

Choosing between Cloud Firestore and Cloud Datastore についての共有

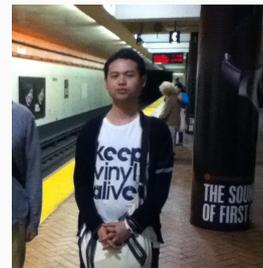
2018.08.17 GCPUG Fukuoka



自己紹介

是枝 直樹

- @naoki_koreeda
- グルービーモバイル株式会社
- GCPUG Beginners Tokyo 前オーガナイザ
- PHPカンファレンス福岡 2018 実行委員



今日お話しすること

FirestoreきたらDatastore
死ぬの？今使ってるけど
どうなるの？

※Firestoreの話はしません

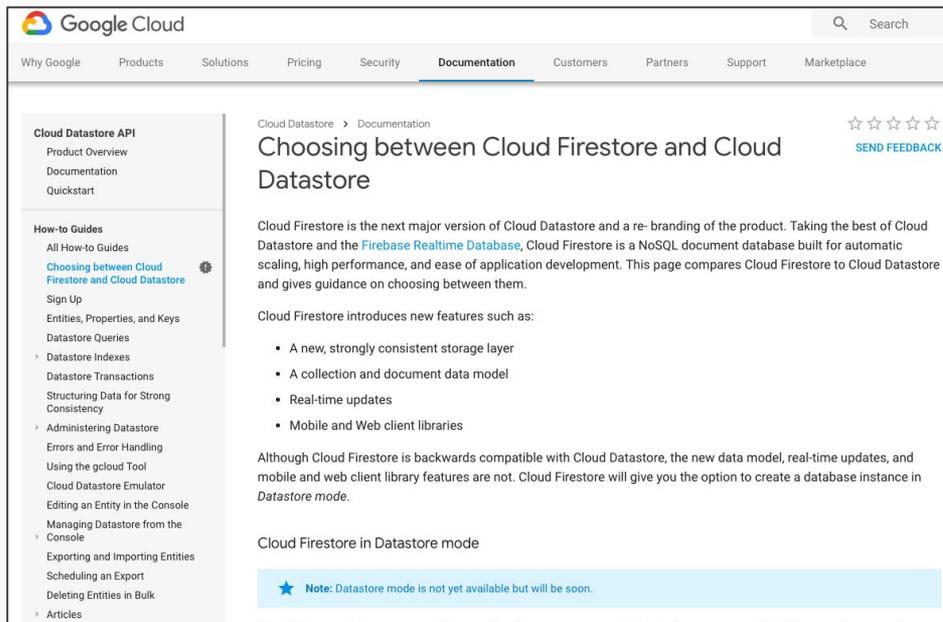
どういうことか

- GCPにCloud Firestoreがやって来る(もう来てる)
- 2つのプロダクト
 - Cloud Firestore in Native Mode : 今あるFirestoreのこと
 - Cloud Firestore in Datastore Mode : これがDatastoreに取って代わる
 - 今使ってるDatastoreはどうなる？

結論

→ 気にしなくて大丈夫

こんなページが



The screenshot shows the Google Cloud documentation page for "Choosing between Cloud Firestore and Cloud Datastore". The page is part of the "Cloud Datastore API" documentation. The main content area includes a breadcrumb trail "Cloud Datastore > Documentation", a star rating of five stars, and a "SEND FEEDBACK" link. The article title is "Choosing between Cloud Firestore and Cloud Datastore". The text explains that Cloud Firestore is the next major version of Cloud Datastore and a re-branding of the product. It highlights features such as a new, strongly consistent storage layer, a collection and document data model, real-time updates, and mobile and web client libraries. A note at the bottom states: "★ Note: Datastore mode is not yet available but will be soon."

- Choosing between Cloud Firestore and Cloud Datastore

<https://cloud.google.com/datastore/docs/firestore-or-datastore?hl=en>

Choosing between Cloud Firestore and Cloud Datastore

Cloud Datastore > Documentation

Choosing between Cloud Firestore and Cloud Datastore

Contents

Cloud Firestore in Datastore mode

Choosing a database

Which database is right for your project?

