Accessing the Local System

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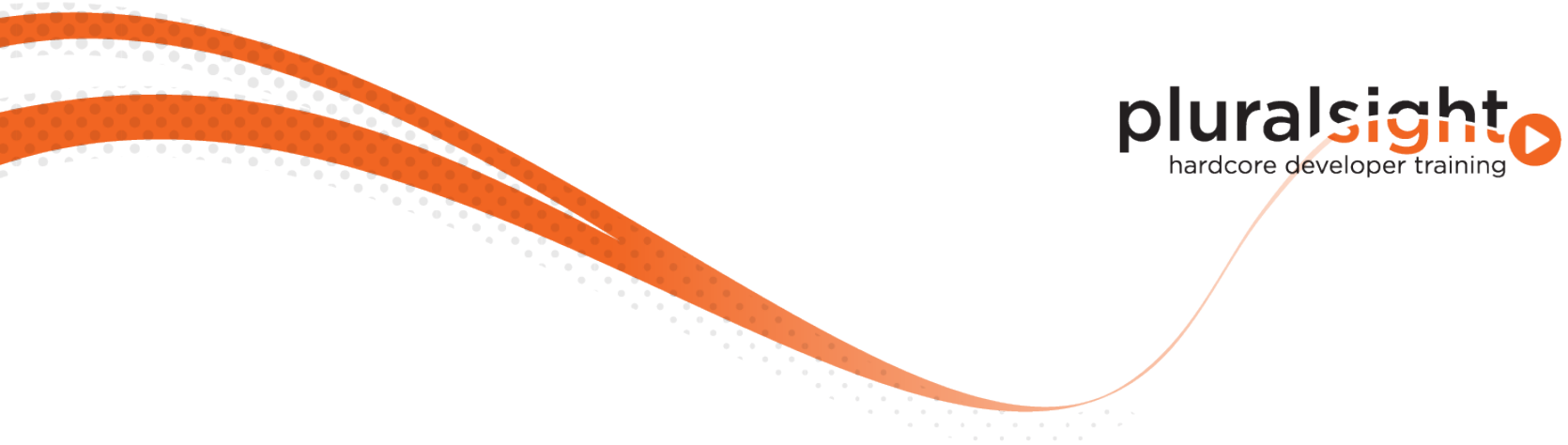

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Outline

- Node's "process" object
- Interacting with the file system
- Buffers
- The "os" module

The “process” object

- **A collection of Streams**
  - process.stdin
  - process.stdout
  - process.stderr
- **Attributes of the current process**
  - process.env
  - process.argv
  - process.pid
  - process.title
  - process.uptime()
  - process.memoryUsage()
  - process.cwd()
  - … etc.
- **Process-related actions**
  - process.abort()
  - process.chdir()
  - process.kill()
  - process.setgid()
  - process.setuid()
  - … etc.
- **An instance of EventEmitter**
  - event: ‘exit’
  - event: ‘uncaughtException’
  - POSIX signal events (‘SIGINT’, etc.)


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Interacting with the File System

- **Wrappers around POSIX functions (both async and sync versions)**
  - Functions include:

    rename, truncate, chown, fchown, lchown, chmod, fchmod, lchmod, stat, fstat, lstat, link, symlink, readlink, realpath, unlink, rmdir, mkdir, readdir, close, open, utimes, futimes, fsync, write, read, readFile, writeFile, and appendFile
  - For example: `fs.readdir(path, callback)` and `fs.readdirSync(path)`
- **Stream oriented functions**
  - `fs.createReadStream()` – returns an fs.ReadStream (a ReadableStream)
  - `fs.createWriteStream()` – returns an fs.WriteStream (a WritableStream)
- **Watch a file or directory for changes**
  - `fs.watch()` – returns an fs.FSWatcher (an EventEmitter)
  - 'change' event: the type of change and the filename that changed
  - 'error' event: emitted when an error occurs


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What is a Buffer?

- **JavaScript has difficulty dealing with binary data**
- **However, networking and the file system require it**

- **The Buffer class provides a raw memory allocation for dealing with binary data directly**

- **Buffers can be converted to/from strings by providing an encoding:**
  - ascii, utf8 (default), utf16le, ucs2, base64, binary, hex

- **Provides a handy way to convert strings to/from base64**


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The “os” module

Provides information about the currently running system

- os.tmpDir()
- os.hostname()
- os.type()
- os.platform()
- os.arch()
- os.release()
- os.uptime()
- os.loadavg()
- os.totalmem()
- os.freemem()
- os.cpus()
- os.networkInterfaces()
- os.EOL

Conclusion

- Node's "process" object
- Interacting with the file system
- Buffers
- The "os" object


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References

- Node.js Documentation
  http://nodejs.org/api/