

- 1) Synchronus based execution ( Blocking Thread )
- 2) Asynchronus based execution ( Non Blocking Thread )

=> Spring 5.x introduced Reactive Programming

=> In Spring 5.x 'starter-webflux' introduced

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Old Approach

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```
@RestController
public class WelcomeRestController{

    @GetMapping("/msg")
    public String getMsg(){
        return "Hello";
    }

}
```

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New Approach

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```
@Component
public class MessageRequestHandler{

    public Mono<ServerResponse> handle(ServletRequest request){
        return new ServerRespoinsse.ok()

.contentType(MediaType.APPLICATION_JSON)

.body(BodyInserters.fromValue(data));
    }

}

@Configuration
public MsgRouter {

    @Bean
    public RouterFunction<ServerResponse> route(MessageRequestHandler requestHandler){

        return RouterFunctions.route(GET("/hello"))

.and(accept(MediaType.APPLICATION_JSON), MessageRequestHandler::handle);

    }

}
```

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SprinBoot Reactive Example

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- 1) Create Boot application with 'Reactive Web' dependency

```
<dependency>
    <groupId>org.springframework.boot</groupId>
```

```
<artifactId>spring-boot-starter-webflux</artifactId>
</dependency>
```

Note: Reactive Web dependency means 'starter-webflux' dependency. It will provide 'Netty' as default embedded container.

2) Create Binding class to response

```
@Data
@AllArgsConstructor
@NoArgsConstructor
public class Greeting {

    private String msg;

}
```

3) Create Request Handler class like below

```
@Component
public class GreetingHandler {

    public Mono<ServerResponse> hello(ServerRequest request){

        return ServerResponse.ok()
                                .contentType(MediaType.APPLICATION_JSON)
                                .body(BodyInserters.fromValue(new Greeting("Hello
World"))));
    }
}
```

4) Create Router class

```
@Configuration
public class GreetingRouter {

    @Bean
    public RouterFunction<ServerResponse> route(GreetingHandler greeting){
        return RouterFunctions
            .route(GET("/hello")
                .and(accept(MediaType.APPLICATION_JSON)), greeting::hello);
    }
}
```

5) Run the application and test it.