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Theoretical:

What is Cloud Storage?

Cloud storage is a service model in which data is transmitted and stored on remote storage systems, where it is maintained, managed, backed up and made available to users over a network -- typically, the internet. Users generally pay for their cloud data storage on a per-consumption, monthly rate.

Cloud storage is based on a virtualized storage infrastructure with accessible interfaces, near-instant elasticity and scalability, multi-tenancy, and metered resources. Cloud-based data is stored in logical pools across disparate, commodity storage servers located on in a data center managed by a third-party cloud provider like AWS.

Cloud service providers manage and maintain data transferred to the cloud. Storage services are provided on demand in the cloud, with capacity increasing and decreasing as needed.

What are some of the benefits of using cloud storage?

1-Security: they provide security and store your data safely
2-Cost-efficient: renting servers in most cases is the better option than trying to build the infrastructure of your servers yourself
3-Convenient sharing of files: most could storages provide multiple ways to share your files
4-Automation
5-Multiple users can use the same storage
6-Scalable: Most of cloud providers handle scalability for you and make it easy for you to focus on development features for your users rather than the headache of scalability
7- Flexibility You can access data while you're at home, on vacation, or travelling to and from work.

Disadvantages of Cloud Computing

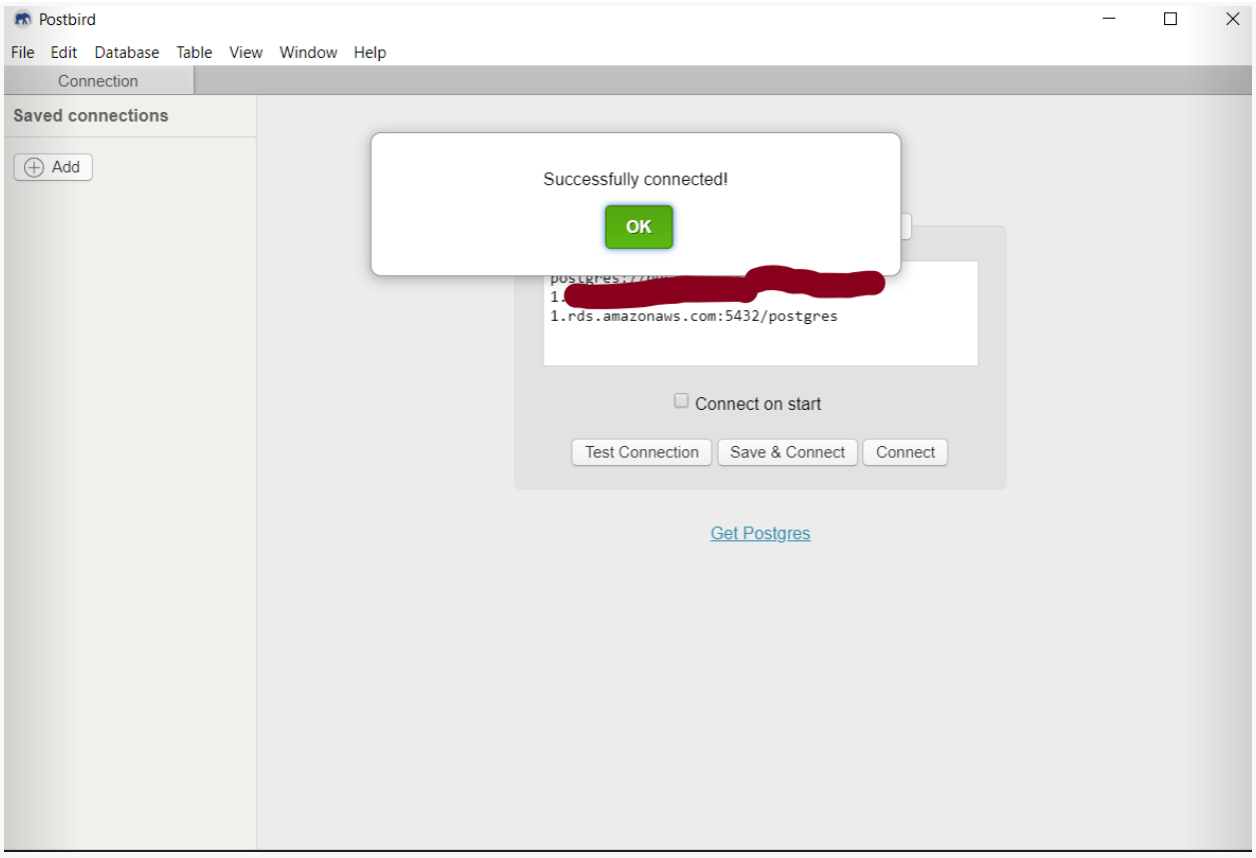
1- **Internet Connectivity** We use an internet connection to access this data via the cloud. You cannot access this data if your internet connection is poor.
2- **Vendor lock-in** Transferring an organization's services from one vendor to another could provide challenges. Moving from one cloud to another might be challenging because different vendors offer various platforms.
3- **Limited Control** The function and execution of services within a cloud infrastructure are less within the control of cloud users because they are service provider-monitored.
4- **Security** Before implementing cloud technology, you should be aware that you will be giving a cloud computing service provider access to all of your company's sensitive data. There's a danger that hackers will steal the data from your company while it's being sent via the cloud.

