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## Creating and Reading Directories

Some of the methods previously discussed, such as `delete()`, work on files, links and directories. But how do you list all the directories at the top of a file system? How do you list the contents of a directory or create a directory?

### Listing a File System's Root Directories

You can list all the root directories for a file system by using the [`FileSystem.getRootDirectories\(\)`](#) method. This method returns an [`Iterable`](#), which enables you to use the enhanced for statement to iterate over all the root directories.

The following code snippet prints the root directories for the default file system:

```
1 | Iterable<Path> dirs = FileSystems.getDefault().getRootDirectories();
2 | for (Path name: dirs) {
3 |     System.err.println(name);
4 | }
```

### Creating a Directory

You can create a new directory by using the [Files.createDirectory\(Path, FileAttribute\)](#) method. If you don't specify any [FileAttribute](#), the new directory will have default attributes. For example:

```
1 | Path dir = ...;  
2 | Files.createDirectory(path);
```

The following code snippet creates a new directory on a POSIX file system that has specific permissions:

```
1 | Set<PosixFilePermission> perms =  
2 |     PosixFilePermissions.fromString("rwxr-x---");  
3 | FileAttribute<Set<PosixFilePermission>> attr =  
4 |     PosixFilePermissions.asFileAttribute(perms);  
5 | Files.createDirectory(file, attr);
```

To create a directory several levels deep when one or more of the parent directories might not yet exist, you can use the convenience method, [Files.createDirectories\(Path, FileAttribute\)](#). As with the [Files.createDirectory\(Path, FileAttribute\)](#) method, you can specify an optional set of initial file attributes. The following code snippet uses default attributes:

```
1 | Files.createDirectories(Paths.get("foo/bar/test"));
```

The directories are created, as needed, from the top down. In the `foo/bar/test` example, if the `foo` directory does not exist, it is created. Next, the `bar` directory is created, if needed, and, finally, the `test` directory is created.

It is possible for this method to fail after creating some, but not all, of the parent directories.

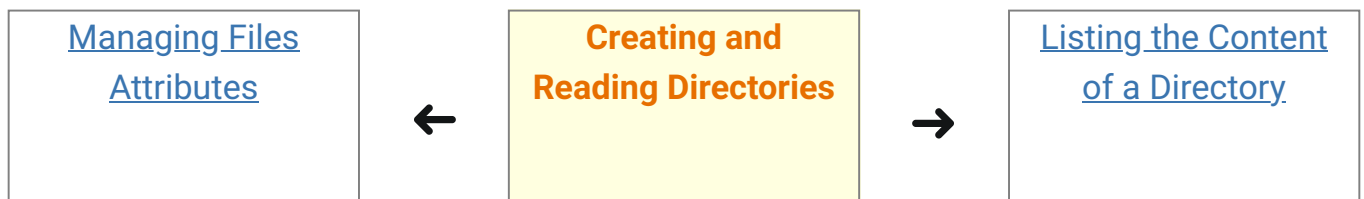
## Creating a Temporary Directory

You can create a temporary directory using one of createTempDirectory methods:

- [createTempDirectory\(Path, String, FileAttribute...\)](#).
- [createTempDirectory\(String, FileAttribute...\)](#).

The first method allows the code to specify a location for the temporary directory and the second method creates a new directory in the default temporary-file directory.

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