

Quantum Server

The Quantum Server page allows you to manage dedicated computational resources for developing and simulating quantum algorithms. You can create servers, control their operational status, and access the development environment here.

1. Creating a Quantum Server

To establish a new development environment, you must first create a Quantum Server.

- **Creation Method:** Click the **[+ Create]** button at the upper right of the page.
- **Select Specifications (SPEC):** First, select the server specifications (SPEC) you wish to use.
 - **Note:** The available server types vary depending on your current Subscription Plan.
- **Enter Name:** Input a name for the server you are creating.
- **Credit Pre-deduction:** Upon accessing the Quantum Server after it starts, **credits will be pre-deducted** based on the server specifications. You can preview the amount of credits to be deducted on the screen during the creation process.

2. Quantum Server List

Displays a list of all created Quantum Servers along with their detailed information.

SPEC (Server Specifications)

Hardware resource information based on the selected plan.



- **CPU:** The Central Processing Unit that handles classical computations and system processes for quantum circuits.
- **RAM:** Memory space required for storing data during simulations. Higher qubit counts require larger RAM capacity.
- **GPU:** Enables GPU resources for high-performance simulations. It significantly accelerates computational speed via platforms like CUDA-Q.
- **Storage:** Physical storage space for saving code files, datasets, and job results.

Features

Core features and technology stacks supported by the server.



- **QPU:** Supports connectivity to submit and execute jobs on actual Quantum Processing Units.
- **Composer:** Provides a GUI-based environment for designing quantum circuits using drag-and-drop functionality.
- **AI Assistant:** Grants access to AI-powered assistance for code writing and algorithm development.
- **CUDA-Q:** Features NVIDIA's high-performance quantum computing platform pre-installed for an optimized environment.

Status

- **RUNNING:** The server is currently active, and the development environment is accessible.
- **STOPPED:** The server operation is temporarily paused.

Manage

Control the server using the icons on the right side of the list.



- **Open:** Launches and accesses the QubePad development environment.
- **Stop:** Stops the running server. This is recommended when not in use to prevent unnecessary resource consumption.
- **Restart:** Resumes a stopped server and switches it back to the running state.
- **Delete:** Removes the server. Please proceed with caution, as all data within the server will be permanently lost upon deletion.

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