1. **Domains -**

* Users
* Books
* Operations
  + Checkout
  + Return

1. **Services & API Endpoints-**

* Books Services
  + Add Book/s
  + Update Book
  + Remove Book
* Search Service
  + Search Book
* Operations Services (Checkin/Checkout)
  + Checkout Book
  + Return Book
* Users Service is entirely delegated to the IDP (OKTA)
  + Register User
  + Login User
  + Forgot/Reset Password
  + Deactivate User

1. **Infrastructure Resources Used (AWS & third party)**

* IDP (aws or OKTA)
* CDN (AWS or AKAMAI)
* Lambda Functions
* S3 buckets
* API Gateways
* Dynamo DB
* Redis Cache
* Elastic Search Service
* Key vault for secrets
* SQS
* SNS
* Network firewall
* VPN
* CloudWatch

1. **Assumptions & Limitations –**

* Infrastructure resources for scaling and/or deployment are not shown in the diagram below exa. Load balancers, multi region deployment/s, failover deployments. Rollbacks etc.
* For initial indexing and bootstrapping for uploading the books for the first time or very large upload of books ETL (AWS Glue) process can be designed. Not shown above.
* Primary user information is saved/handled by the IDP (OKTA/Cognito), additional info like address, payment info can be handled in the user service.
* Data Replication, multi region/s, caching strategy, CICD is not included in the above design.
* Only the Metadata of the books is stored in database, the content is stored on S3.
* Payment gateway is not included in the design but either amazon or a third-party payment gateway can be used.