Feature comparison

Cloud Firestore is the next major version of Cloud Datastore and a re-branding of the product. Taking the best of Cloud Datastore and the [Firebase Realtime Database](#), Cloud Firestore is a NoSQL document database built for automatic scaling, high performance, and ease of application development. This page compares Cloud Firestore to Cloud Datastore and gives guidance on choosing between them.

Cloud Firestoreは、Cloud Datastoreの次期メジャーバージョンです

Choosing between Cloud Firestore and Cloud Datastore

- The project will use Cloud Datastore indexes instead of Cloud Firestore indexes.
- You can use Cloud Datastore client libraries with this project but not Cloud Firestore client libraries.
- Cloud Firestore real-time capabilities will not be available.
- In the GCP console, the database will use the Cloud Datastore viewer.

Automatic upgrade to Cloud Firestore in Datastore mode

After Cloud Firestore is released as a GA product, [we will gradually upgrade existing Cloud Datastore databases to Cloud Firestore in Datastore mode.](#)

Choosing a database

When you create a new Cloud Datastore instance, you will have the option to create a Cloud Datastore database or a Cloud Firestore database. Additionally, a Cloud Firestore database can run in one of two modes, Native mode or Datastore mode. This gives you the following three options:



Cloud Datastore

Creates a Cloud Datastore database with existing features and limitations.



Cloud Firestore in Datastore mode

Automatic upgrade to Cloud
Firestore in Datastore mode

Cloud FirestoreがGA製品としてリリースされた後は、既存のCloud Datastoreを徐々にCloud Firestore in Datastore mode にアップグレードします

リンク先のページ

The screenshot shows the Google Cloud documentation page for 'Automatic Upgrade to Cloud Firestore'. The page is titled 'Automatic Upgrade to Cloud Firestore' and is part of the 'Cloud Datastore > Documentation' section. The page content includes a table of contents with items like 'Automatic upgrade to Cloud Firestore in Datastore mode' and 'Testing an existing application'. A paragraph explains that the page describes the upgrade path from Cloud Datastore to Cloud Firestore. Another paragraph states that Cloud Firestore can operate in 'Datastore mode', making it backwards-compatible with Cloud Datastore. The page also features a 'Tutorials' section with 'Using the Datastore API' and a 'Support' section with 'All Support' and 'Getting Support'. The page is styled with a blue header and a white background.

- Automatic Upgrade to Cloud Firestore

<https://cloud.google.com/datastore/docs/upgrade-to-firestore>

Automatic Upgrade to Cloud Firestore

This page describes the upgrade path from Cloud Datastore to Cloud Firestore.

Cloud Firestore can operate in *Datastore mode*, making it backwards-compatible with Cloud Datastore. By creating a Cloud Firestore database in Datastore mode, you can access Cloud Firestore's improved storage layer while keeping Cloud Datastore system behavior. After Cloud Firestore is released as a GA product, Google will gradually upgrade existing Cloud Datastore databases to Cloud Firestore in Datastore mode.

Automatic upgrade to

Cloud FirestoreはDatastoreモードで動作し、
Cloud Datastoreと後方互換性があります。

Automatic Upgrade to Cloud Firestore

Some time after Cloud Firestore is released for general availability, we will be contacting owners of existing Cloud Datastore databases to schedule an upgrade to Cloud Firestore in Datastore mode.

If you have an application that uses Cloud Datastore, you will not need to update application code and we will notify you about the schedule of your application's upgrade to Datastore Mode. The upgrade will not require downtime.

★ **Note:** You cannot manually upgrade a Cloud Datastore database to Cloud Firestore in Datastore mode.

For additional questions about the upgrade, contact one of our support channels.

Cloud Firestore

Cloud Firestoreが一般に公開されてからある程度の時間が経過すると、既存のCloud Datastoreの所有者に連絡して、Cloud Firestore in Datastore mode への自動アップグレードをスケジュールする予定です。

Cloud Datastoreを使用するアプリケーションをお持ちの場合、アプリケーションコードを更新する必要はなく、アプリケーションのDatastoreモードへのアップグレードのスケジュールについて通知させていただきます。

アップグレードはダウンタイムを必要
としません。

Some time after Cloud Firestore
contacting owners of existing Cloud
upgrade to Cloud Firestore in Datastore mode.

