OAuth2 JDBC docs (0.0.1)

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Travis CI status:

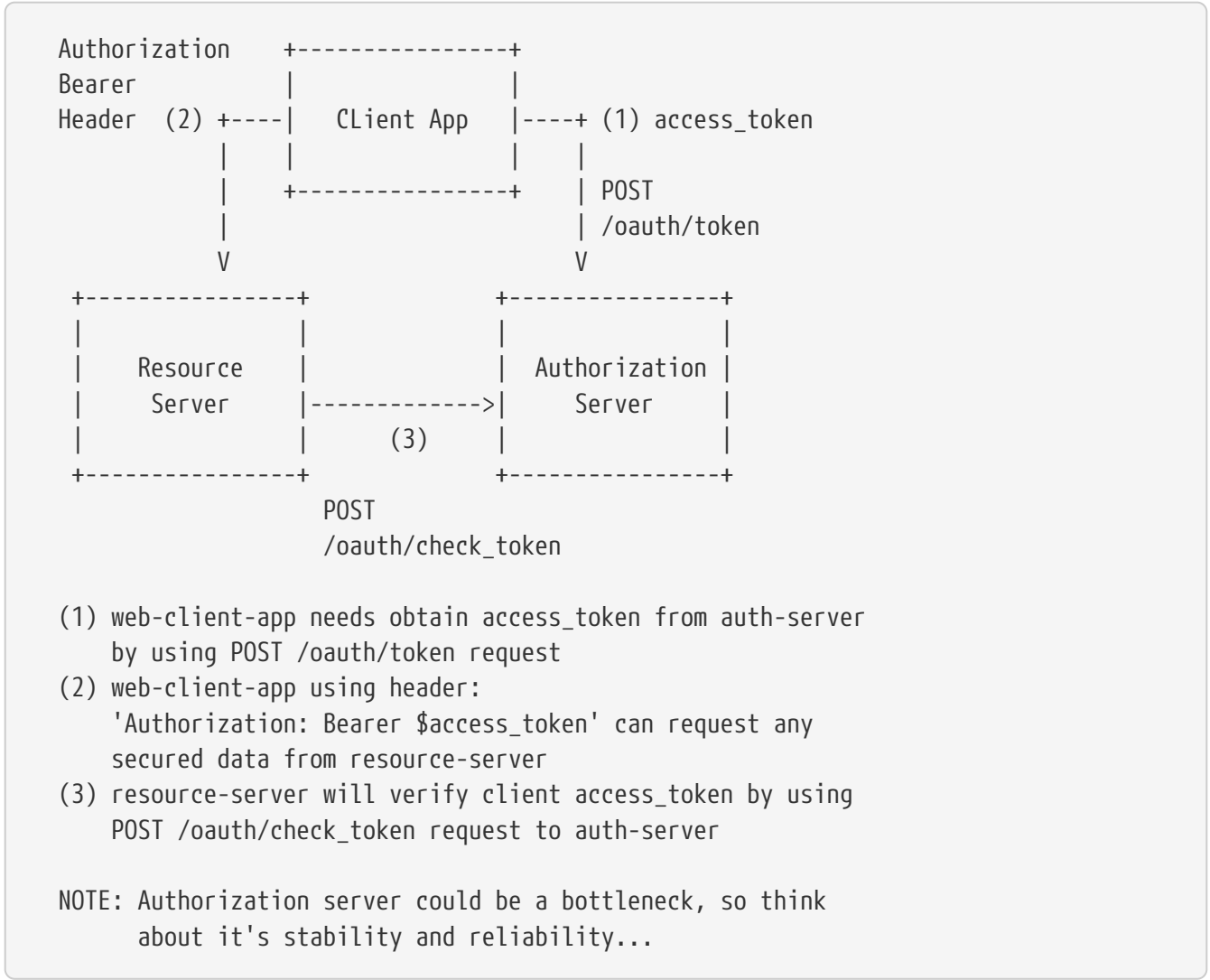
Chapter 1. Introduction

For some reason, big part of software developers community do not care about security I think main reason is because security hard topic. And it's really sad.

Main goal of that project is learn spring-security oauth2 (JDBC) Because any enterprise application can't go live without security, I believe it should be done first! You must avoid situation when big part of application architecture later may be rewritten to apply security…

Let's learn and share most important software development topic in the world. My personal lifestyle is always think about security first, and only after build any other application functionality. Any good framework must provide developers some good security solution …and spring does. **Spring Soot** is amazing framework. It's really one of the best java framework I know. As part of it, **Spring Security** provide us a lot of great features - it's easiest security solutions I have ever seen and used in java.

Chapter 2. Application work-flow diagram



(1) web-client-app needs obtain access_token from auth-server
    by using POST /oauth/token request
(2) web-client-app using header:
    'Authorization: Bearer $access_token' can request any
    secured data from resource-server
(3) resource-server will verify client access_token by using
    POST /oauth/check_token request to auth-server

NOTE: Authorization server could be a bottleneck, so think
      about it's stability and reliability...

