Streamlit

Dashboards and Web Apps in Python for Everyone

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Introducing Research Software Engineering

Collaborative expertise in software engineering, designed to bridge the gap between innovative ideas and impactful outcomes. Our services include:

- 🤝 **Grant Proposal Consulting** to ensure accurate resource estimations and project feasibility.
- 🚀 **Rapid Prototyping** to refine concepts and explore solutions.
- ⛑️ **Ongoing Application Support** and **Application Rehabilitation** for existing applications.
- 🌎 **Open-Source Releases** to share knowledge and contribute to the wider community.

Contact us today to discuss your project and discover how Research Software Engineering can be your trusted partner in innovation.

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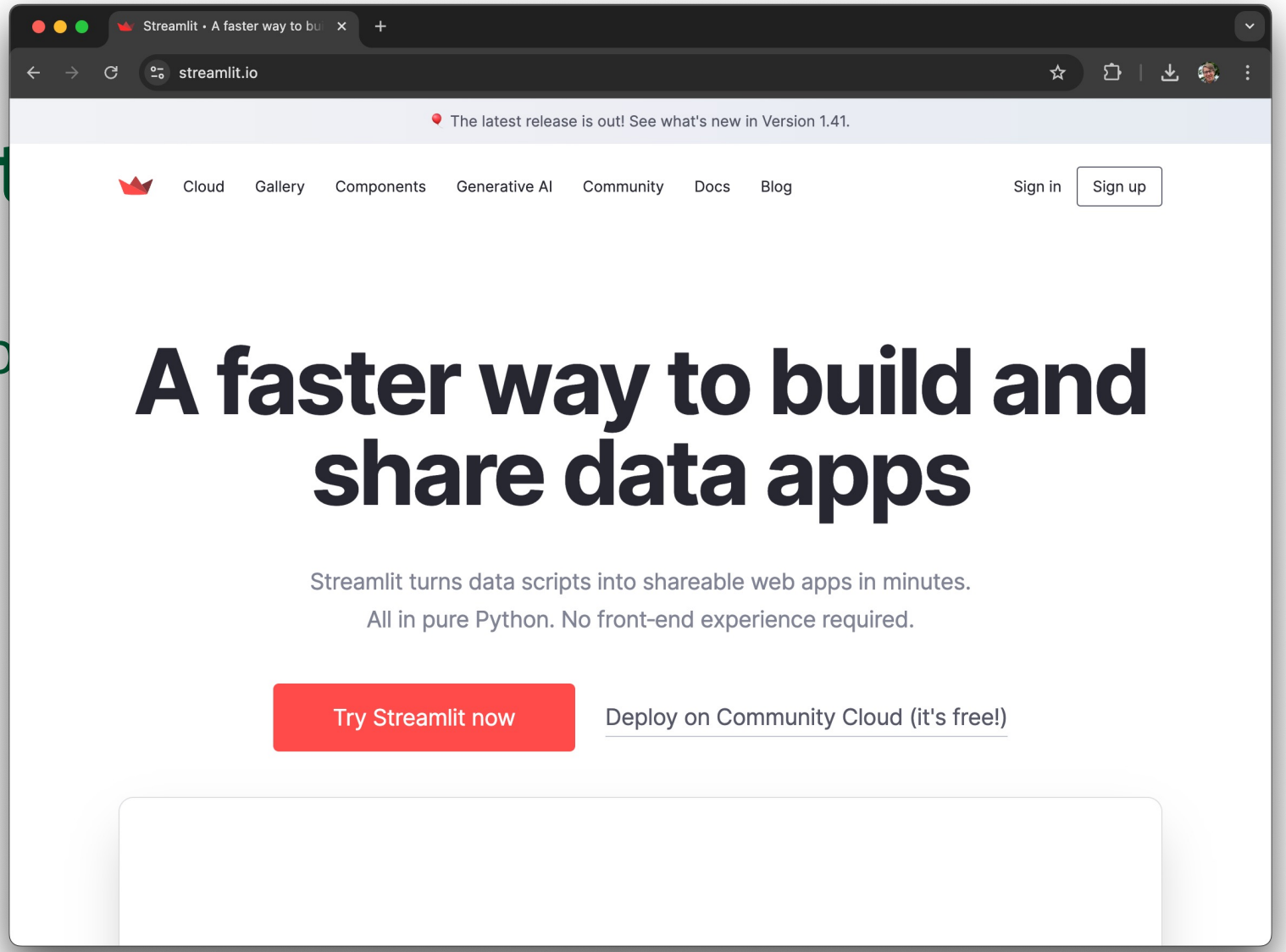

What is Streamlit?

