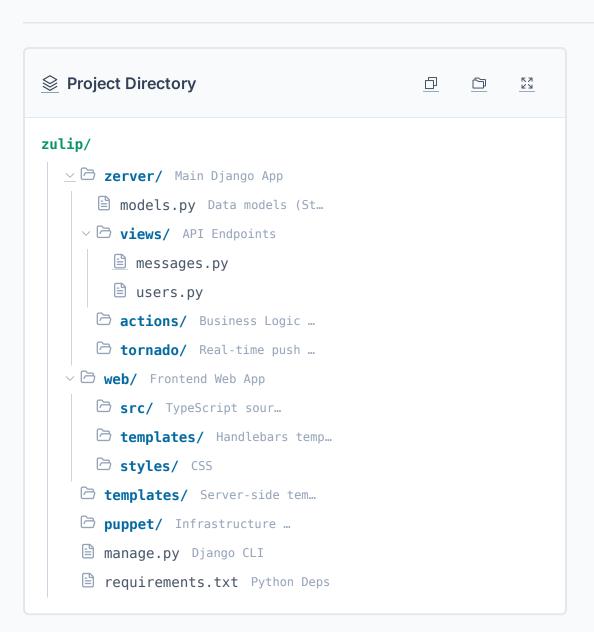
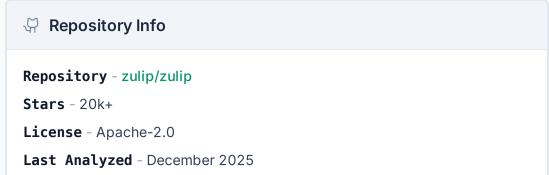
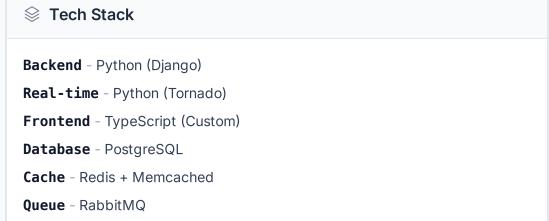


The threaded team chat app. A massive Python/Django codebase known for its high code quality, custom frontend, and unique threading model. Updated 2025-12-30

</> Prompt ☑ PNG PDF PDF ☐ Copy #zulip #python #django #tornado #typescript #real-time #chat







Architecture Notes

Zulip uses a hybrid architecture. **Django** (zerver) handles the REST API and database interactions. **Tornado** runs purely as an event queue bridge, holding open long-polling/WebSocket connections to push events from RabbitMQ to clients. This allows Django to remain synchronous and simple.

zerver/ - The core Django application. It contains an actions/ directory which acts as a 'Service Layer', encapsulating business logic separately from Views.

web/src/ - The frontend is a single-page app but *not* React/Vue. It uses a custom architecture built on jQuery and Handlebars, now migrated to TypeScript. It's optimized for rendering massive message lists.

puppet/ - Zulip includes its own configuration management. The zulip Puppet module defines exactly how to deploy the server, enforcing a strict production environment.

○ Why This Structure?

Zulip is a masterpiece of optimization and code organization. It handles thousands of concurrent users and millions of messages efficiently. Its 'Service Layer' pattern in Django (zerver/actions) is a model for how to structure large Python web apps.