.msg

Spring Boot gibt Gas

Spring Native

Motivation

1. **Instant Startup**
2. **No Warmup**
3. Low Resource Usage
4. Compact Packaging
5. Reduced Attack Surface

Use Cases

1. **Function as a Service (FaaS)**
2. **Container & Kubernetes (CaaS)**
3. Zero to Scale
4. Low Memory and CPU
5. Microservices

No Suitable Use Cases

1. Very Frequent Deployments
2. High Traffic Websites
3. Big Monolithic Application

Java

- GraalVM Oracle Labs (2019)
- Ensure that the GraalVM bundled JDK is used

Spring Boot

- Spring Boot Ahead-of-Time Support 3.0 (2022)
- Spring Framework 6.0 (Build Integration, Compiler Metadata, Hints)

Advantages

- Faster startup
- Constant fast response times
- Less resource consumption
- Smaller Artefacts

Disadvantages

- Long build times
- No runtime optimization
- Reflection must be configured manually

Benchmarks

Performance comparisons if they exist and make sense

Metric	Spring Boot Native (GraalVM AOT)	Spring Boot JVM (HotSpot)	Difference
Startup Time	0.22 seconds	7.18 seconds	**32x faster**
Memory Usage (RSS)	694 MB	1,751 MB	**~60% less memory consumption**
Throughput (300 users, 20 iterations)	449.8 requests/sec	433.4 requests/sec	**16.4 more requests per second**
Avg Response Time (300 users, 20 iterations)	409 ms	433 ms	**24 ms faster**
CPU Usage	Lower	Higher	**Less CPU consumption**