- Free and open-source library: streamlit.io
- Python framework to write web apps and browser-based dashboards with minimal code
- Favors rapid prototyping over deep customizations
- Offers a large array of components from simple buttons to live webcam feeds

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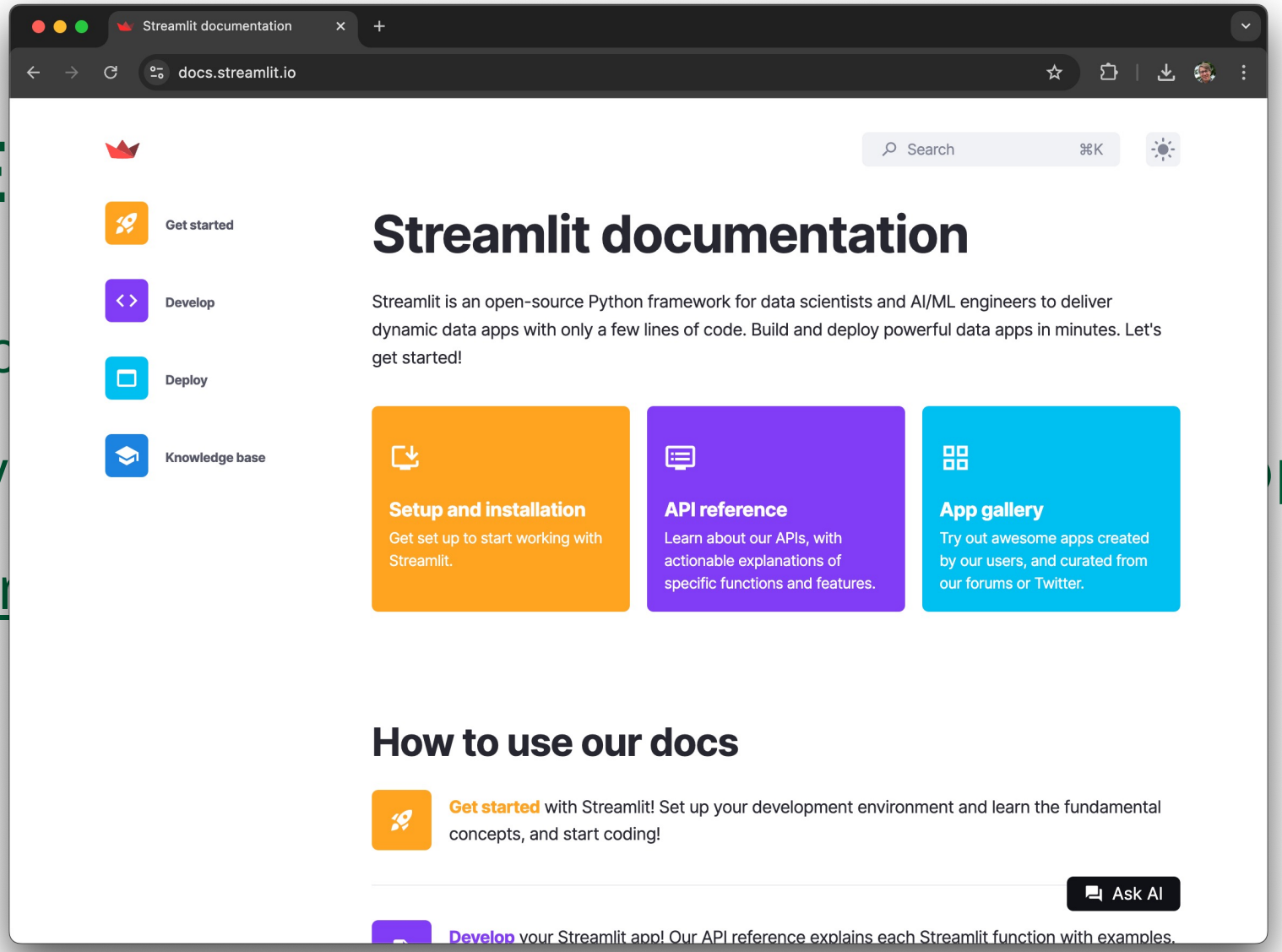
😎 Requires no

