

```
package ch.std.fileservice.rest;
import java.nio.channels.FileChannel;
import java.nio.charset.StandardCharsets;
import java.nio.file.Files;
import java.nio.file.Paths;
import java.nio.file.StandardOpenOption;
import java.util.List;
import javax.activation.MimetypesFileTypeMap;
import org.springframework.core.io.buffer.DataBuffer;
import org.springframework.core.io.buffer.DataBufferFactory;
import org.springframework.core.io.buffer.DataBufferUtils;
import org.springframework.http.server.reactive.ServerHttpResponse;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
import org.springframework.web.server.ServerWebExchange;
import reactor.core.publisher.Flux;
import org.springframework.web.servlet.mvc.annotation.annotation.AnnotationMethodMapping;

@RestController
@RequestMapping(value = "/rest/file")
public class ReactiveFileService {
    public static final int defaultBufferSize = 1 <& 12;
    public ReactiveFileService() {
        super();
    }
    @GetMapping
    public Flux<DataBuffer> get(ServerWebExchange webExchange) throws Exception {
        List pathList = webExchange.getRequest().getQueryParams().get("path");
        ServerHttpResponse serverHttpResponse = webExchange.getResponse();
        DataBufferFactory dataBufferFactory = webExchange.getResponse().bufferFactory();
        if (pathList == null) {
            serverHttpResponse.getHeaders().add("Content-Type", "text/html; charset=UTF-8");
            DataBuffer replyDataBuffer = dataBufferFactory.allocateBuffer(defaultBufferSize);
            .write("path is null");
            return Flux.just(replyDataBuffer);
        }
        String path = pathList.get(0);
        String mimeType = Files.probeContentType(Paths.get(path));
        if (mimeType == null) {
            MimetypesFileTypeMap mimeTypeMap = new MimetypesFileTypeMap();
            mimeType = mimeTypeMap.getContentType(path);
        }
        serverHttpResponse.getHeaders().add("Content-Type", mimeType);
        Flux result = DataBufferUtils.readByteChannel() -> FileChannel.open(Paths.get(path), StandardOpenOption.READ), dataBufferFactory, defaultBufferSize);
        .onErrorResume(ex -> {
            serverHttpResponse.getHeaders().add("Content-Type", "text/html; charset=UTF-8");
            DataBuffer replyDataBuffer = dataBufferFactory.allocateBuffer(defaultBufferSize);
            .write("path " + path + " not found, ex = " + ex.getMessage());
            return Flux.just(replyDataBuffer);
        });
        return result;
    }
}

Das folgende Listing zeigt die Spring Boot Application:
package ch.std.fileservice;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class ReactiveFileServiceApplication {
    public static void main(String[] args) {
        SpringApplication.run(ReactiveFileServiceApplication.class, args);
    }
}
```

Das folgende Listing zeigt den dazu passenden Spring Boot Reactive File Service Client entwickelt als Command Line Applikation:

```
package ch.std.fileservice.client;
import java.io.FileOutputStream;
import java.net.URL;
import org.springframework.boot.ApplicationArguments;
```

```
org.springframework.boot.ApplicationRunner;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.WebApplicationType;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.core.io.buffer.DataBuffer;
import org.springframework.core.io.buffer.DataBufferUtils;
import org.springframework.web.reactive.function.client.WebClient;
import reactor.core.publisher.Flux;
@SpringBootApplication
public class ReactiveFileServiceClient implements ApplicationRunner {
    public static void main(String[] args) throws Exception {
        SpringApplication app = new SpringApplication(ReactiveFileServiceClient.class);
        app.setWebApplicationType(WebApplicationType.NONE);
        app.run(args);
    }
    @Override
    public void run(ApplicationArguments args) throws Exception {
        URL url = null;
        try {
            url = new URL(args.getOptionValues("--url").get(0));
        } catch (Exception e) {
            System.err.println("missing --url option argument");
            this.help();
            return;
        }
        String out = null;
        try {
            out = args.getOptionValues("--out").get(0);
        } catch (Exception e) {
        }
        String surl = url.getProtocol() + "://" + url.getHost() + url.getPort() + url.getFile();
        Flux<DataBuffer> data = WebClient.create(surl).get().uri(path).retrieve().bodyToFlux(DataBuffer.class);
        if (out != null) {
            try (FileOutputStream fos = new FileOutputStream(out)) {
                DataBufferUtils.write(data, fos).map(DataBufferUtils::release).blockLast();
            }
            System.out.println("result written to file " + out);
        }
        private void help() {
            System.out.println("usage java -jar reactivefileclient-0.0.1-SNAPSHOT.jar --url= --out=");
            System.out.println("example:");
            System.out.println("java -jar reactivefileclient-0.0.1-SNAPSHOT.jar --url=http://localhost:8080/rest/file?path=in/bigimage.jpg --out=out/bigimage.jpg");
        }
    }
    Das File bigimage.jpg kann ersetzt werden durch eine real existierende Datei analog kann der Output Pfad angepasst werden.
```

Client und Service sind am besten in 2 separaten Spring Boot Projekten zu programmieren z.B. mit der Eclipse IDE.

## Feedback

War dieser Blog für Sie wertvoll. Wir danken für jede Anregung und Feedback

## Kontakt

Simtech AG  
Finkenweg 23  
3110 Münsingen  
Schweiz

## Impressum

Das Copyright für sämtliche Inhalte dieser Website liegt bei Simtech AG, Schweiz. Beachten Sie auch unsere Hinweise zum Urheberrecht, Datenschutz und Haftungsausschluss. Jeder Hinweis auf Fehler nehmen wir gerne entgegen.

## Copyright

2024 Simtech AG, All rights reserved, Powered by stack.ch written in Golang by Daniel Schmutz

<https://www.simtech-ag.ch/projekten>