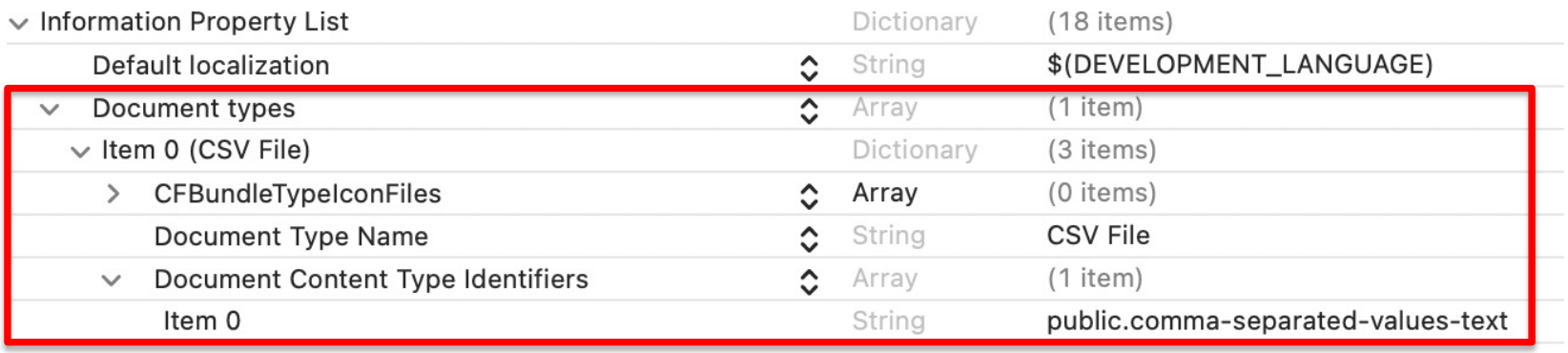
Documents Interactions

- Document Types and Receiving a Document
  - Apps can be registered to opening defined “types” of documents (.pdf, .jpg, etc)
  - This information is stored in the Info.plist (Info tab when editing a target in Xcode)
  - App will appear in the options for viewing
- `UIDocumentInteractionController` can be used to provide the reverse capability
  - Handing a document off to another app
  - Also can be used to preview a document



Document Architecture

- The `UIDocument` class provides a standardized object for common document functions
  - Background reading and writing
  - Autosave
  - Interfacing with iCloud
- Two key methods to override in order to use
  - `loadFromContents:ofType:error`: is used to load the document from disk
  - `contentsForType:Error:` is called when it is time to save a document to disk.
  - Need to convert into/out of `NSData` instance

Storing in iCloud

- Once an app uses UIDocument, iCloud integration is fairly simple, but error prone if you forget a step:
  - Need to turn iCloud “on” in Target/Capabilities
  - Make sure all the “Steps” are resolved (this may require update to Provisioning Profile)
  - Select what container you want to use
  - .entitlements file should appear
  - Ensure you are logged into iCloud on the device you are using
- iCloud is known as “Ubiquity” in code so that is the set of APIs you use.
- Search for files using `NSMetadataQuery()`

CloudKit

- Set of APIs to access iCloud storage and a Web Dashboard.
  - Store user preference/settings/etc to their iCloud account.
  - Define simple key/value database.
  - Web Dashboard manages record types and public data
- iCloud can be a substitute for traditional DBs for apps than manage a lot of data but don't have a lot of server-side logic
  - Other advantages – simplicity, trust, cost
- 7 fundamental objects in CloudKit
  - CKContainer – similar to the local sandbox
  - CKDatabase – 2 types, private and public
  - CKRecord – piece of data in the database (key/value)
  - CKRecordZone – location for a set of records
  - CKRecordIdentifier – unique label of a record for locating it
  - CKReference – relationship between items in database
  - CKAsset – similar to assets in a project (images, etc)

Online Console and Help

Console:

https://icloud.developer.apple.com/dashboard/home

NOTE: Only works if you have an iCloud ID. Or, press "CloudKit Console" button in Xcode

Documentation:

https://developer.apple.com/documentation/cloudkit