



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.

SPRING AI

GENERATIVE ARTIFICIAL INTELLIGENCE CON JAVA

Simone Scannapieco

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

Settembre 2025

Note

[illegible]



SYSTEM E ROLE PROMPTING

Note

[illegible]

- Simone Scannapieco

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.

Sei un esperto in materia di {artefatto}.

Rispondi in maniera coerente alla recensione fornita dallo '''user''', il cui sentiment è stato definito come {sentiment}.

In caso di recensione positiva, rispondi in maniera entusiasta e consiglia allo '''user''' altre tre scelte simili di {artefatto} legati a '''luoghi''' e '''persone''' riportati nella seguente lista YAML: {ner}. Se nella lista non ci sono '''luoghi''' o '''persone''', non dare suggerimenti di {artefatto}.

In caso di recensione negativa, rispondi in maniera garbata e professionale, scusandoti per la spiacevole esperienza.

In caso di recensione neutrale, informa lo '''user''' che rimarrai in attesa di ulteriori sue recensioni per poter consigliare nuove scelte di {artefatto}, chiedendo quali '''luoghi''' e '''persone''' lo hanno colpito.

[illegible]

```
Rispondi a questa recensione:
'''Titolo''': {titolo}
'''Sottotitolo''': {sottotitolo}
'''Recensione''': {corpo}
```

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:
  application:
    name: demo
  ai:
    openai:
      api-key: ${GOOGLE_AI_API_KEY}
      base-url: https://generativelanguage.googleapis.com/v1beta/openai
      chat:
        completions-path: /chat/completions
        options:
          model: gemini-2.0-flash-lite
          temperature: 2
          #top-p: .99
          #top-k: 30
          #max-tokens: 100
          #max-completion-tokens: 100
          #frequency-penalty: .2
          #presence-penalty: .2
          #stop-sequences:
          #- 3
```

Note

[illegible]

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

import it.venis.ai.spring.demo.model.Answer;
import it.venis.ai.spring.demo.model.ArtifactRequest;
import it.venis.ai.spring.demo.model.DefinitionRequest;
import it.venis.ai.spring.demo.model.DefinitionResponse;
import it.venis.ai.spring.demo.model.Question;

public interface GeminiFromClientService {

    String getAnswerFromClient(String question);

    Answer getAnswerFromClient(Question question);

    Answer getDefinitionFromClient(DefinitionRequest definitionRequest);

    Answer getCustomFormatDefinitionFromClient(DefinitionRequest definitionRequest);

    Answer getJSONUserFormatDefinitionFromClient(DefinitionRequest definitionRequest);

    DefinitionResponse getJSONOutputConverterFormatDefinitionFromClient(DefinitionRequest definitionRequest);

    Answer getSentimentForArtifact(ArtifactRequest artifactRequest);

    Answer getNERinYAMLForArtifact(ArtifactRequest artifactRequest);

    Answer getSuggestionForArtifact(ArtifactRequest artifactRequest);

}
```

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.services;

import java.util.Map;
import org.springframework.ai.chat.client.ChatClient;
import org.springframework.ai.template.st.StTemplateRenderer;
import org.springframework.beans.factory.annotation.Value;
import org.springframework.core.io.Resource;
import org.springframework.stereotype.Service;
import it.venis.ai.spring.demo.model.Answer;
import it.venis.ai.spring.demo.model.DefinitionRequest;
import it.venis.ai.spring.demo.model.Question;

@Service
public class GeminiFromClientServiceImpl implements GeminiFromClientService {

    private final ChatClient chatClient;

    public GeminiFromClientServiceImpl(ChatClient.Builder chatClientBuilder) {
        this.chatClient = chatClientBuilder.build();
    }

    @Override
    public String getAnswerFromClient(String question) {
        return this.chatClient.prompt()
            .user(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.

```

...
@Value("classpath:templates/set-advice-system-prompt.st")
private Resource adviceSystemPrompt;

@Value("classpath:templates/get-advice-user-prompt.st")
private Resource adviceUserPrompt;

@Override
public Answer getSuggestionForArtifact(ArtifactRequest artifactRequest) {
    String sentiment = getSentimentForArtifact(artifactRequest).answer();
    String ner = getNERinYAMLForArtifact(artifactRequest).answer();
    String chatResponse = this.chatClient.prompt()
        .options(ChatOptions.builder()
            .model("gemini-2.0-flash")
            .temperature(0.3)
            .topP(1.0)
            //.topK(30)
            .maxTokens(500)
            //.frequencyPenalty(0.1)
            //.presencePenalty(0.1)
            .build())
        .system(s -> s.text(this.adviceSystemPrompt)
            .params(Map.of("sentiment", sentiment, "ner", ner,
                "artefatto", artifactRequest.artifact().type()))
        .user(u -> u.text(this.adviceUserPrompt)
            .params(Map.of("titolo", artifactRequest.artifact().title(),
                "sottotitolo", artifactRequest.artifact().subtitle(),
                "corpo", artifactRequest.artifact().body()))
        .templateRenderer(StTemplateRenderer.builder().startDelimiterToken('{')
            .endDelimiterToken('}')
            .build())
        .call()
        .content();
    return new Answer(chatResponse);
}

```

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;

import org.springframework.web.bind.annotation.RestController;
...
import it.venis.ai.spring.demo.services.GeminiFromClientService;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;

@RestController
public class QuestionFromClientController {

    private final GeminiFromClientService geminiService;

    ...

    @PostMapping("/client/definition/json/user")
    public Answer getJSONUserFormatDefinition(@RequestBody DefinitionRequest definitionRequest) {

        return this.geminiService.getJSONUserFormatDefinitionFromClient(definitionRequest);

    }

    ...

    @PostMapping("/client/advice")
    public Answer getSuggestionForArtifact(@RequestBody ArtifactRequest artifactRequest) {

        return this.geminiService.getSuggestionForArtifact(artifactRequest);

    }

}
```

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, providing a template for writing or drawing. There are no margins, text, or other markings on the paper.

 Simone Scannapieco

 Venis S.p.A, Venezia, IT

11 / 11

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.