



# Google Cloud Datastore

Google Cloud Platform



Google Cloud Platform

# Agenda

1

Datastore Overview

2

Basic Terminology and Concepts

3

Lab

# Datastore

- [NoSQL](#) store for **billions** of rows
- **Schemaless** access, no need to think about underlying data structure
- Local development tools
- Automatic **scaling** and fully **managed**
- Built-in redundancy
- Support for [ACID](#) **transactions**
- Includes a **free** daily quota
- Access from anywhere through a [RESTful interface](#)



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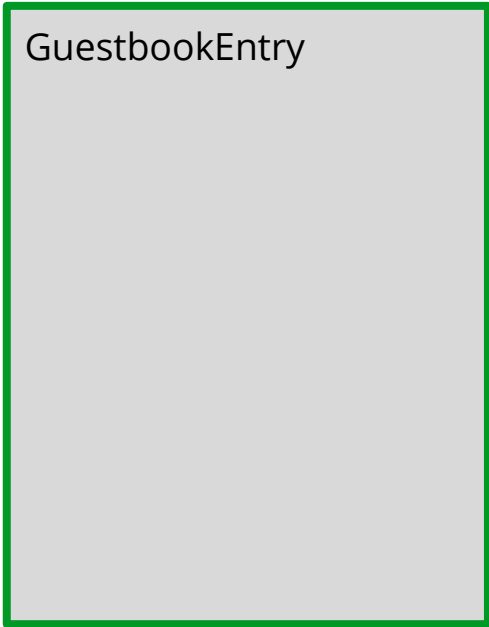
# Kinds

- Start by defining one or more Kinds for the Datastore model
- Correspond to a table in a relational database

