

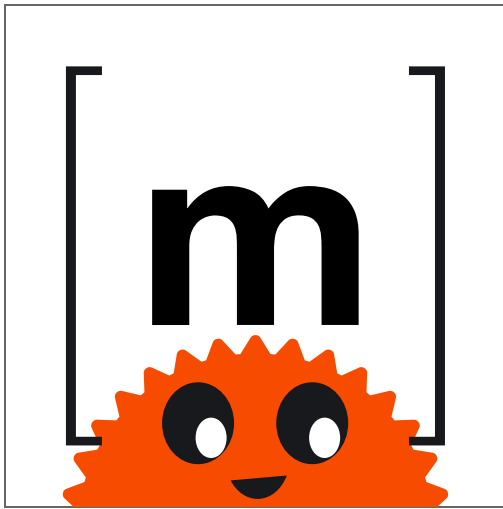
WHAT'S NEW IN THE MATRIX RUST SDK

Damir Jelić

ABOUT ME

- From Croatia
- Contracted by Element for several years
- Technical lead for the Matrix Rust SDK
- Maintainer of vodozemacs

THE MATRIX RUST SDK



WHAT IS THE MATRIX RUST SDK?

Applications



matrix-sdk-ui

Reactive UI-oriented features



matrix-sdk

Core Client API



matrix-sdk-base · matrix-sdk-crypto

Core state and end-to-end encryption

WHERE IS IT USED?

- **Element X**
- **Element Web**
- **Fractal**
- **iamb**
- **Robrix**
- **SchildiChat Revenge**
- ... and many more

