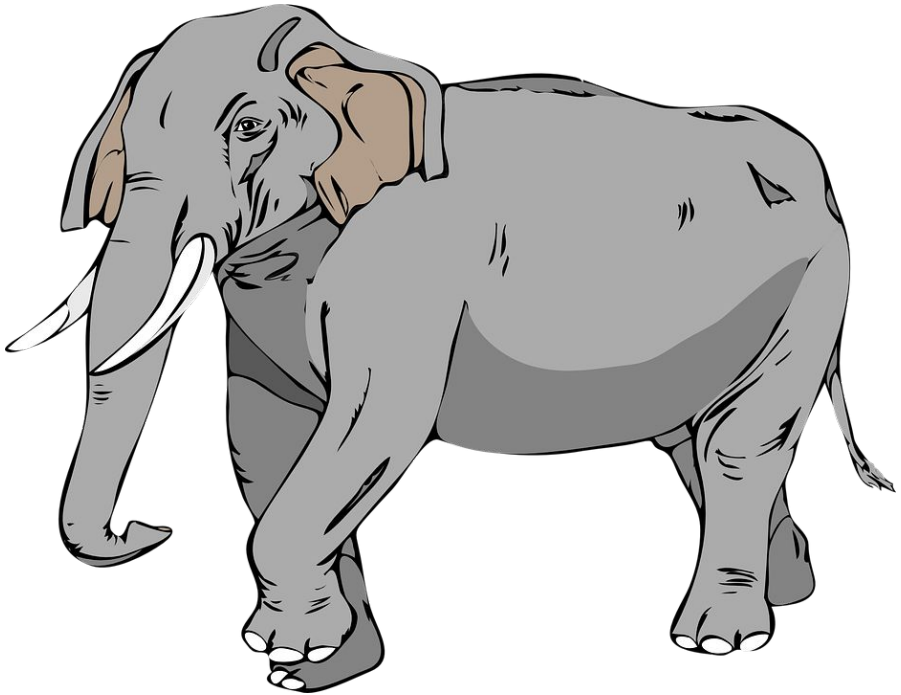

mongoDB®

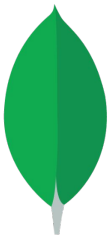
Mongo

- Slang term for huge



Huge

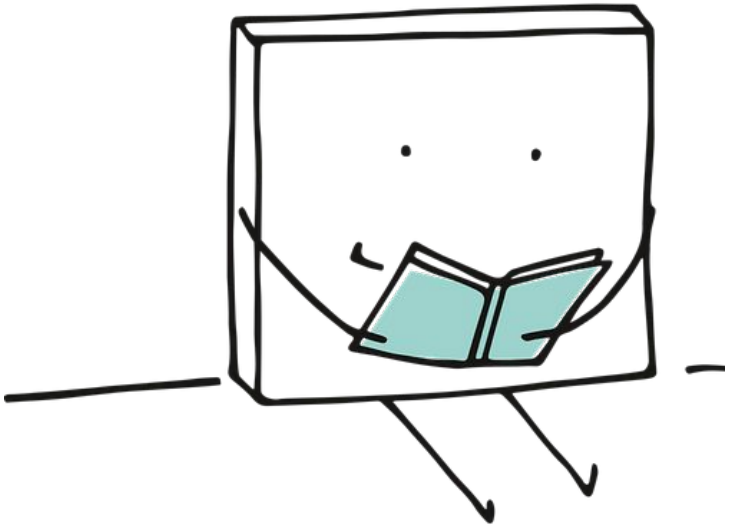
- Can store *a lot* of data



mongoDB®

- Easy
- Flexible
- Scalable

- Built for speed



- Easy readability
  - Rich document based queries

- High performance
  - Full index support

- High availability
  - Replication and failover

- Great for
  - Web applications
  - Semi structured content management
  - Real time analytics
  - High speed logging
  - Caching
  - High scalability

- Great for
  - Web
  - SaaS
  - Games
  - Healthcare
  - Finance
  - Government

NoSQL

- *Not only SQL*

NoSQL

- non tabular
- non-relational database
- stores data differently than relational tables

NoSQL

- can store relationship data
- stores differently than relational databases

NoSQL

- Emerged in the late 2000s
- As cost of storage decreased
- Complex, hard to manage databases were no longer needed just to reduce data duplication

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- **4 major types of NoSQL**
  - Document databases
    - store data in documents similar to JSON (JavaScript Object Notation) objects

- **4 major types of NoSQL**
  - Key-value databases
    - simpler type of database
    - each item contains keys and values

- **4 major types of NoSQL**
  - Wide-column databases
    - store data in tables, rows, and dynamic columns.

