



ICT Training Center

Il tuo partner per la Formazione e la Trasformazione digitale della tua azienda



Note

[illegible]

SPRING AI

GENERATIVE ARTIFICIAL INTELLIGENCE CON JAVA

Simone Scannapieco

Corso avanzato per Venis S.p.A, Venezia, Italia

Novembre 2025

Note

[illegible]



METHOD AS TOOL

Note

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- 3 / 11

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

```
package it.venis.ai.spring.demo.tools;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
...

import java.time.LocalDateTime;
import java.time.ZoneId;

@Component
public class TimeTools {

    private static final Logger LOGGER = LoggerFactory.getLogger(TimeTools.class);

    @Tool(name="getCurrentLocalTime", description = "Ottieni l'orario corrente nella timezone dell'utente.")
    String getCurrentLocalTime() {

        LOGGER.info("Ritorno dell'orario corrente nella timezone dell'utente");
        return LocalDateTime.now().toString();

    }

    @Tool(name = "getCurrentTime", description = "Ottieni l'orario corrente nella timezone specificata.")
    public String getCurrentTime(@ToolParam(description = "Valore che rappresenta la timezone.") String timeZone) {

        LOGGER.info("Ritorno dell'orario corrente nella timezone {}", timeZone);
        return LocalDateTime.now(ZoneId.of(timeZone)).toString();

    }

}
```

Note

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

```
package it.venis.ai.spring.demo.config;

...

@Configuration
public class TimeToolsConfig {

    @Bean
    public ChatClient geminiToolChatClient(OpenAiChatModel geminiChatModel, TimeTools timeTools) {

        ChatClient.Builder chatClientBuilder = ChatClient.builder(geminiChatModel);

        return chatClientBuilder
            .defaultTools(timeTools)
            .defaultAdvisors(List.of(new SimpleLoggerAdvisor()))
            .defaultSystem(
                """
                Sei un assistente AI di nome ToolGeminiBot, addestrato per intrattenere una
                conversazione con un umano.
                Usa i tool forniti dall'utente per fornire la tua risposta.
                """)
            .defaultUser(
                """
                Come puoi aiutarmi?
                """)
            .build();

    }

    ...
}
```

Note

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper. There are no margins, text, or other markings on the page.

Configurazione Ollama e Gemini per tool calling - II

```
...
@Bean
public ChatClient ollamaToolChatClient(OllamaChatModel ollamaChatModel, TimeTools timeTools) {

    ChatClient.Builder chatClientBuilder = ChatClient.builder(ollamaChatModel);

    return chatClientBuilder
        .defaultTools(timeTools)
        .defaultAdvisors(List.of(new SimpleLoggerAdvisor()))
        .defaultSystem(
            """
                Sei un assistente AI di nome ToolLlamaBot, addestrato per intrattenere una
                conversazione con un umano.
                Usa i tool forniti dall'utente per fornire la tua risposta.
            """)
        .defaultUser(
            """
                Come puoi aiutarmi?
            """)
        .build();
}
}
```

Note

[illegible]

```
package it.venis.ai.spring.demo.services;

import it.venis.ai.spring.demo.model.Answer;
import it.venis.ai.spring.demo.model.QuestionRequest;

public interface TimeToolsService {

    public Answer getGeminiToolLocalTimeAnswer(QuestionRequest request);

    public Answer getOllamaToolLocalTimeAnswer(QuestionRequest request);

}
```

Note

[illegible]


```
package it.venis.ai.spring.demo.services;

...

@Service
public class TimeToolsServiceImpl implements TimeToolsService {

    private final ChatClient geminiToolChatClient;
    private final ChatClient ollamaToolChatClient;

    public TimeToolsServiceImpl(
        @Qualifier("geminiTimeToolsChatClient") ChatClient geminiToolChatClient,
        @Qualifier("ollamaTimeToolsChatClient") ChatClient ollamaToolChatClient) {

        this.geminiToolChatClient = geminiToolChatClient;
        this.ollamaToolChatClient = ollamaToolChatClient;
    }

    @Override
    public Answer getGeminiToolLocalTimeAnswer(WebRequest request) {

        return new Answer(this.geminiToolChatClient
            .prompt()
            .user(request.body().question())
            .call()
            .content());
    }

    ...
}
```

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Implementazione servizio - II

```
...
@Override
public Answer getOllamaToolLocalTimeAnswer(QuestionRequest request) {

    return new Answer(this.ollamaToolChatClient
        .prompt()
        .user(request.body().question())
        .call()
        .content());
}
}
```

Note

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

```
package it.venis.ai.spring.demo.controllers;

...

@RestController
public class QuestionController {

    ...

    private final ToolService toolService;

    public QuestionController(QuestionService service, RAGService ragService, ToolService toolService) {
        this.service = service;
        this.ragService = ragService;
        this.toolService = toolService;
    }

    ...

    @PostMapping("/gemini/ask/time-tools/local-time")
    public Answer getGeminiToolLocalTimeAnswer(@RequestBody QuestionRequest request) {
        return this.toolService.getGeminiToolLocalTimeAnswer(request);
    }

    @PostMapping("/ollama/ask/time-tools/local-time")
    public Answer getOllamaToolLocalTimeAnswer(@RequestBody QuestionRequest request) {
        return this.toolService.getOllamaToolLocalTimeAnswer(request);
    }
}
```

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Branch: 12-spring-ai-gemini-ollama-time-tools

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.