Google Cloud Platform

A Service on cloud that runs
the Spring Boot application
in the cloud environment

Introduction

- GCP should be billing enabled and before deploying your application into appengine, you should create appengine platform in GCP.

```
jdbc:mysql://google/<DATABASE-NAME>?cloudSqlInstance
= <GOOGLE_CLOUD_SQL_INSTANCE_NAME>
&socketFactory =
com.google.cloud.sql.mysql.SocketFactory&user =
<USERNAME>&password = <PASSWORD>
```

Why GCP?

- The Spring Cloud GCP project makes the Spring Framework a first-class citizen of Google Cloud Platform

```
<dependency>
        <groupId>org.springframework.cloud</groupId>
        <artifactId>spring-cloud-gcp-dependencies</artifactId>
        <version>2.0.2</version>
        <type>pom</type>
        <scope>import</scope>
 </dependency>
```

Features

- Spring Cloud GCP Pub/Sub Support (Spring Integration and Spring Cloud Stream Binder)
- Spring Data Cloud Spanner
- Spring Data Cloud Datastore
- Spring Data Reactive Repositories for Cloud Firestore
- Spring Data Cloud SQL
- Google Cloud Stackdriver Logging & Tracing
- Google Cloud Storage (Spring Resource and Spring Integration)
- Google Cloud Vision API Template
- Spring Security identity extraction from Google Cloud IAP headers.
- Google Cloud BigQuery with Spring Integration

A sample of these artifacts

Spring Cloud GCP Starter	Description	Maven Artifact Coordinates
Cloud Spanner	Provides integrations with Google Cloud Spanner	org.springframework.cloud:spring-cloud-gcp-starter-data-spanner
Cloud Datastore	Provides integrations with Google Cloud Datastore	org.springframework.cloud:spring-cloud-gcp-starter-data-datastore
Cloud Firestore	Provides Spring Data Reactive Repositories support for Cloud Firestore	org.springframework.cloud:spring-cloud-gcp-starter-data-firestore

A sample of these artifacts

Cloud Pub/Sub	Provides integrations with Google Cloud Pub/Sub	org.springframework.cloud:spring-cloud-gcp-starter-pubsub
Logging	Enables Stackdriver Logging	org.springframework.cloud:spring-cloud-gcp-starter-logging
SQL - MySQL	Cloud SQL integrations with MySQL	org.springframework.cloud:spring-cloud-gcp-starter-sql-mysql
SQL - PostgreSQL	Cloud SQL integrations with PostgreSQL	org.springframework.cloud:spring-cloud-gcp-starter-sql-postgresql

A sample of these artifacts

Storage	Provides integrations with Google Cloud Storage and Spring Resource	org.springframework.cloud:spring-cloud-gcp-starter-storage
Trace	Enables instrumentation with Google Stackdriver Tracing	org.springframework.cloud:spring-cloud-gcp-starter-trace
Vision	Provides integrations with Google Cloud Vision	org.springframework.cloud:spring-cloud-gcp-starter-vision
Security - IAP	Extracts IAP identity information from applications deployed to Google Cloud	org.springframework.cloud:spring-cloud-gcp-starter-security-iap

application.properties

```
spring.dbProductService.driverClassName = com.mysql.cj.jdbc.Driver
spring.dbProductService.url = jdbc:mysql://google/PRODUCTSERVICE?cloudSqlInstance = springboot-gcp-cloudsql:asia-northeast1:springboot-gcp-cloudsql-instance&socketFactory = com.google.cloud.sql.mysql.SocketFactory&user = root&password = rootspring.dbProductService.username = root
spring.dbProductService.password = root
spring.dbProductService.testOnBorrow = true
spring.dbProductService.testWhileIdle = true
spring.dbProductService.timeBetweenEvictionRunsMillis = 60000
spring.dbProductService.minEvictableIdleTimeMillis = 30000
spring.dbProductService.validationQuery = SELECT 1
spring.dbProductService.max-active = 15
spring.dbProductService.max-idle = 10
spring.dbProductService.max-wait = 8000
spring.cloud.gcp.project-id=my-gcp-project-id
```