Chapter 3. JDBC

3.1. authorization server

Let's start with building `jdbc-oauth2-auth-server`

build, run

```
./gradlew clean :apps:jd-o-a-s:bootRun
```

obtain token

```
http -a clientId:secret \
     --form post :8001/oauth/token \
     grant_type=password \
     username=usr \
     password=pwd

# http -a clientId:secret --form post :8001/oauth/token grant_type=password
username=usr password=pwd
```

output

```
{
    "access_token": "aa3d78ea-ac9a-4a37-9b8c-3d31b6abfe15",
    "expires_in": 43199,
    "refresh_token": "09ae7996-719f-4e24-9389-469f90761853",
    "scope": "read",
    "token_type": "bearer"
}
```

check token

```
http -a clientId:secret \
     --form post :8001/oauth/check_token \
     grant_type=implicit \
     token=aa3d78ea-ac9a-4a37-9b8c-3d31b6abfe15

# http -a clientId:secret --form post :8001/oauth/check_token grant_type=implicit
token=aa3d78ea-ac9a-4a37-9b8c-3d31b6abfe15
```

output

```
{
    "active": true,
    "authorities": [
        "ROLE_ADMIN",
        "ADMIN",
        "USER",
        "ROLE_USER"
    ],
    "client_id": "passwordClientId",
    "exp": 1528017060,
    "scope": [
        "read"
    ],
    "user_name": "usr"
}
```

3.2. implementation

1. provide database
    a. `DataSourceConfig`
    b. `src/main/resources/application-h2.yaml`
    c. `src/main/resources/schema-h2.sql`
2. provide UserDetailsService (mocked in our case for simplicity: `JdbcUserDetailsService`)
3. after you have UserDetailsService, you can create `AuthenticationManagerConfig`
4. finally you can configure `JdbcOauth2AuthServerConfig`
5. and of course, do not forget about password encoder: `PasswordEncoderConfig`

3.2.1. provide database

application-h2.yaml

```
Unresolved directive in -server/README.adoc -
include::./src/main/resources/application-h2.yaml[]
```

application-h2.yaml

```
  @Bean
  public DataSourceInitializer dataSourceInitializer(final DataSource dataSource) {
    final DataSourceInitializer initializer = new DataSourceInitializer();
    initializer.setDataSource(dataSource);
    initializer.setDatabasePopulator(databasePopulator());
    return initializer;
  }

  private DatabasePopulator databasePopulator() {
    final ClassPathResource schema = new ClassPathResource("/schema-h2.sql",
DataSourceConfig.class.getClassLoader());
    return new ResourceDatabasePopulator(false, true, UTF_8.displayName(), schema);
  }
```

schema-h2.sql

```
Unresolved directive in -server/README.adoc - include::./src/main/resources/schema-h2
.sql[]
```

3.2.2. jdbc user details service

JdbcUserDetailsService

```
Unresolved directive in -server/README.adoc - include::./src/main/java/com/github
/daggerok/oauth2authserver/JdbcOauth2AuthServer.java[tags=jdbc-user-details-service]
```

3.2.3. authentication manager config

AuthenticationManagerConfig

```
Unresolved directive in -server/README.adoc - include::./src/main/java/com/github
/daggerok/oauth2authserver/JdbcOauth2AuthServer.java[tags=authentication-manager-
config]
```

3.2.4. jdbc oauth2 auth server config

JdbcOauth2AuthServerConfig

```
Unresolved directive in -server/README.adoc - include::./src/main/java/com/github
/daggerok/oauth2authserver/JdbcOauth2AuthServer.java[tags=jdbc-oauth2-auth-server-
config]
```

3.2.5. password encoder config

PasswordEncoderConfig

```
@Bean
public PasswordEncoder encoder() {
  return PasswordEncoderFactories.createDelegatingPasswordEncoder();
}
```

---

links:

- authorization server reference
- get some thought from here...
- auth/resource servers some examples
- Migration guide to spring-boot 2.x

3.3. resource server

Now we ready to go with building `jdbc-oauth2-resource-server`

build, run and test

```
./gradlew :apps:oauth2-jdbc:resource-server:bootRun
```

3.4. implementation

1. implement resource server `/check_token` remote token service endpoint: `RemoteTokenServicesConfig`

3.4.1. remote token services

RemoteTokenServicesConfig

```
  final AppProps appProps;
  final ClientsProps clientsProps;

  @Bean
  @Primary
  public RemoteTokenServices tokenService() {

    final String checkTokenEndpointUrl = format("%s/oauth/check_token", appProps
.getAuthServerUrl());
    final RemoteTokenServices tokenService = new RemoteTokenServices();
    tokenService.setCheckTokenEndpointUrl(checkTokenEndpointUrl);
    final ClientsProps.Client client = clientsProps.getResourceAppClient();
    tokenService.setClientId(client.getClientId());
    tokenService.setClientSecret(client.getSecret());
    return tokenService;
  }
```

3.5. testing

Let's test how clients can access resource-server resources using obtained token from auth-server....

first, clint must obtain active token

```
http -a clientId:secret --form post :8001/oauth/token grant_type=password username=usr
password=pwd
```

response ouptu

```
{
    "access_token": "be5caf90-f197-43bf-86e2-cd4560066871",
    "expires_in": 40917,
    "refresh_token": "4b2991af-6e1b-40cc-ab83-3f0c135d8c12",
    "scope": "read",
    "token_type": "bearer"
}
```

Now client can use received access_token value to query resource-server /

test unauthorized forst

```
http :8002/
```

response ouptu

```
{
    "error": "unauthorized",
    "error_description": "Full authentication is required to access this resource"
}
```

now let's use access_token to get resource-server data

```
http :8002/ Authorization:'Bearer be5caf90-f197-43bf-86e2-cd4560066871'
```

response ouptu

```
{
    "at": "2018-06-03T01:20:45.153Z",
    "ololo": "trololo"
}
```

Done!

emptiness...