



ICT Training Center

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



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.

SPRING AI

GENERATIVE ARTIFICIAL INTELLIGENCE CON JAVA

Simone Scannapieco

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

Novembre 2025

Note

[illegible]



PARTE 3 - APPROCCIO RAG ADVISOR

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.

- Simone Scannapieco

Note

[illegible]

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

...

@Configuration
public class RAGConfig {

    ...

    @Bean
    RetrievalAugmentationAdvisor geminiRetrievalAugmentationAdvisor(
        @Qualifier("geminiVectorStore") VectorStore geminiVectorStore) {

        return RetrievalAugmentationAdvisor.builder()
            .documentRetriever(
                VectorStoreDocumentRetriever.builder()
                    .vectorStore(geminiVectorStore)
                    .topK(4)
                    .similarityThreshold(.2)
                    .build())
            .build();
    }
}
```

This image shows a single 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;

...

@Service
@Configuration
public class RAGServiceImpl implements RAGService {

    ...

    private RetrievalAugmentationAdvisor geminiRetrievalAugmentationAdvisor;

    public RAGServiceImpl(
        @Qualifier("geminiChatClient") ChatClient geminiChatClient,
        @Qualifier("ollamaChatClient") ChatClient ollamaChatClient,
        @Qualifier("ollamaMemoryChatClient") ChatClient ollamaMemoryChatClient,
        @Qualifier("geminiVectorStore") VectorStore geminiVectorStore,
        @Qualifier("ollamaVectorStore") VectorStore ollamaVectorStore,
        @Qualifier("geminiRetrievalAugmentationAdvisor") RetrievalAugmentationAdvisor geminiRetrievalAugmentationAdvisor) {

        this.geminiChatClient = geminiChatClient;
        this.ollamaChatClient = ollamaChatClient;
        this.ollamaMemoryChatClient = ollamaMemoryChatClient;
        this.geminiVectorStore = geminiVectorStore;
        this.ollamaVectorStore = ollamaVectorStore;
        this.geminiRetrievalAugmentationAdvisor = geminiRetrievalAugmentationAdvisor;
    }

    @Value("${demo.rag.prompt.system.eng}")
    private Resource ragDataSystemEngPrompt;

    ...
}
```

This image shows a single 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.

Implementazione servizio - II

```

@Override
public Answer getGeminiRAGAnswer(QuestionRequest request) {
    /*
     * This code is no longer needed, because all is handled by the logic behind the
     * geminiRetrievalAugmentationAdvisor!
     */
    SearchRequest searchRequest = SearchRequest.builder()
        .query(request.body().question())
        .topK(4)
        .similarityThreshold(.2)
        .build();

    List<Document> similarDocs =
        geminiVectorStore.similaritySearch(searchRequest);

    String similarDocsString = similarDocs.stream()
        .map(Document::getText)
        .collect(Collectors.joining(System.lineSeparator()));
}
...

```

Note

[illegible]

Implementazione servizio - III

```

...
return new Answer(this.geminiChatClient.prompt()
    .advisors(List.of(new SimpleLoggerAdvisor(), geminiRetrievalAugmentationAdvisor))
    /*
     * The geminiRetrievalAugmentationAdvisor takes also care to create
     * a dedicated system prompt to handle the RAG strategy!
     *
     * .system(s -> s.text(this.ragDataSystemEngPrompt)
     * .params(Map.of("documenti", similarDocsString)))
     */
    .user(request.body().question()))
    /*
     * The template rendered is now useless, since the system prompt is
     * automatically created!
     *
     * .templateRenderer(StTemplateRenderer.builder().startDelimiterToken('<')
     * .endDelimiterToken('>')
     * .build())
     */
    .call()
    .content());
}
...
}

```

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.

Branch: 9-spring-ai-gemini-ollama-rag-advisor

[illegible]