Author

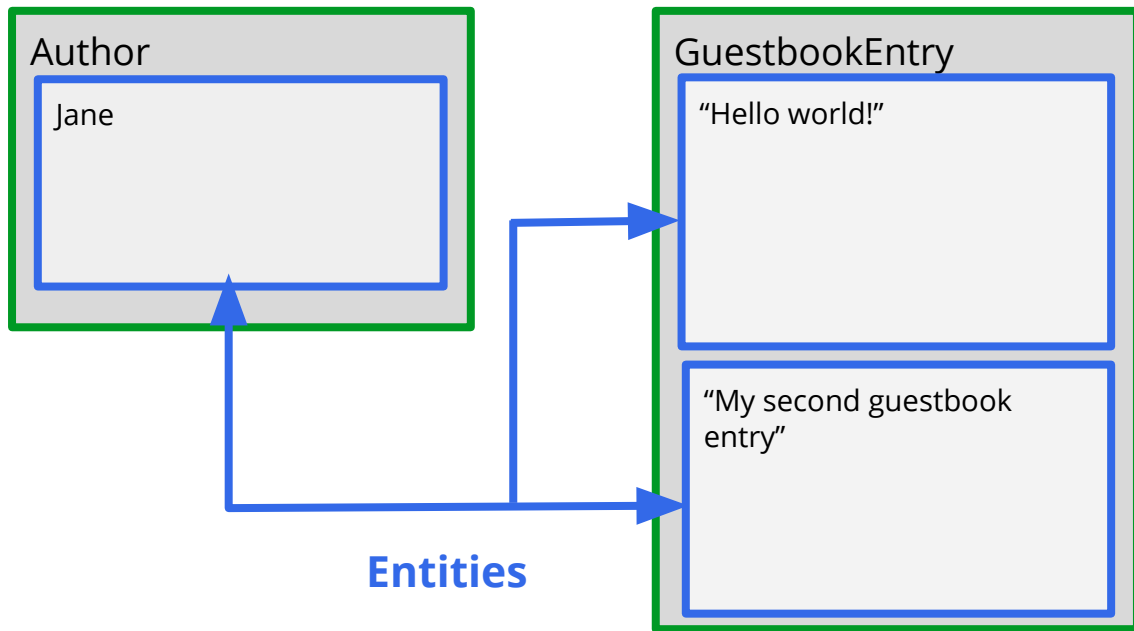


GuestbookEntry



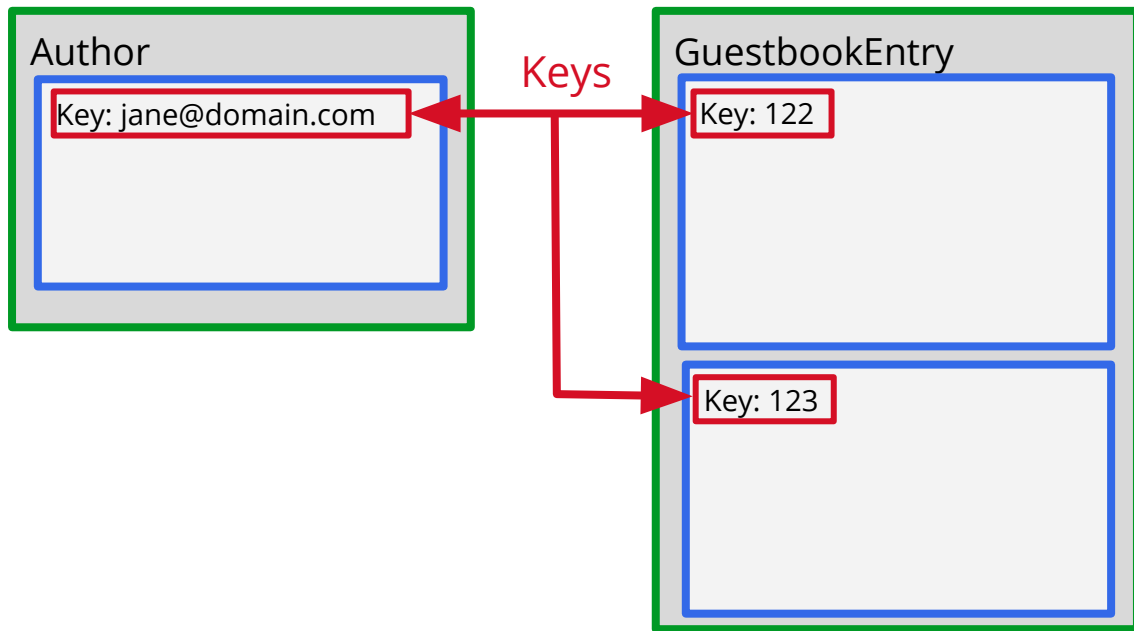
# Entities

- Kinds are used to categorize entities for queries
- Each entity is of a particular kind
- Entities correspond to a row in a relational database



