

Spring Boot æœƒä½³å®žè·µé¹‘ç»™â€¦, è¼• ##
 é¹‘ç»™@çŸ‰æ›«» è¼•™æ¬”ã„ªç»™¼å¢“æš§çš,, Spring Boot å¡ä¹´ é¹‘ç»™®¼CEåCE...å¢“
 35+ ä¾²æ¶å¢—ï¼CEå±•çº°äº† Spring Boot
 æœƒä½³å®žè·µå¡’CEå„šðéˆ†æ¢–æ¶å¼‚¼¢æœ„æ„ æ¶å¢—
 ä¾²æ³¨äºŽç‡%01å®žæšŠæœœæ¬”—ä¾²Z Spring Boot 3.5.0 å¡’CE Java 21
 çš,,åŠYëf½éˆ†æ¢–æœ„## æšŠæœœæ¬— - **æ„ ä¿Œæ¶†æž¶**:: Spring Boot 3.5.0 -
 Java ç‡%åœœ-: Java 21 - **æž¶,å»¤»å¥…»: Maven - **å….—å…±ä¼¼èµ-**:-
 Lombok: å†–å°“æœ æ„ üà»£ç — Apache Commons Lang3: éšçš”å¥… - Spring
 Boot DevTools: å¼€å¢“æ—¶å¥… - Spring Boot Configuration Processor: é…
 ¯ç½Rå…fæ°æ®© - Spring AI BOM: AI ç„ å…³ä¼¼èµ-ï¼ç‡%åœœ- 1.0.0ï¼% ##
 é¹‘ç»™@æž¶æž¶,,, ### å®žæ¶å¢—ç»™«æž¶, é¹‘ç»™®é††ç»™”å®žæ¶å¢— Maven
 ç»™«æž¶,ï¼CEåCE...å¢“«ä¥ä¾²æ„ ä¿Œæ¶†æ¶å¢—å††ç»™”ï¼š 1. **æ„ ä¿Œæ¶†æ¶å¢—**- web:
 ä¼¼ ç»™Yçšš,, Spring MVC Web å°”ç»™” - webflux: å°“å°”å¼Web å°”ç»™” - logging: æ
 —¥ä¼—é…¯ç½Rå¡’CEç®ç†† - test: æµ÷ê¶æ¶†æž¶å¡’CEæœƒä½³å®žè·µ-m
 properties: é…¯ç½Rå±žæšŠæš§ç®ç†† - features: Spring Boot ç‡%1æšŠæ¼”çº° 2.
 æ°æ®©æ¶å¢—- jpa: Spring Data JPA éˆ†æ¢– - mybatis: MyBatis ORM
 éˆ†æ¢– - mybatis-plus: MyBatis-Plus åçžå¼åŠYëf½ - mongodb: MongoDB
 NoSQL æ°æ®©å°“éˆ†æ¢– - elasticsearch: Elasticsearch æœœç††å¼æ“Žéˆ†æ¢–
 - redis: Redis ç¼“å¡’CEä¼šèç®ç†† - datasource: å®žæ°æ®©æ°é…¯ç½R
 3. **æ¶¶æ¶å¢—**- activemq: ActiveMQ æ¶¶æ¶éYå—éˆ†æ¢– - rabbitmq:
 RabbitMQ æ¶¶æ¶éYå—éˆ†æ¢– - kafka: Apache Kafka æµ¶å
 „ç††å¹å°“éˆ†æ¢– 4. **åYçj€®¼æ½æ¶å¢—**- docker: Docker å®¼å™”åCE-
 æ¬œæCE - actuator: çYä°şç„ æžŞå¡’CEç®ç†††ç»,¹ - admin-server/client: Spring
 Boot Admin æœœåŠjç«å¡’CEå®œç«— - undertow: Undertow åµCEå…
 ¥å¼æœœåŠjå™”æ„ ä»æ½æ¶å¢— war: WAR åCE...éfç½²æ¬œæCE 5.
 é~ç°şæ¶å¢—- ai: Spring AI éˆ†æ¢–ï¼DeepSeek ç‡%æ¶åžï¼% - graalvm:
 GraalVM åŽYçYéœœáfæ¬œæCE - schedule: ä»»åŠjë°Få°, quartz: Quartz
 ë°Få°;æ¶†æž¶éˆ†æ¢– - cache: ç¼“åç®ç†† - aop: é††å¢“å†–ç¼¼—ç«— - jasypt:
 é…¯ç½RåŠ å†### é…¯ç½Ræ¶å¼‚¼ - **é!—é‰% YAML **: å®žå®žæ°æ¶å¢—
 ä½¼ç»™`application.yml` è‰œéž properties æ—†à¶¶ - **é…¯ç½Ræ—
 †à¶¶ç®ç††**: ä½¼çç»™spring.profiles.active` è¼•èjCEå°şçžåcfé…¯ç½R - **å-
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 å°şé†ä½¼çç»™`@ConfigurationProperties` å¡’CEæ%«æ##### å¼å¢“æ¶å¼‚¼
 ##### æžŞåŠ¶å™”æ¶å¼‚¼ - RESTful æžŞåŠ¶å™”ä½¼çç»™`@RestController` - Web
 æžŞåŠ¶å™”ä½¼çç»™`@Controller` é…¯åèš†å¼æ¶å¼— ä¾²è†çš,,å½å:
 `åŠYëf½}Controller` - ä½¼çç»™`@ControllerAdvice` è¼•èjCEå…å±€å¼,å.,ç††

