

# Functionality in Common

This slide shows you quite a bit of the functionality you'd expect from a File System, and the methods you'd use for each of these classes.

Functionality	File instance methods	File static methods, with Path argument
create file	<code>createNewFile()</code>	<code>createFile(Path p)</code>
delete directory or file	<code>delete()</code>	<code>delete(Path p)</code> <code>deleteIfExists(Path p)</code>
check path type	<code>isDirectory()</code> <code>isFile()</code>	<code>isDirectory(Path p)</code> <code>isRegularFile(Path p)</code>
get byte size of file	<code>length()</code>	<code>size(Path p)</code>
List directory contents	<code>listFiles</code>	<code>list(Path p)</code>
create directory or directories	<code>mkdir()</code> <code>mkdirs()</code>	<code>createDirectory(Path p)</code> <code>createDirectories(Path p)</code>
Rename	<code>renameTo(File dest)</code>	<code>move(Path src, Path dest)</code>

# NIO2 file operations have been improved

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The NIO2 types include support for:

- Asynchronous file I/O operations.
- File locking, including more granular locking. This means, instead of locking the entire file, a region of it can be locked.
- File metadata retrieval.
- Symbolic link manipulation.
- File system notifications. This means changes occurring on a path, can be made watchable to registered services.

# NIO2 file operations are better performant

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NIO2 types are non-blocking, meaning asynchronous access to resources, by multiple threads, is supported.

They manage memory more efficiently, reading and writing files directly to and from memory into buffers, through something called a FileChannel.

You can also read from or write to multiple buffers in a single operation.