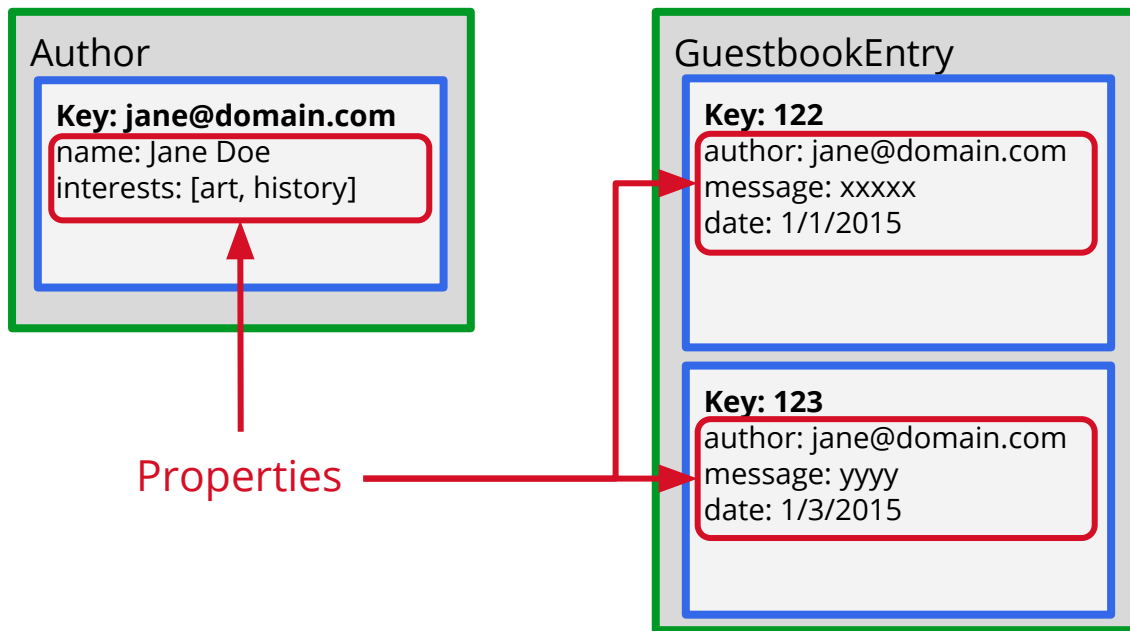
# Keys

- An entity is identified by a key
- Corresponds to a primary key in a relational database



# Properties

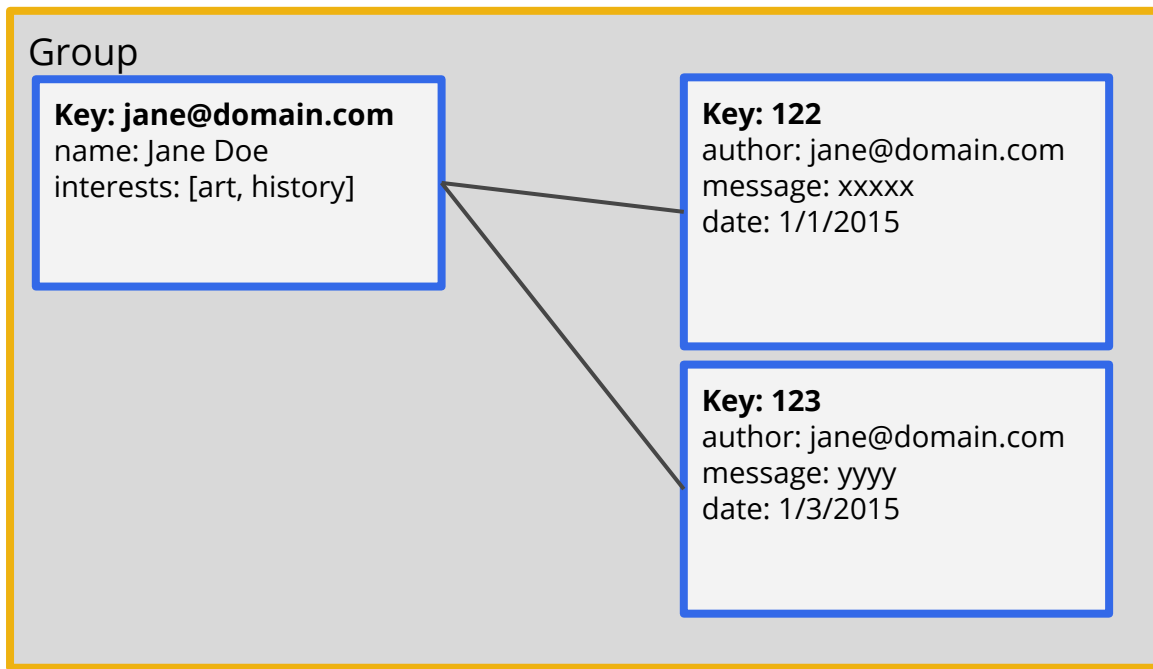
- Entities describe data using properties
- Corresponds to a field in a relational database
- Two entities of the same kind can have different properties





# Entity Groups

- Entities can be organized into groups
- Can include entities of different kinds
- Entity groups are used:
  - To achieve **strong consistency**
  - In transactions



