Microsoft

Microsoft Java Developer Conference 2024

Code. Cloud. Community.

Paving a Painless Path to Production AI in your Java Applications

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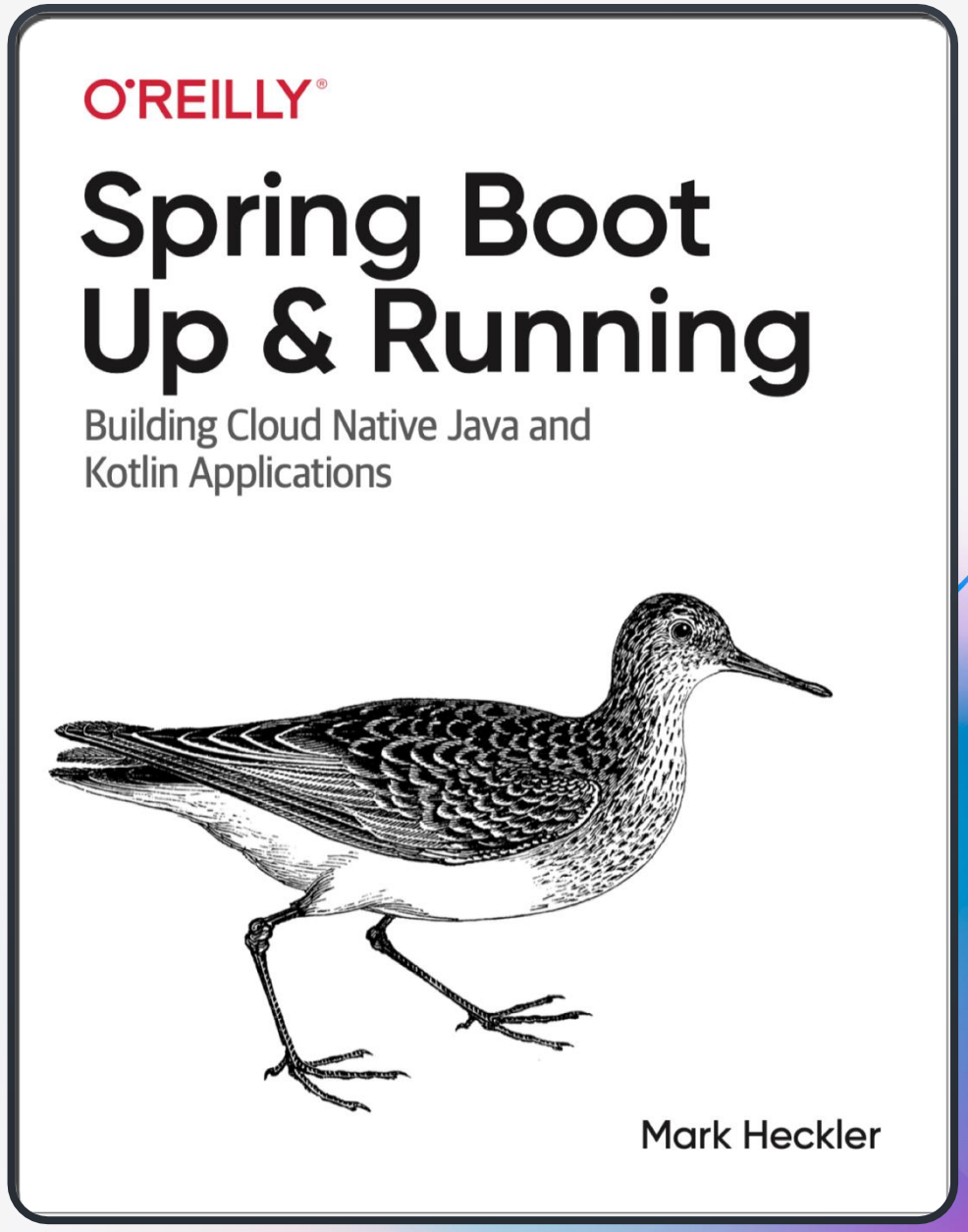
Who am I?

- Architect & Developer
- Advocate
- Author
- Java Champion, Rockstar
- Kotlin Developer Expert
- Pilot

The book

https://bit.ly/springbootbook

@springbootbook



What this session is NOT

It isn’t an exhaustive introduction of AI, AI concepts, or AI tools. It isn’t a deep dive into the details of how to use the tools. It isn’t a deep dive into the details of how the tools work. It isn’t a deep dive into the details of how to architect your applications to use AI. It isn’t a deep dive into the details of how to deploy your applications that use AI.

We have only 30 minutes! So…

What this session IS

- A fast-paced, selective introduction of key AI concepts
- A quick review of tools at your disposal for building AI-enabled apps
- A *live-coding adventure™* demonstrating those concepts using Spring Boot, Java, and Azure OpenAI

NOTE: Concepts are portable, tools “rhyme”

What's the plan?

- Concepts
- Translate concepts to reality
- See it in action
- Continue conversation after

Concepts

- Models*
  - Text
  - Images
  - Audio
- Generative Pre-trained Transformer (GPT)
- Tokens, tokenization
- Embeddings
- Retrieval Augmented Generation (RAG)

* *Currently. This is evolving.*

Translating Concepts to Reality

- ChatGPT for text (and others, e.g. GitHub Copilot)
- DALL-E for images
- API-based models for audio
- Developers access the underlying models
- Most use cases are currently textual
- Most models expose APIs
- Useful abstractions add significant value to development

VS Code

- Cross platform, multiple languages
- Great Java & Spring Boot plugins
- Great AI plugins (as you might expect)
- https://code.visualstudio.com

GitHub Copilot

- Copilot
  - Read my comments
  - ~~Read my mind~~ (code with me)
- Copilot Chat: chat with me
- https://github.com/features/copilot

Also available for IntelliJ IDEA!

Azure Spring Apps, Azure Container Apps, etc.

- Natural and intelligent platform evolution for developers
- Leverages dominant framework for Java (ASA)
- Leverages containerization for portability and versatility (ACA)
- Easy to deploy, manage, monitor, scale apps
- https://aka.ms/azurespringapps
- https://aka.ms/azurecontainerapps

Microsoft

Let’s code!

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Thank you

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https://github.com/mkheck/production-ai