- **4 major types of NoSQL**
  - Graph databases
    - store data in nodes and edges

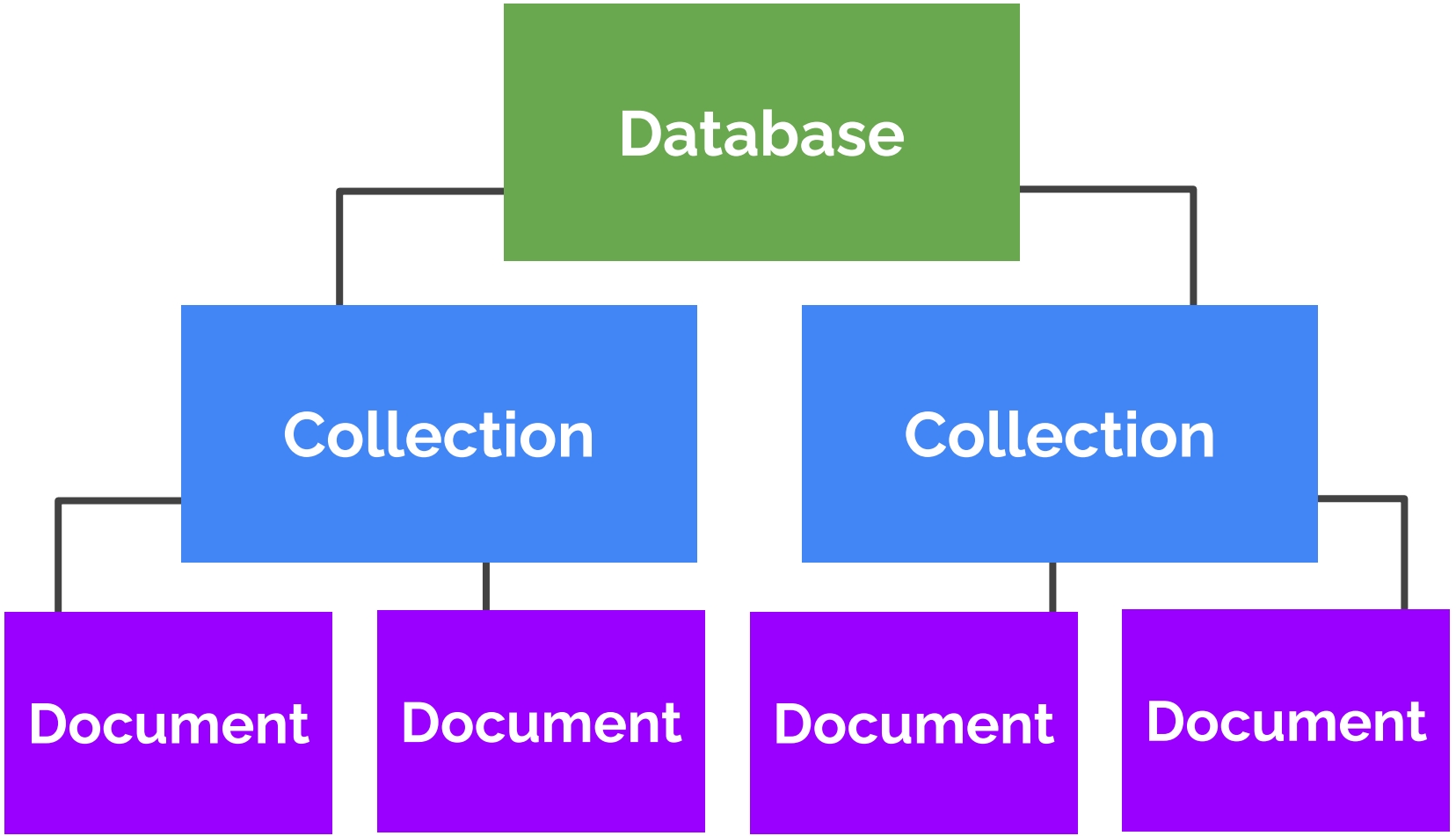
NoSQL

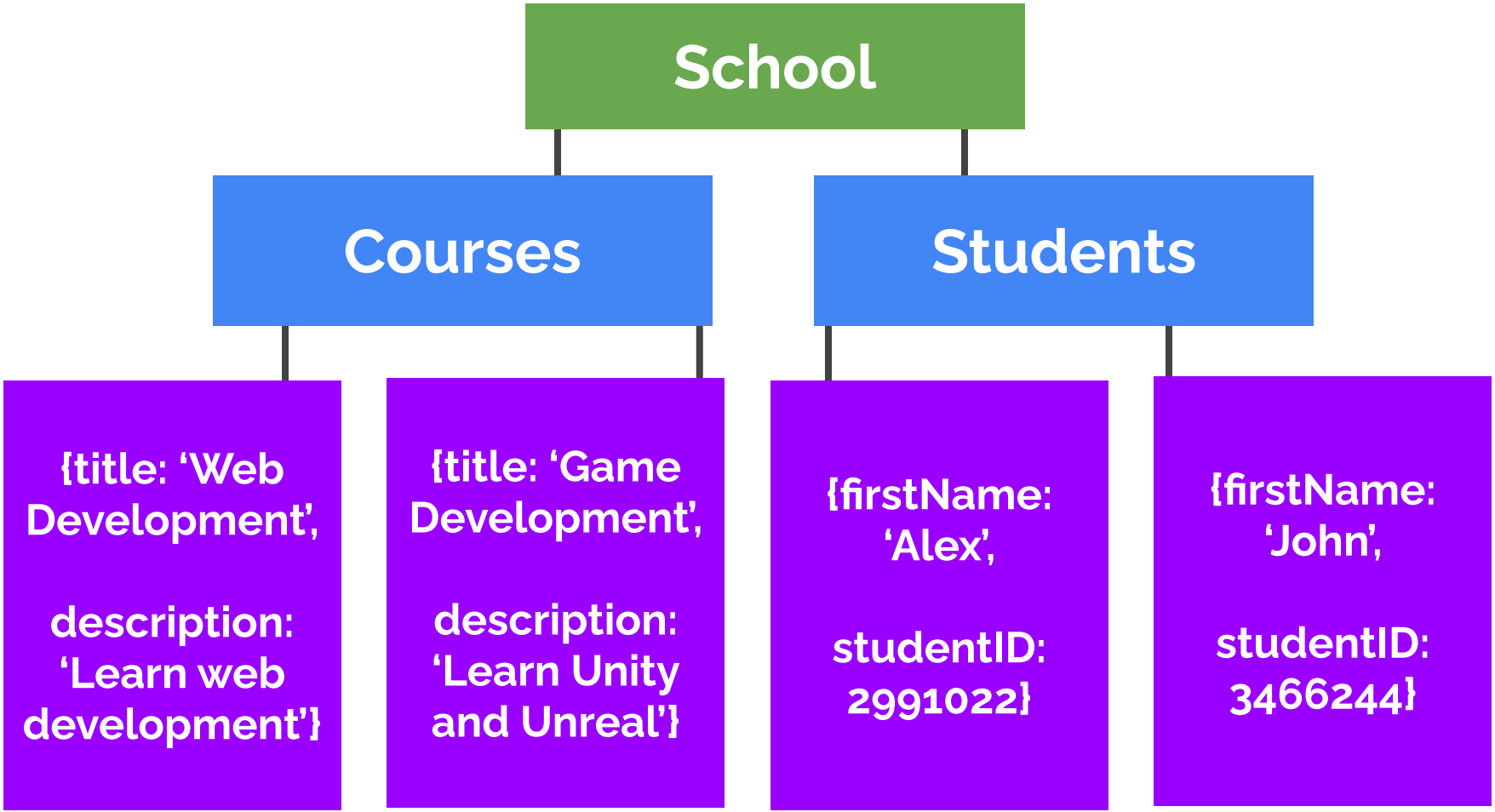
- fully supports agile development
- does not statically define how the data must be modeled

NoSQL

- Operate at any scale
- Used at many companies

- open-source
- one of the widely recognised NoSQL databases
- written in C++


Database
Collection
Collection
Document
Document
Document
Document


School
Courses
Students
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{title: 'Game Development',
description: 'Learn Unity and Unreal'}
{firstName: 'Alex',
studentID: 2991022}
{firstName: 'John',
studentID: 3466244}

Database

- physical **container** for collections.
- gets its own set of files on the file system.

1 MongoDB server typically has multiple databases.

Collection

- Table
- group of documents
- does not enforce a schema.

Document

- Record (row)
- Set of key-value pairs.

Document

- **dynamic schema**
  - documents in the same collection don't need to have the same set of fields or structure


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