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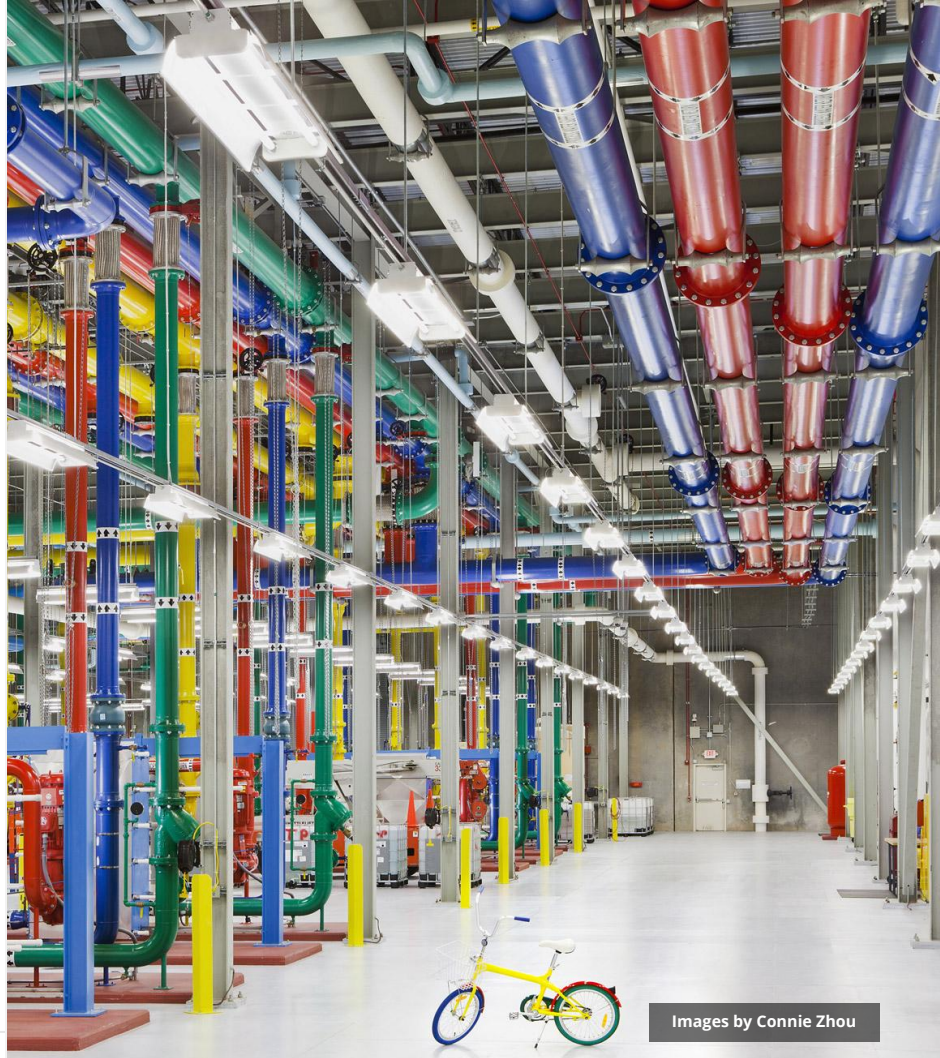
3

