

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";

        }

}

=====

New Approach

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@Component

```

public class MessageRequestHandler{

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

```
import static org.springframework.web.reactive.function.server.RequestPredicates.GET;
```

```
import static org.springframework.web.reactive.function.server.RequestPredicates.accept;
```

@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.