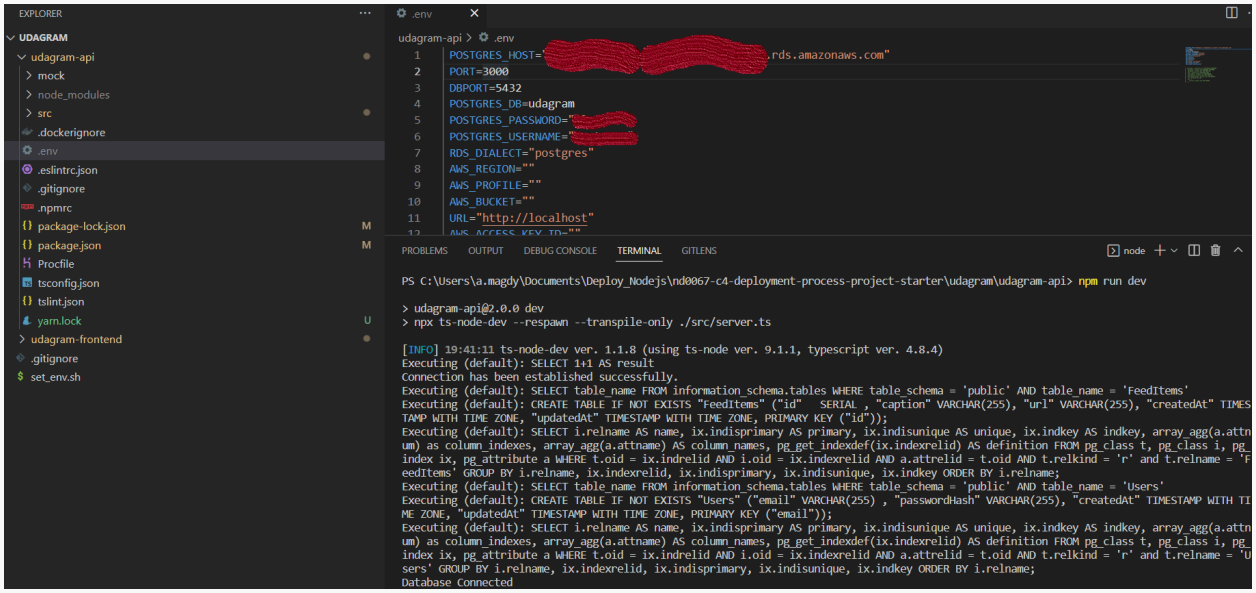
How does cloud storage work?

