



JÖNKÖPING UNIVERSITY

School of Engineering

CLOUD FIRESTORE

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WHAT IS FIREBASE?

Started out as a company with one product:

- Firebase: realtime-database-as-a-service.
- Google bought the company.
- More products added: <https://firebase.google.com/products/>

WHAT IS FIRESTORE?

Realtime-database-as-a-service.

- Realtime.
- Rules on the server.
- NoSQL Document database.
 - Designed to be scalable.
- Pricing: <https://firebase.google.com/pricing/>



DOCUMENT DATABASES

Relational database: Tables store posts.

Document database: Collections store documents.

Humans collection:

1: {Name: "Alice", Age: 10}

2: {Name: "Bob", Age: 15}

3: {Name: "Claire", Age: 20}

Pets collection:

1: {Name: "Catty", HumanId: 1}

2: {Name: "Doggy", HumanId: 2}

3: {Name: "Fishy", HumanId: 1}

Id	Name	Age
1	Alice	10
2	Bob	15
3	Claire	20

Humans

Id	Name	HumanId
1	Catty	1
2	Doggy	2
3	Fishy	1

Pets

DOCUMENT DATABASES

Relational database: Tables store posts.

Document database: Collections store documents.

Humans collection:

1: {Name: "Alice", Age: 10, Pets: ["Catty", "Fishy"]}

2: {Name: "Bob", Age: 15, Pets: ["Doggy"]}

3: {Name: "Claire", Age: 20, Pets: []}

Id	Name	Age
1	Alice	10
2	Bob	15
3	Claire	20

Humans

Id	Name	HumanId
1	Catty	1
2	Doggy	2
3	Fishy	1

Pets

DOCUMENT DATABASES

Relational database: Tables store posts.

Document database: Collections store documents.

Humans collection with sub collection:

- 1: {Name: "Alice", Age: 10, Pets: SubCollection}
- 2: {Name: "Bob", Age: 15, Pets: SubCollection}
- 3: {Name: "Claire", Age: 20, Pets: SubCollection}

Id	Name	Age
1	Alice	10
2	Bob	15
3	Claire	20

Humans

Id	Name	HumanId
1	Catty	1
2	Doggy	2
3	Fishy	1

Pets

IT'S SCALEABLE!

The comparison can be <, <=, ==, >, >=, or array_contains.

- != not supported 😞

You can only perform range comparisons (<, <=, >, >=) on a single field, and you can include at most one array_contains clause in a compound query.

- Id > 2 and HumanId <= 5 not supported 😞

Id	Name	Age
1	Alice	10
2	Bob	15
3	Claire	20

Humans

Id	Name	HumanId
1	Catty	1
2	Doggy	2
3	Fishy	1

Pets

EXAMPLE

Tutorial: <https://firebase.google.com/docs/firestore/quickstart>

Firestore Console: <https://console.firebase.google.com/>