application.yml

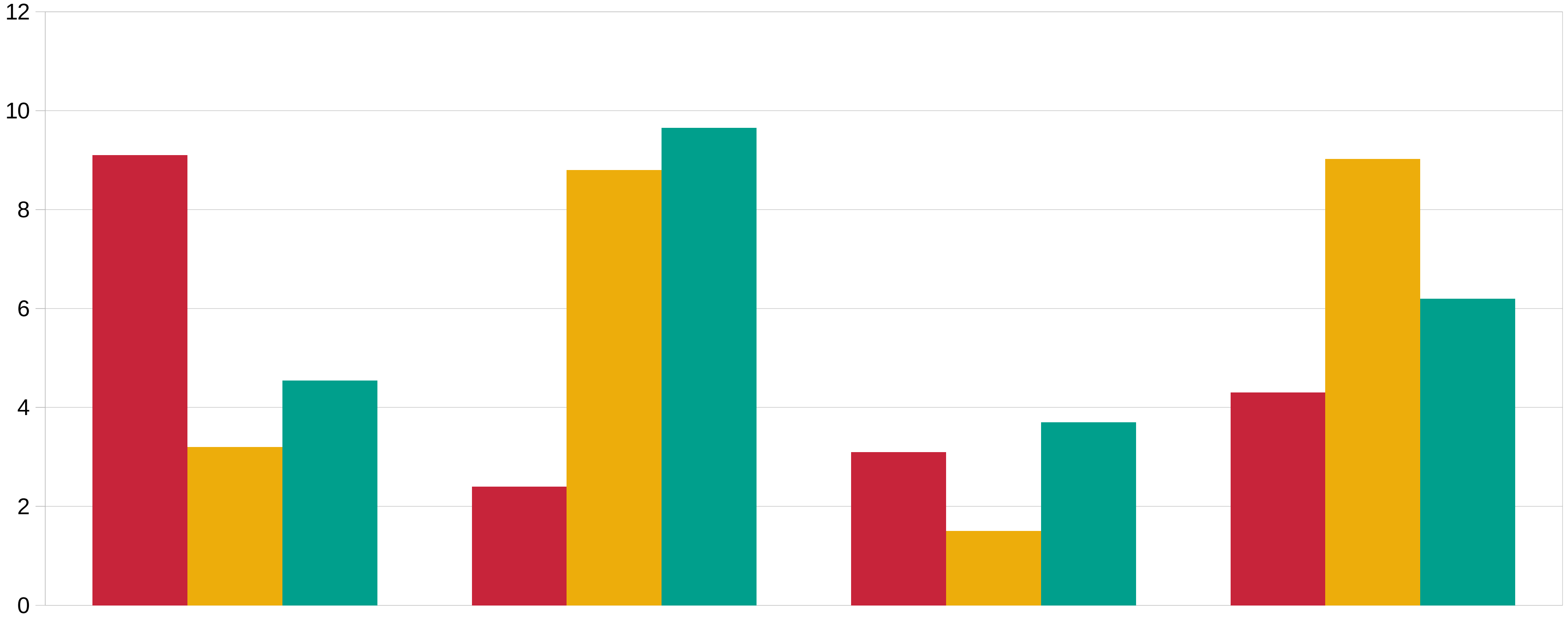
```yaml
spring:
  datasource:
    driverClassName: com.mysql.cj.jdbc.Driver
    url: "jdbc:mysql://google/PRODUCTSERVICE?cloudSqlInstance=springboot-gcp-cloudsql:asia-northeast1:springboot-gcp-cloudsql-instance&socketFactory=com.google.cloud.sql.mysql.SocketFactory&user=root&password=root"
    password: "root"
    username: "root"
    testOnBorrow: true
    testWhileIdle: true
    validationQuery: SELECT 1
    max-active: 15
    max-idle: 10
    max-wait: 8000
```

Spring Initializr

- Spring **Initializr** is a tool which generates the scaffolding code for a new Spring Boot project. It handles the work of generating the Maven or Gradle build file so you do not have to manually add the dependencies yourself.
- Spring Initializr offers three modules from Spring Cloud GCP that you can use to generate your project.

Initializr

- GCP Support: The GCP Support module contains auto-configuration support for every Spring Cloud GCP integration. Most of the autoconfiguration code is only enabled if the required dependency is added to your project.
- GCP Messaging: Google Cloud Pub/Sub integrations work out of the box.
- GCP Storage: Google Cloud Storage integrations work out of the box.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