Lab

# Lab (1 of 2)

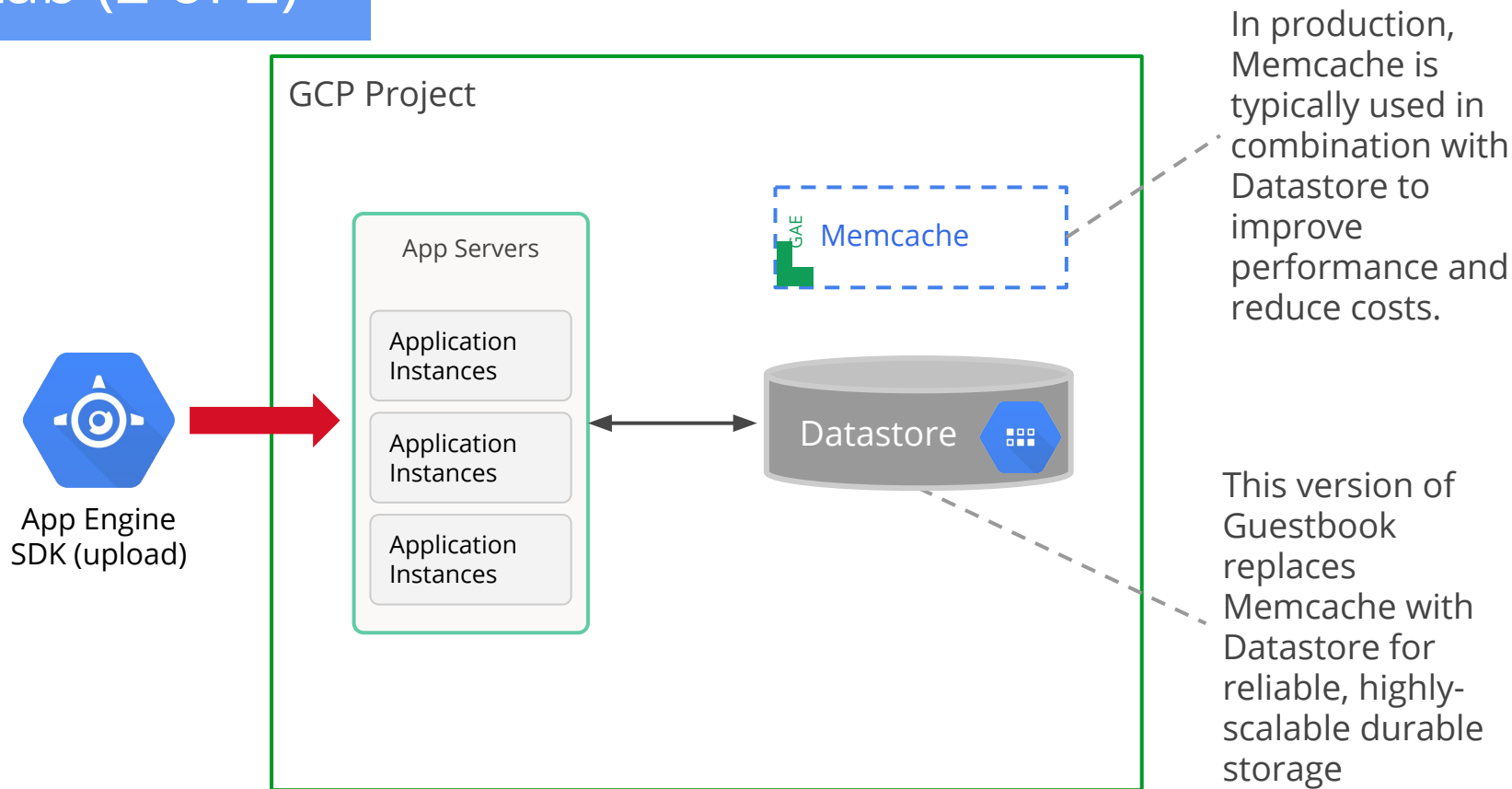
Deploy the Guestbook application on App Engine using Datastore.

1. Deploy a Python frontend
2. Clone a copy of the Guestbook application with Datastore persistent storage in either Python or Java
3. Upload the application to App Engine
4. Test the application in your browser



Images by Connie Zhou

## Lab (2 of 2)



# Resources

- Cloud Datastore: Features, pricing, and documentation  
<https://cloud.google.com/datastore/>
- Datastore Concepts Overview  
<https://cloud.google.com/datastore/docs/concepts/overview>
- Getting started with Google Cloud Datastore and Java/Protobuf  
[https://cloud.google.com/datastore/docs/getstarted/start\\_java/](https://cloud.google.com/datastore/docs/getstarted/start_java/)
- Getting started with Google Cloud Datastore and Python/Protobuf  
[https://cloud.google.com/datastore/docs/getstarted/start\\_python/](https://cloud.google.com/datastore/docs/getstarted/start_python/)





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