# AWS for Librarians 1: Security and S3

**vanderbi.lt/learnaws**

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# What is AWS (Amazon Web Services)?

▼ All services

**Compute**
EC2
Lightsail ↗
ECR
ECS
EKS
Lambda
Batch
Elastic Beanstalk
Serverless Application Repository

**Storage**
S3
EFS
FSx
S3 Glacier
Storage Gateway
AWS Backup

**Database**
RDS
DynamoDB
ElastiCache
Neptune
Amazon Redshift
Amazon QLDB
Amazon DocumentDB

**Migration & Transfer**
AWS Migration Hub
Application Discovery Service
Database Migration Service
Server Migration Service
AWS Transfer for SFTP
Snowball
DataSync

**Networking & Content Delivery**
VPC
CloudFront
Route 53
API Gateway
Direct Connect
AWS App Mesh
AWS Cloud Map
Global Accelerator ↗

**Developer Tools**
CodeStar
CodeCommit
CodeBuild
CodeDeploy
CodePipeline
Cloud9
X-Ray

**Customer Enablement**
AWS IQ ↗
Support
Managed Services

**Robotics**
AWS RoboMaker

**Blockchain**
Amazon Managed Blockchain

**Satellite**
Ground Station

**Management & Governance**
AWS Organizations
CloudWatch
AWS Auto Scaling
CloudFormation
CloudTrail
Config
OpsWorks
Service Catalog
Systems Manager
Trusted Advisor
Control Tower
AWS License Manager
AWS Well-Architected Tool
Personal Health Dashboard ↗
AWS Chatbot

**Media Services**
Elastic Transcoder
Kinesis Video Streams
MediaConnect
MediaConvert
MediaLive
MediaPackage
MediaStore
MediaTailor
Elemental Appliances & Software

**Machine Learning**
Amazon SageMaker
Amazon Comprehend
AWS DeepLens
Amazon Lex
Machine Learning
Amazon Polly
Rekognition
Amazon Transcribe
Amazon Translate
Amazon Personalize
Amazon Forecast
Amazon Textract
AWS DeepRacer

**Analytics**
Athena
EMR
CloudSearch
Elasticsearch Service
Kinesis
QuickSight ↗
Data Pipeline
AWS Glue
AWS Lake Formation
MSK

**Security, Identity, & Compliance**
IAM
Resource Access Manager
Cognito
Secrets Manager
GuardDuty
Inspector
Amazon Macie ↗
AWS Single Sign-On
Certificate Manager
Key Management Service
CloudHSM
Directory Service
WAF & Shield
Artifact
Security Hub

**AWS Cost Management**
AWS Cost Explorer
AWS Budgets
AWS Marketplace Subscriptions

**Mobile**
AWS Amplify
Mobile Hub
AWS AppSync
Device Farm

**AR & VR**
Amazon Sumerian

**Application Integration**
Step Functions
Amazon EventBridge
Amazon MQ
Simple Notification Service
Simple Queue Service
SWF

**Customer Engagement**
Amazon Connect
Pinpoint
Simple Email Service

**Business Applications**
Alexa for Business
Amazon Chime ↗
WorkMail

**End User Computing**
WorkSpaces
AppStream 2.0
WorkDocs
WorkLink

**Internet of Things**
IoT Core
Amazon FreeRTOS
IoT 1-Click
IoT Analytics
IoT Device Defender
IoT Device Management
IoT Events
IoT Greengrass
IoT SiteWise
IoT Things Graph

**Game Development**
Amazon GameLift

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# What is AWS?

AWS Identity and Access Management

Amazon Simple Storage Service

AWS Command Line Interface

Amazon Translate

AWS Lambda

Amazon EC2

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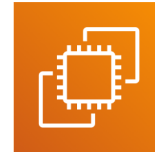
# Set up an account

- Go to https://aws.amazon.com/ and click on "Create an AWS Account".

- A credit card is required, but unless you do something computationally intensive, it will be free for the first year.

# Set up security

- **http://vanderbi.lt/learnaws** for procedure for setting up an IAM user (with screenshots)

- Be sure to save your credentials and bookmark the login link.

- After creating IAM user, log out and back in again as that user.

# Picking a region

- When using AWS services, you can set a regional center from which to run the services.

- It's best to pick one located near you.

- For Vanderbilt, US East (N. Virginia) or US East (Ohio) are best.  These are also known as us-east-1 and us-east-2.

- Once you've picked a region, don't change it because services won't necessarily work across regions.

# S3 buckets

- S3 = simple storage service
- Like other cloud storage services, but:
  - cheap
  - high availability (99.9% uptime)
  - high durability (99.999999999% = "nine nines"
  - automatic versioning possible
  - automatic encryption possible
- Secure, but can be made publicly available
- Data region can be selected (if required by funders)

# Create an S3 bucket & load a file

- Bucket name must be globally unique since accessible via URL.  Lower case only.

- Leave all options at defaults and create.

- Click "Upload", then add a file. Select the "Upload" button for all default settings or "Next" to select settings (such as allowing access to another account).

# Making a file available through a URL

- Public Access must be unblocked.

- Public access to the individual file must also be allowed.

- Go to the link on the landing page for instructions and screenshots.