If you have an application that uses Cloud Datastore, you will need to update your
application code and we will notify you about the start of your application's
upgrade to Datastore Mode. The upgrade will not require downtime.

★ **Note:** You cannot manually upgrade an existing Cloud Datastore database to Cloud
Firestore in Datastore mode.

For additional questions about the automatic upgrade process, see our
[support channels](#).

Cloud Firestore in Datastore mode

既存のCloud Datastoreデータベースを
Cloud Firestore in Datastore mode に手動
でアップグレードすることはできません。

Automatic Upgrade to Cloud Firestore

Testing an existing application

★ **Note:** Datastore mode is not yet available but will be soon.

For an existing app that uses Cloud Datastore, you can test Firestore in Datastore mode by doing the following:

1. Create a new project. In this project, create a Cloud Firestore database.
2. Using the [managed export service](#), export some of your application's data to Cloud Storage.
3. Using the [managed import service](#), import your application's data to the new project.
4. Copy app logic you want to test to the new project or simulate requests against the new project.

既存のアプリケーションのテスト

新しくプロジェクト作って、
Firestore in Datastore Mode を作って、
既存のDatastoreからデータエクスポートして、
新しいほうにデータインポートして、
自分のアプリをコピーしてそっちを使用する、
というごく当たり前のことが書いてあるだけ。

Dan McGrath - prodmgmt with google

Introducing: Datastore mode

The next generation (3rd) of Cloud Datastore

- Supports existing API and client libraries
- Strongly consistent
- 99.999% Availability (for Multi-Region)
- Existing users will be upgraded

Beta starts in August

13:08 - 2018年7月26日

1件のリツイート 6件のいいね

返信をツイート

Dan McGrath @daniswrong · 7月26日

Speaking of which, that brings us to the 3rd announcement: Automatic upgrade from Cloud Datastore to Cloud Firestore in Datastore mode - no downtime, no code changes!

ツイートを翻訳

Cloud Datastore: Upgrade

<u>No Downtime</u>	<u>Code Compatible</u>	<u>Starts after GA</u>
Upgraded live No action required	No code changes required Supports existing <ul style="list-style-type: none">• functionality• APIs• Client Libraries	New databases during Beta After GA, upgrades start Will complete in 2019

<https://twitter.com/danisw rong/status/10223329003 37836033>

Datastore自体の移行は
何もしなくて大丈夫そう

REST API とか

クライアントライブラリ

使ってるけど、そっちは

大丈夫か

Choosing between Cloud Firestore and Cloud Datastore

機能比較

Feature comparison

The following table compares the system behavior of the three database options:

	Cloud Datastore	Cloud Firestore Datastore Mode	Cloud Firestore Native Mode
Data model	Entities organized into kinds and entity groups.	Entities organized into kinds and entity groups.	Document database organized into documents and collections.
Storage Layer	Storage layer is strongly consistent only in certain cases, eventually consistent elsewhere	New storage layer that is always strongly consistent	New storage layer that is always strongly consistent
Queries and transactions	<ul style="list-style-type: none">Cloud Datastore is strongly consistent only within entity groups and eventually consistent across entity groupsEventually consistent queries sometimes return stale results.Transactions limited to 25 entity groups.	<ul style="list-style-type: none">Removes the consistency limitations of Cloud DatastoreStrongly consistent queries across the entire databaseTransactions can access any number of entity groups	<ul style="list-style-type: none">Strongly consistent queries across the entire databaseUp to 500 document transactions per secondSupports aggregation queries and projection queries.
Cloud Datastore v1 API support	Yes	Yes	No, requests are denied
Cloud Firestore v1beta1 API support	No, requests are denied	No, requests are denied	Yes
Real-time updates	Not supported	Not supported	Supports the ability to listen to a document or a set of documents

