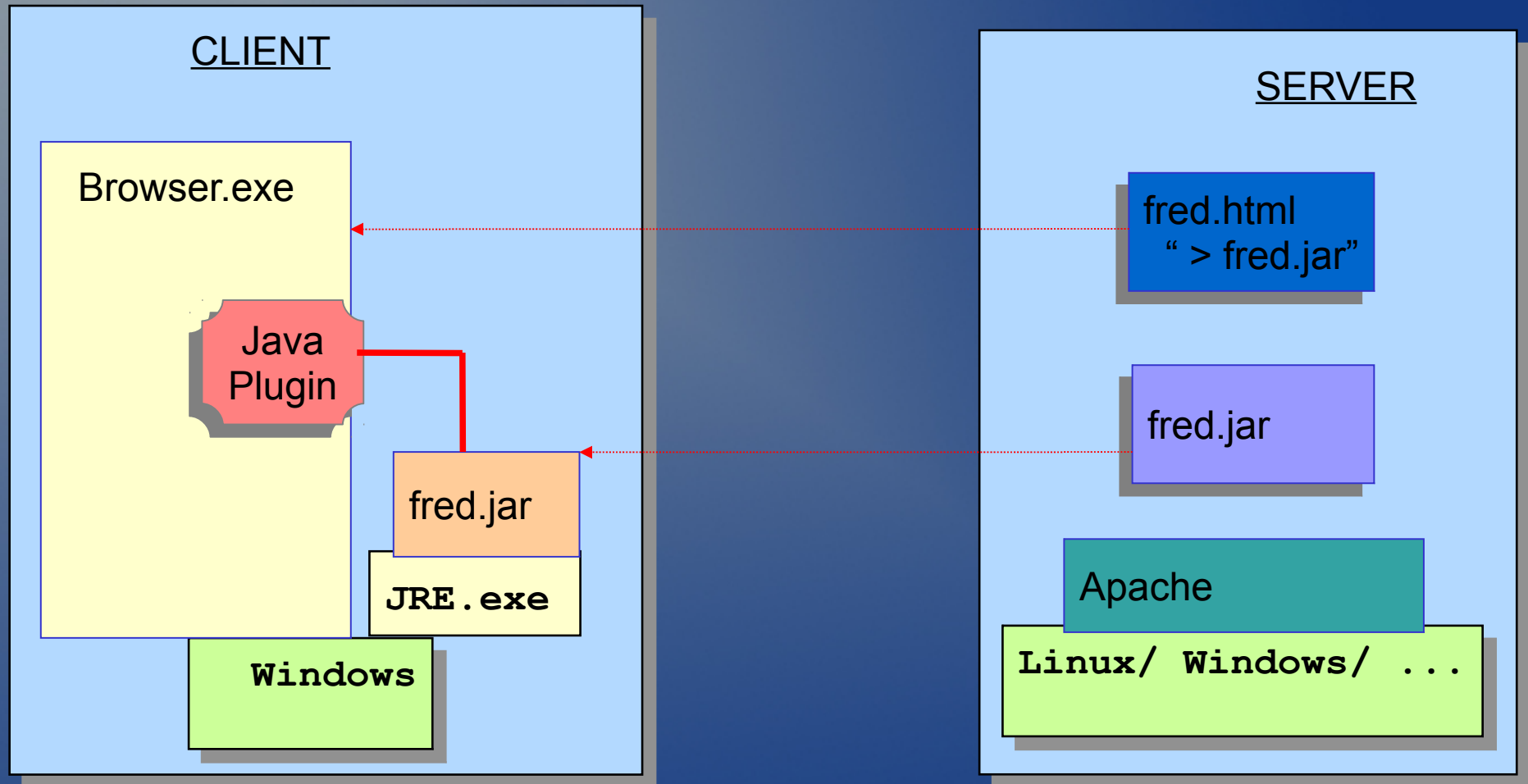
- This portability is an enabler for future:
 - Languages - Scala, Groovy, Clojure..
 - Platforms - Web Server, Web Client