📈 Specifically

🎓 Great docu



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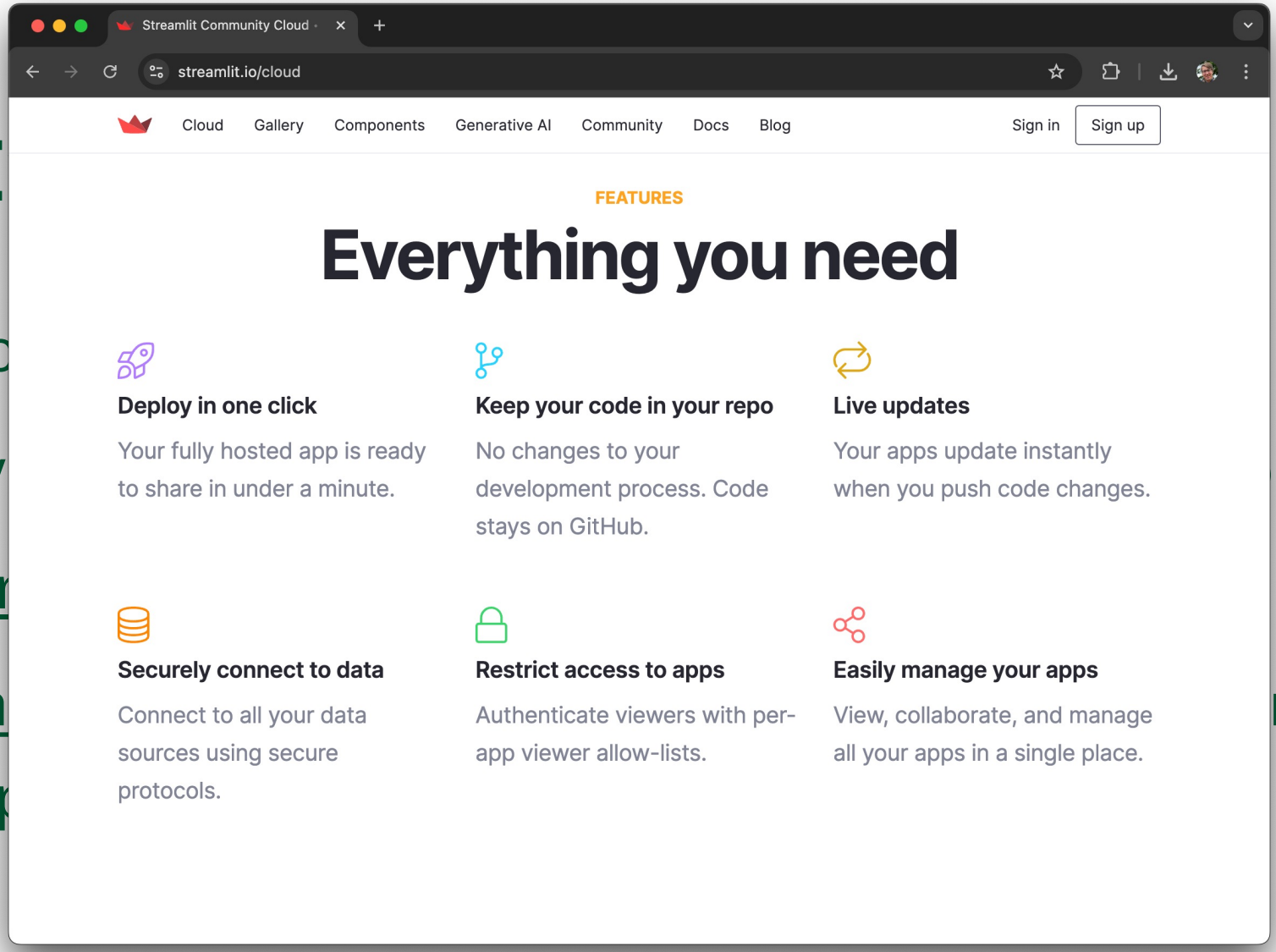

Why for Everyone?

- 😎 Requires no web frontend development experience
- 📈 Specifically geared towards data scientists and AI/ML applications
- 🎓 Great documentation with many helpful examples
- ☁️ The Streamlit Community Cloud lets you deploy and share your Streamlit apps for free with just a few clicks

Dashboard demo

Full dashboard in 20-ish lines of code

What you will learn in this session

- 👨‍💻 How to set up a Streamlit development environment
- 💡 Understand Streamlit's data and programming flow
- 🎛️ Get to know some basic UI widgets
- 📐 Learn about layout components
- 🤔 Understand the concept of session state in Streamlit apps
- 🤩 How to create a slick data dashboard

Recommended Development Environment

- Visual Studio Code or a similar code editor
- Python 3.9 or later
- A current web browser
  (Google Chrome, Firefox, Microsoft Edge, Safari)
- A GitHub repo (for Streamlit Cloud deployment)

Let’s get started!

Hands-on

Summary

- Streamlit is great for rapid prototyping of web apps
- Streamlit's tight development loop makes for a pleasant experience
- Streamlit's catalog of components enables professional-looking, user-friendly interfaces
- Streamlit's concept of session state makes even more complex apps possible
- 😕 Streamlit lacks deep customizability at a Javascript/CSS level (although hacky workarounds are possible)

What's next?

- 🗂️ Multipage apps
- 🐘 Connect to databases
- 💬 Explore more built-in components, including chat elements!
- 🧩 Explore community-built add-on components
- 💡 Get inspired by the App Gallery
- 🚢 Use Streamlit for your next project!

Thank you

dartgo.org/intro-to-streamlit