Cloud Datastore
v1 API support
が yes

Choosing between Cloud Firestore and Cloud Datastore

Offline data persistence	Not supported	Not supported	The mobile and web client libraries support offline persistence.
Client libraries	Cloud Datastore Client libraries: <ul style="list-style-type: none">• Java• Python• PHP• Go• Ruby• C#• Node.js	Cloud Datastore Client libraries: <ul style="list-style-type: none">• Java• Python• PHP• Go• Ruby• C#• Node.js	Cloud Firestore client libraries: <ul style="list-style-type: none">• Java• Python• PHP• Go• Ruby• C#• Android• iOS• Web
Security	Cloud Identity and Access Management (IAM) manages database access	Cloud Identity and Access Management (IAM) manages database access	<ul style="list-style-type: none">• Cloud Identity and Access Management (IAM) manages database access• Cloud Firestore Security Rules support serverless authentication and authorization for the mobile and web client libraries

クライアントライブラリのサポート言語はまったく同じ

実際にクライアントライブラリ(PHP)のソースを見てみましょう。

<https://github.com/GoogleCloudPlatform/google-cloud-php-datastore>

古いものも存在します (PHPだけ?)

<https://github.com/Google/google-api-php-client-services>

ソースコードも

何も変更しなくて大丈夫そう

Choosing between Cloud Firestore and Cloud Datastore

Pricing	Cloud Firestore (either mode) and Cloud Datastore have the same pricing structure		
Console	GCP console Datastore Viewer	GCP console Datastore Viewer	Firebase Console
Namespaces	Namespaces not supported	Namespaces supported	Not supported
App Engine client library integration	Supported in all runtimes	Supported in all runtimes	Not supported in the App Engine standard Python 2.7 and PHP 5.5 runtimes Supported in App Engine standard Java 8, Go, and Node.js runtimes

ちなみに、お値段据え置き。

再び結論

→ 気にしなくて大丈夫

とはいっても

最新情報は追っておきたい

GCPUG Slack

gcpug ▾
naoki_koreeda
beginner_ja
beginners-tokyo-admin
c-ml_ja
c-speech-api_ja
c-vision-api_ja
cdp_ja
dogrun
firebase_ja
g-app-engine_ja
g-bigquery_ja
g-billing_ja
g-c-functions_ja
g-c-pubsub_ja
g-c-sql_ja
g-c-storage_ja
g-compute-engine_ja
g-dataflow_ja
g-datastore_ja
g-firestore_ja
g-spanner_ja
g-suite_ja
gc_next_ja
general
incidents_ja
k8s_gke_ja
next_staff
question_ja
random
stackdriver_ja
training_ja
x-appendix-japan-night
x-beginners-tokyo
x-gcpug-fukuoka

#g-firestore_ja
Firestore使っている
Yesterday
CLIでできるようになったってことなんですね、勘違いしてました。

vvakame 10:53 AM
わまじかー
はやくtokyo regionなGAEから使いたい
FirestoreをGCP consoleで開いたらDatastore見てね！って出てボタン押したら次からは無言でDatastoreに飛ばされるようになった...
これFirestore datastore modeで動いてるかどうかでどこでわかるんだろ？_

naoki_koreeda 11:50 AM
新規で作ると右上に出て来ますね。
スクリーンショット 2018-08-09 11:39:56.png

名前	モード	リージョン	ストレージ	バックアップ
firestore	DATASTORE	us-east1	STANDARD	ON

vvakame 12:12 PM
僕出てない..！なるほど...
それtokyo regionに作りましたか？
#g-datastore_ja でやるべき話題かもしれない

apstndb 12:32 PM
そして誕生する #c-firestore-datastore #c-firestore-native

naoki_koreeda 12:44 PM
@vvakame us-east1です。(consoleから新規でプロジェクト作って新規でDatastoreのエンティティ作るうとしたら、データベースの選択画面が出たんで、FirestoreのDatastoreモードを選ぶとロケーション選択画面に進みました)
Regionは europe-west3 と us-east1. あと Multi-region で us-central. の3つしか選択肢ないです。
@apstndb 確かに今のままだとどっちで話していいかわかんないですね。

apstndb 1:04 PM
Cloud Firestore の Native mode と Datastore mode を同じチャンネルで話すことにメリットがなく、Cloud Datastore と Cloud Firestore Datastore mode 両方とも同じチャンネルで話すと両者は同じ日に同じチャンネルで話さないと選択画面が...

+ Message #g-firestore_ja

<https://gcpug.slack.com/>

- #g-datastore_ja
- #g-firestore_ja

ご清聴ありがとうございました