



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. There are no margins, text, or other markings on the paper.

SPRING AI

GENERATIVE ARTIFICIAL INTELLIGENCE CON JAVA

Simone Scannapieco

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

Novembre 2025

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. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.



CONCETTI BASE

Note

[illegible]

- Simone Scannapieco

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.

Metodi di estrazione ora/locale/timezone

```
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 ToolConfig {

    @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

[illegible]

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

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.services;

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

public interface ToolService {

    public Answer getGeminiToolLocalTimeAnswer(QuestionRequest request);

    public Answer getOllamaToolLocalTimeAnswer(QuestionRequest request);

}
```

[illegible]


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

...

@Service
public class ToolServiceImpl implements ToolService {

    private final ChatClient geminiToolChatClient;
    private final ChatClient ollamaToolChatClient;

    public ToolServiceImpl(
        @Qualifier("geminiToolChatClient") ChatClient geminiToolChatClient,
        @Qualifier("ollamaToolChatClient") 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());
    }

    ...
}
```

[illegible]

Implementazione servizio - II

```
...

@Override
public Answer getOllamaToolLocalTimeAnswer(QuestionRequest request) {
    return new Answer(this.ollamaToolChatClient
        .prompt()
        .user(request.body().question())
        .call()
        .content());
}
```

Note

[illegible]

```
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);
    }

}
```

Note

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.