

# Digital Locker Sample Application for Azure Blockchain Marketplace¶

## Overview¶

The Digital Locker application expresses a workflow of sharing digitally locked files where the owner of the files controls the access to these files. We illustrate Digital Locker using an example of an owner performing access control to their document held by a bank. The state transition diagram below shows the interactions among the states in this workflow.

## Application Roles¶

Name Description Owner The owner of the digital asset. BankAgent The keeper of the digital asset. ThirdPartyRequestor A person requesting access to the digital asset. CurrentAuthorizedUser A person authorized to access the digital asset.

## States¶

Requested Indicates owner's request to make the digital asset available. DocumentReview Indicates that the bank agent has reviewed the owner's request. AvailableToShare Indicates that the bank agent has uploaded the digital asset and the digital asset is available for sharing. SharingWithThirdParty Indicates that the owner is reviewing a third party's request to access the digital asset. Terminated Indicates termination of sharing the digital asset.

## Workflow Details¶

An instance of the Digital Locker application's workflow starts in the Requested state when an Owner requests their bank to begin a process of sharing a document held by the bank. A BankAgent causes the state to transition to DocumentReview by calling the function BeginReviewProcess indicating that the process to review the request has begun. Once the review is complete, the BankAgent then makes the document available by uploading the documents. The AvailableToShare state can be thought of a perpetual state, more on this in a bit. Once the document is available to share, the document can be shared either with a third party that the owner has identified or any random third-party requestor. If the owner specifies the third-party requestor, then the state transitions from AvailableToShare to SharingWithThirdParty. If a random third-party requestor needs access to the document, then that third-party requestor first requests access to the document. At this point, the owner can either accept the request and grant access or reject the request. If the owner rejects the request to the random third-party requestor, then the state goes back to AvailableToShare. If the owner accepts the request to allow the random third-party request to access the document, then the state transitions to SharingWithThirdParty. Once the third-party requestor is done with the document, they can release the lock to the document and the state transitions to AvailableToShare. The owner can also cause the state to transition from SharingWithThirdParty to AvailableToShare when they revoke access from the third-party requestor. Finally, at any time during these transitions the bank agent can decide to terminate the sharing of the document once the document becomes available to share.

The happy path shown in the state transition diagram traces a path where the owner grants access to a random third party.

## Application Files¶

[DigitalLocker.json](#)

[DigitalLocker.sol](#)