A YEAR OF CONTRIBUTIONS

1,089

merged pull requests

73

unique PR authors

15 Oct 2025 – 14 Oct 2026
matrix-rust-sdk repository

A YEAR OF FEATURES

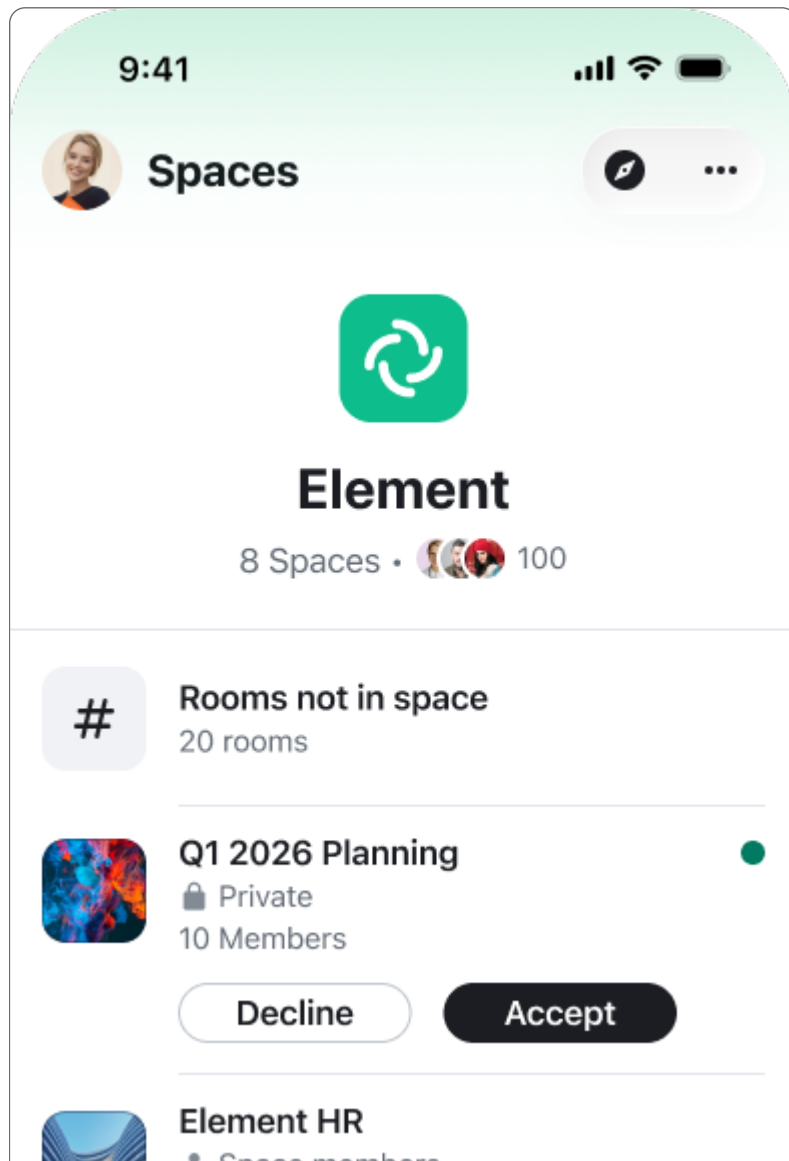
Matrix Rust SDK · 2025–2026

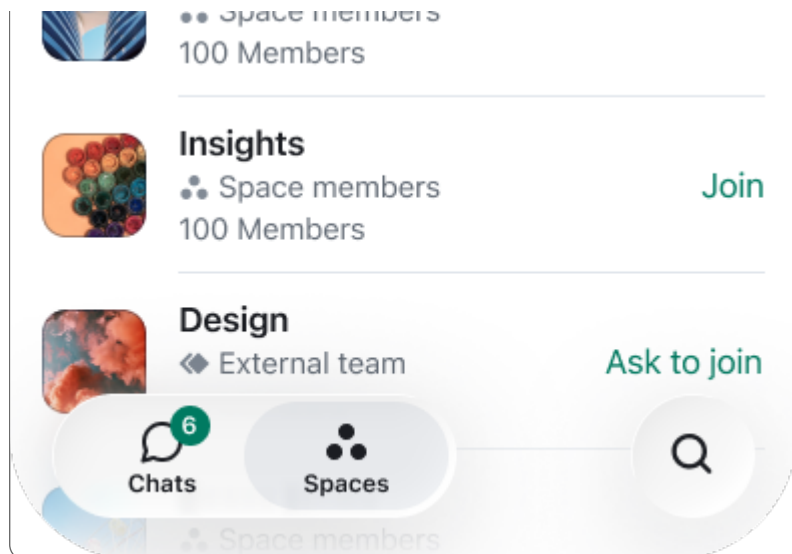
SPACES

WHAT ARE SPACES?

- Spaces organize Matrix rooms into a hierarchy.
- Group related rooms into a community or project.
- Nest Spaces to organize larger groups.

HOW TO EXPLORE SPACES





HISTORY SHARING

The SDK now enables encrypted history sharing with invited users by default, following **MSC4268**.

QR CODE LOGIN

From one direction to full two-way support

Initially, only the new device could scan a QR code displayed by the existing device.

Now, both devices can either display or scan the QR code, supporting all four combinations of device roles.

[Resume presentation](#)

QR LOGIN: PROTOCOL IMPROVEMENTS

- Improvements to the rendezvous API.
- HPKE (RFC 9180) support.
- Improved support for future protocols.

QR LOGIN: HOW IT LOOKS

```
matrix-rust-sdk [!] via v1.99.0 "main":1 "(no description set)" [3 +102-59]took 19h47m2s
> cargo run -p example-qr-login
  Finished `dev` profile [unoptimized] target(s) in 0.18s
  Running `target/debug/example-qr-login`
Please scan this QR code from a logged in device of yours.
```



DEHYDRATED DEVICES

BEFORE

matrix-sdk-crypto

Core cryptographic support for dehydrated devices

↓ Expanded API support

NOW

matrix-sdk

Higher-level APIs for device rehydration

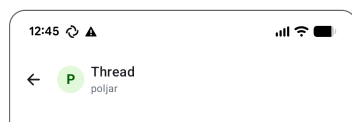
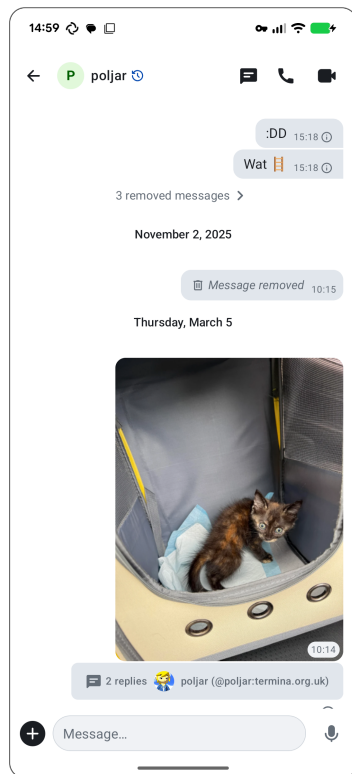
THREADS

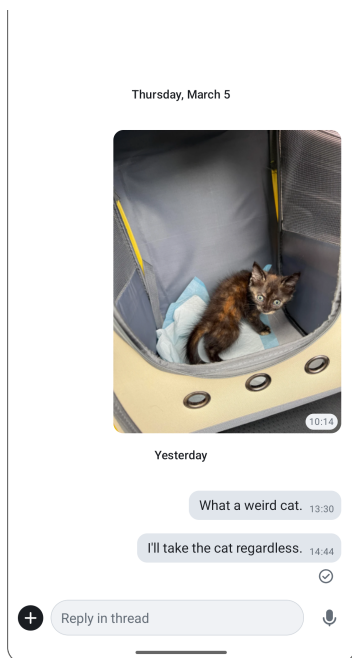
Threads group replies around a specific message, keeping side discussions separate from the main conversation.

WHY ARE THREADS DIFFICULT?

Threads behave like a sub-conversation that shares state with its parent room.

FROM ROOM TO THREAD





MESSAGE SEARCH

Local full-text search across room history

Experimental · Still in development

SEARCH IN ACTION

The screenshot displays the Multiverse Matrix client interface. On the left, the 'Room list' panel shows a list of rooms, with the first room, 'enc_test (!yyopHzexlfIGmveDiZ:matrix.org)', selected. The main chat area on the right shows a conversation with 'pjbeta' and 'poljar'. A search overlay is active, displaying a 'Search in room:' input field with the text 'now' entered. Below the input, three search results are shown, each with a timestamp and a snippet of the message:

- @pjbeta:beta.matrix.org — 2026-05-28T09:20:26.053 — works now
- @pjbeta:beta.matrix.org — 2025-06-02T10:53:19.846 — Can we do that now?
- @pjbeta:beta.matrix.org — 2025-06-02T10:48:50.951 — Ok, now it works.

At the bottom of the chat area, there is a blue bar with the text '(Send an encrypted message)' and a prompt 'Press ESC to exit the search screen'.

WHAT I'D LIKE TO SEE NEXT

- More uses for HPKE (RFC 9180)
- Exploring Fast Lightweight Online Encryption (FLOE) for media encryption

THANK YOU

Questions?

Speaker notes