Cloud storage is delivered by a cloud services provider that owns and operates data storage capacity by maintaining large data centers in multiple locations around the world. Cloud storage providers manage capacity, security, and durability to make data accessible to your applications over the internet in a pay-as-you-go model. Typically, you connect to the storage cloud either through the internet or through a dedicated private connection, using a web portal, website, or a mobile app. When customers purchase cloud storage from a service provider, they turn over most aspects of the data storage to the vendor, including capacity, security, data availability, storage servers and computing resources, and network data delivery. Your applications access cloud storage through traditional storage protocols or directly using an application programming interface (API). The cloud storage provider might also offer services designed to help collect, manage, secure, and analyze data at a massive scale.

PRACTICAL

Connect our project to an Amazon RDS database


Postbird
File Edit Database Table View Window Help
Connection
Saved connections
Add
Successfully connected!
OK
1.rds.amazonaws.com:5432/postgres
Connect on start
Test Connection
Save & Connect
Connect
Get Postgres


EXPLORER
UDAGRAM
udagram-api
mock
node_modules
src
.dockerignore
.env
.eslintrc.json
.gitignore
.npmrc
package-lock.json
package.json
Procfile
tsconfig.json
tslint.json
yarn.lock
udagram-frontend
.gitignore
set_env.sh
.env
udagram-api > .env
POSTGRES_HOST="
.rds.amazonaws.com"
PORT=3000
DBPORT=5432
POSTGRES_DB=udagram
POSTGRES_PASSWORD="
POSTGRES_USERNAME="
RDS_DIALECT="postgres"
AWS_REGION=""
AWS_PROFILE=""
AWS_BUCKET=""
URL="http://localhost"
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS
node
PS C:\Users\a.magdy\Documents\Deploy_Nodejs\nd0067-c4-deployment-process-project-starter\udagram\udagram-api> npm run dev
> udagram-api@2.0.0 dev
> npx ts-node-dev --respawn --transpile-only ./src/server.ts
[INFO] 19:41:11 ts-node-dev ver. 1.1.8 (using ts-node ver. 9.1.1, typescript ver. 4.8.4)
Executing (default): SELECT 1+1 AS result
Connection has been established successfully.
Executing (default): SELECT table_name FROM information_schema.tables WHERE table_schema = 'public' AND table_name = 'FeedItems'
Executing (default): CREATE TABLE IF NOT EXISTS "FeedItems" ("id" SERIAL , "caption" VARCHAR(255), "url" VARCHAR(255), "createdAt" TIMESTAMP WITH TIME ZONE, "updatedAt" TIMESTAMP WITH TIME ZONE, PRIMARY KEY ("id"));
Executing (default): SELECT i.relname AS name, ix.indisprimary AS primary, ix.indisunique AS unique, ix.indkey AS indkey, array_agg(a.attnum) as column_indexes, array_agg(a.attname) AS column_names, pg_get_indexdef(ix.indexrelid) AS definition FROM pg_class t, pg_class i, pg_index ix, pg_attribute a WHERE t.oid = ix.indrelid AND i.oid = ix.indexrelid AND a.attrelid = t.oid AND t.relkind = 'r' and t.relname = 'FeedItems' GROUP BY i.relname, ix.indexrelid, ix.indisprimary, ix.indisunique, ix.indkey ORDER BY i.relname;
Executing (default): SELECT table_name FROM information_schema.tables WHERE table_schema = 'public' AND table_name = 'Users'
Executing (default): CREATE TABLE IF NOT EXISTS "Users" ("email" VARCHAR(255) , "passwordHash" VARCHAR(255), "createdAt" TIMESTAMP WITH TIME ZONE, "updatedAt" TIMESTAMP WITH TIME ZONE, PRIMARY KEY ("email"));
Executing (default): SELECT i.relname AS name, ix.indisprimary AS primary, ix.indisunique AS unique, ix.indkey AS indkey, array_agg(a.attnum) as column_indexes, array_agg(a.attname) AS column_names, pg_get_indexdef(ix.indexrelid) AS definition FROM pg_class t, pg_class i, pg_index ix, pg_attribute a WHERE t.oid = ix.indrelid AND i.oid = ix.indexrelid AND a.attrelid = t.oid AND t.relkind = 'r' and t.relname = 'Users' GROUP BY i.relname, ix.indexrelid, ix.indisprimary, ix.indisunique, ix.indkey ORDER BY i.relname;
Database Connected