Web Server



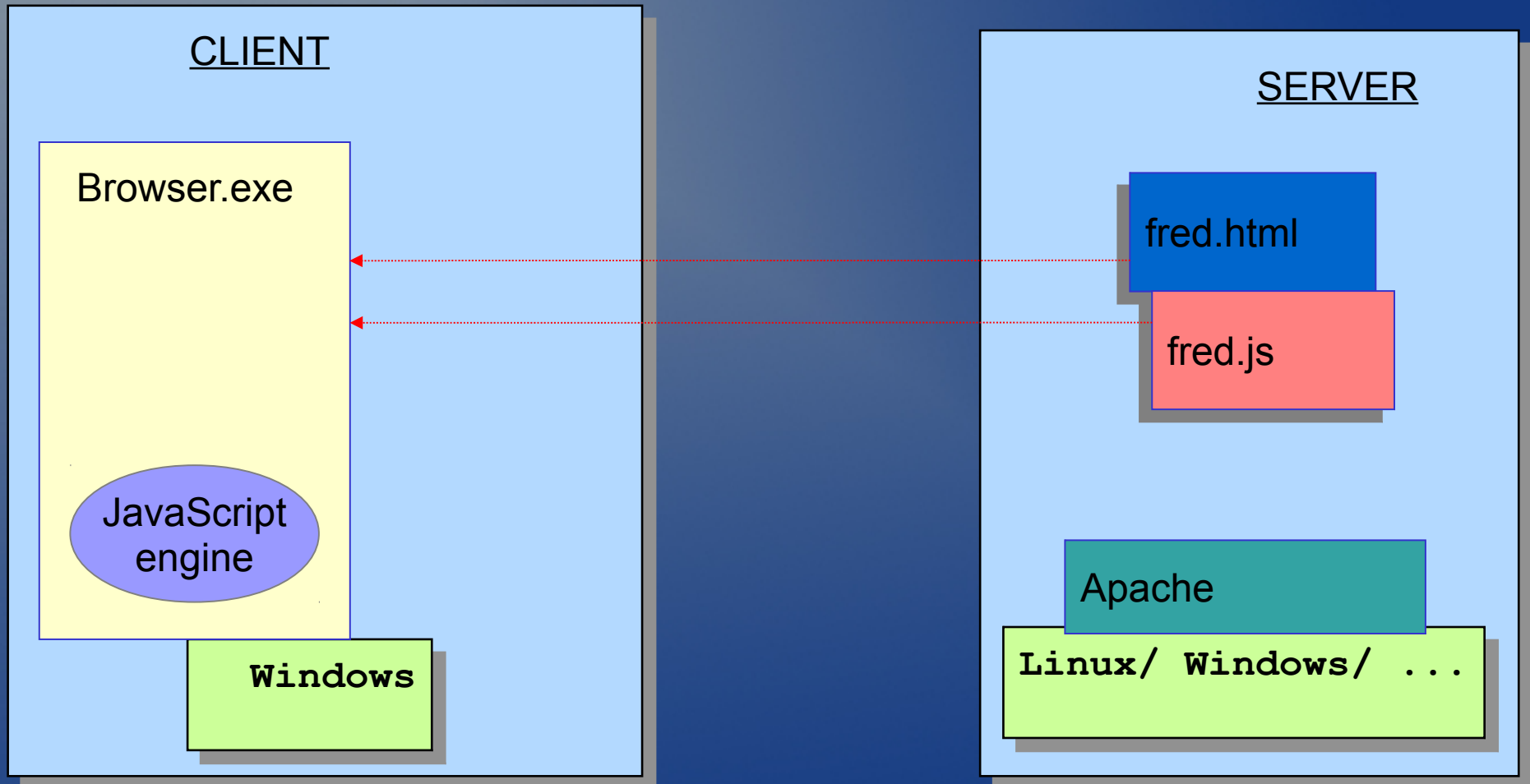
Web Client – Java Applet



Security – See: docs.oracle.com/javase/tutorial/security/tour1/wstep2.html

JavaScript – Another language

- Scripting language
 - runs inside the browser



JavaScript – Features

- Syntax “looks” like Java & C++
- Has access to webpage content “DOM”
- Completely interpreted
- Dynamic - no “worries” of:
 - Compilation
 - Declaring variables
 - Type-checking of variables(!)

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Thanks for listening!



Any questions?

