Updates

January 2026
December 2025
November 2025
October 2025
August 2025
July 2025
May 2025
January 2025
August 2024

October 2025 (v2025.10)

QruiseML

We're currently working on a revamped set of tutorials to help users better understand the building blocks required to model and simulate their quantum devices using QruiseML. In the meantime, this release has two user-facing updates, as well as various under-the-hood fixes and minor documentation corrections.

Piecewise constant Lindblad dynamics

We added support to compile an equation for solving a piecewise-constant Lindblad master equation. The `lindbladpwc()` function accepts a list of collapse operators as `QuTiP` objects or `JAX` arrays.

Slepian pulse

Slepian pulses, which are based on discrete prolate spheroidal sequences (DPSS), are widely used as envelopes for quantum gate control pulses because they are simultaneously spectrally clean and of short time duration. They have been shown to provide particularly high fidelity flux-based two-qubit gates (Martinis *et al.*, 2014) such as the CZ or iSWAP gates in tunable superconducting systems.

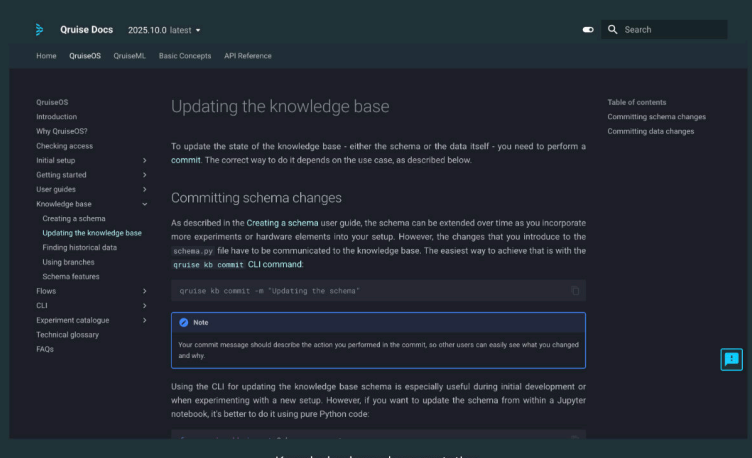
The `SlepianPulse` class generates a discrete-time Slepian envelope over the interval `[t0, t1]` with step `dt`. This can be used downstream by the optimal control module for further tuning and optimisation.

QruiseOS

This release focuses on new knowledge base docs and improving the reproducibility, accessibility, and consistency of QruiseOS environments. This is particularly important given the widely heterogeneous hardware (specifically control stacks) and software platforms on which we deploy QruiseOS.

Knowledge base documentation

The knowledge base in QruiseOS stores device and characterisation data in a structured format for easy versioning, retrieval, reuse, and visualisation. We now have a detailed knowledge base section in our documentation to provide details of the different features and capabilities of this intelligent data management system. There are also guides for common use-cases such as creating, editing, and retrieving data from the knowledge base.



Knowledge base documentation.

Reproducible builds

The JupyterLab images provided for our customers are now completely reproducible. This means every environment can be recreated exactly, with identical packages, versions, and configurations, ensuring consistent results across all systems and allowing users to replicate experiments under the same software conditions. It also means that if a published paper includes the QruiseOS version, any researcher can reproduce the exact same environment.

Internally, we use a modern package manager called Pixi to keep all the various dependencies defined, locked, and synced in one place.

Simplified Jupyter login

The JupyterLab environment provided for QruiseOS users now supports single sign-on (SSO). This means that when you log in to Jupyter, you'll get the exact same permissions for QPUs and workflows that you would get on the dashboard. You also no longer need to set an API token in Jupyter to run experiment notebooks.

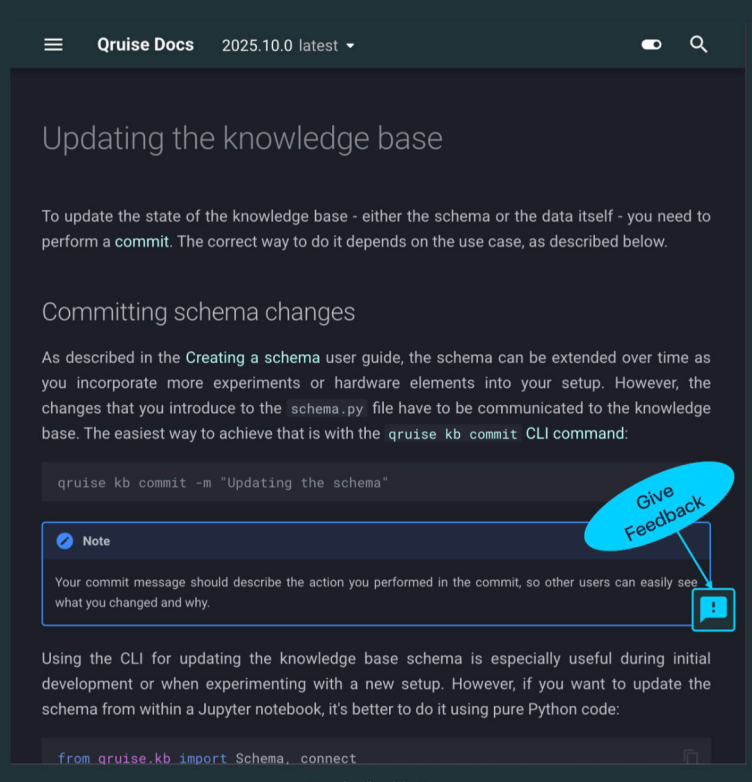
To use QruiseOS outside of Jupyter — for example, from your terminal or another environment — you'll still need an API key generated in the dashboard to access the backend. You can also continue to use the API keys for more fine-grained access to individual QPUs.

Python 3.12 environments

The default version of Python in our stack has been upgraded to 3.12, which provides some updates in the programming language itself. Further details can be found on the Python website.

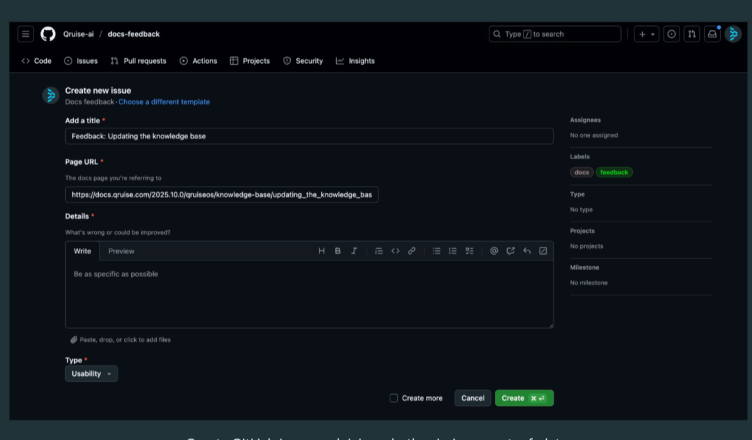
Documentation feedback button

We try our best to make sure everything in our software is documented and kept up to date, but sometimes we miss something. We've added a user feedback button to our docs site (you can see it in the bottom right of the docs screenshot above), so you can let us know if something's missing or not quite right. We encourage you to use this as much as needed — your feedback helps us improve the software for everyone!



User feedback button.

Clicking on the button takes you to our `docs-feedback` GitHub repository, where you can submit an issue. (You'll need a GitHub account for this.) The issue title is automatically pre-filled with the name of the docs page you were on. Please include as many details as possible (you can also include screenshots) to help us solve the issue quickly.



Create GitHub issue explaining what's missing or out-of-date.

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