

Saving Data in iOS

Saving Data with NSString and NSData

Saving on iOS

- ⚙ Every iOS app is its own island
- ⚙ Each app contains its own directory structure.
- ⚙ Apps are prohibited from accessing or creating files in directories outside of its home directory (with exceptions)



Standard iOS Directories

Directory	Description	Backed Up?
<App>/AppName.app	The app itself. Read only and signed to prevent tampering	No
<App>/Documents/	User documents and data files (like user generated content)	Yes
<App>/Documents/ Inbox	Used to access outside entities such as opening an email attachment	Yes
<App>/Library	The location for files that are not user files	Yes
<App>/Library/Caches	Folder designated for any caching files	No
<App>/tmp/	Directory for temporary files. The system may purge files when app is not in use	No

User Backups

- ⚙ Large files can slow the backup process in iTunes and iCloud.
- ⚙ If you need prevent files from being backed up, use either *NSURLIsExcludedFromBackupKey* or *kCFURLIsExcludedFromBackupKey*.

Accessing File Paths

- ⚙ Use a Foundation convenience function to generate path

```
NSArray * paths = NSSearchPathForDirectoriesInDomains(NSDocumentDirectory,  
NSUserDomainMask, YES);
```

- ⚙ NSDocumentDirectory, NSLibraryDirectory,
NSCachedDirectory, NSTemporary Directory

```
NSString * dirPath = [paths firstObject];  
NSString * path = [dirPath stringByAppendingPathComponent:@"my_file.txt"];
```


Writing NSData

```
BOOL success = [myData writeToFile:path options:NSDataWritingAtomic error:&error];
```

Option	Description
NSDataWritingAtomic	Writes data in a temporary file, then exchanges the file when complete
NSDataWritingWithoutOverwriting	Preserves the existing file

- ⚙ Before writing to disk, check to see if high level APIs are available to do the same thing.

Reading NSData

```
[NSData alloc] initWithContentsOfFile:path options:NSDataReadingMappedIfSafe  
error:&error];
```

Option	Description
NSDataReadingMappedIfSafe	Should try and map the data into virtual memory, if safe.
NSDataReadingUncached	File should not be stored in the file system cache
NSDataReadingMappedAlways	Map the file, if possible.

Writing NSString

```
BOOL success = [myString writeToFile:path atomically:YES  
encoding:NSUTF8StringEncoding error:&error];
```

Option	Description
NSUTF8StringEncoding	Standard unicode encoding
NSASCIIStringEncoding	ASCII encode with 8-bit characters

⚙ If in doubt, write to NSUTF8StringEncoding. See the following to learn more: <http://www.objc.io/issue-9/unicode.html>

Reading NSString

```
[[NSString alloc] initWithContentsOfFile:path encoding:NSUTF8StringEncoding  
error:&error];
```

- ⚙ The method will return a nil string if there was an error, fetching from disk.
- ⚙ Make sure to match the encoding of the string when it was written to disk

Demo

Challenge Time