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"é... ½@ - ¼"â'ä»»Šjë°fâ°é... ½@ #### æµè-æ¹æ³ - â...
"é'ç:â½ç""" **JUnit 5 (Jupiter)** - **Spring Boot æµè-â±ç%±**: `@JsonTest`,
`@MockMvc`, `@SpringBootTest` - ä½ç""" **AssertJ** èçèçæµâ¼ æ-è€ -
ä½ç""" **MockMvc** èçèç Web â±,æµè- - ä½ç""" **JacksonTester** èçèç
JSON â°â-âæµè- ## æž,,â°â'æèèèèç ## æž,,â°â'½ä»"bash #
æž,,â°æ'ä,é'ç:® mvn clean compile # æž,,â°ç%1ššæ'jä - mvn clean
compile -pl spring-boot-{æ'jä -â} # æ%âæ...é'ç:® mvn clean package #
èèèçç%1ššæ'jä - cd spring-boot-{æ'jä -â} mvn spring-boot:run #
èèèçæµè- mvn test # èèèçç%1ššæ'jä - çš,,æµè- mvn test -pl spring-
boot-{æ'jä -â} "" #### èèèçç-ç«æ'jä - æä,æ'jä -
âç-ç«èèèç: ""bash cd spring-boot-{æ'jä -â} mvn spring-boot:run ""
## ç%1ššæŠæææ-½ç""" #### æ°æ®æ®â°æ'jä - - **JPA**:
âÿççæâ½"ççç†â'æä»"â° - **MyBatis/MyBatis-Plus**: SQL æ~â°
,,â'æâçâ¼° ORM âŠÿèf½ - **MongoDB**: NoSQL æ-æçææ°æ®â°é†æ -
**Redis**: ¼"â'æä½šèççç† - **Elasticsearch**: æœç
'çâ'æâ†æžâ¼æ"Ž #### æ¶ææ-æ'jä - - **ActiveMQ**:
ä¼ ç:ÿæ¶æ-ä»çç† - **RabbitMQ**: éçç°šæ¶æ-éÿâ - - **Kafka**:
â†âfâ¼ æµâç,ç†â¹â° #### âÿççè®¼æ-½æ'jä - - **Docker**:
â®1â™âæ-âŠ Dockerfile ç°ä¾¼ - **Actuator**: ç"ÿä°ççæžšâ'æççç† -
**Admin**: Spring Boot Admin ææâšç«â®çæç-ç«è®¼½@ - **Undertow**:
æçä»æµæâ...¥â¼ ææâšçâ™é... ½@ ## é'ç:®ç%1ç,1 1. **æ'jä -âæ-
è®¼èè**: æä,æ'jä -ä,æ³ä°žç%1ššæŠæææ-¼æä¾¼ä°žâ'â'æé†æ
2. **æœæä½â®žè-µ**: éµâ¾â Spring Boot
â'æä¼ äšç°šâ°ç"â¼æâ'çš,,æœæä½â®žè-µ 3. **çž°ä»æŠæææ**:
é†ææœææ-°çš,, Spring Boot 3.5.0 ç%1æçšâ'æ Java 21 âŠÿèf½ 4. **â®ææ-
ç°ä¾¼**: æä,æ'jä -éf½æ...â«â®ææ
'çš,,âèèèèçç°ä¾¼â'ææµè-ç"â¾ 5. **é... ½@ççç†**: é†çç" YAML é...
½@â'æç±âžâ®%â...çš,,é... ½@â±žæçš 6. **æµè-è†ç-**: âæ...
â«â,ççæµè-ç-ç¥¼æä»žâ«â...fæµè-â°é†ææµè- 7. **â®%â...
"æçš**: âæ...â«â®%â...é... ½@ççç°ä¾¼â¼æâ, Spring Security é†æ 8.
**ççæžšççç†**: éçšèç† Actuator â'æ Admin ææâ¾ç"ÿä°ççæžšèf½âš,
9. **â®1â™âæ-**: ææâ¾ Docker æ"æææâ'æâ®1â™âæ-éfç½²ç°ä¾¼ 10.
**Al é†æææ**: â±ç°ä°†çž°ä»æ Spring Boot â°ç"ççâ°äçš,, Al âŠÿèf½é†ææ
## éçç"ä°ç¾ - Spring Boot â°âèè...â'æèèèèâ¼æâ'èè... - âææææ°†èçç
Spring Boot æœæä½â®žè-µçš,,â¼æâ'â°â - éœèè'èé†æç%1ššæŠæææ-â°

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Spring Boot é!¹ç·®ä,çš,,å·çé~Ÿ -

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