

Introducing Qoqo for Braket: Empowering Quantum Circuit Execution on Amazon Braket

Karlsruhe July 24, 2023 - HQS Quantum Simulations, a leading provider of quantum software solutions, is thrilled to announce the release of Qoqo for Braket, an innovative interface that seamlessly converts quantum circuits of the HQS Quantum Computing toolkit Qoqo to Amazon Braket circuits, enabling their execution on QPUs and simulators available on Amazon Braket.

The new interface Qoqo for Braket bridges Qoqo, a powerful quantum computing toolkit developed by HQS Quantum Simulations, and Amazon Braket, a managed quantum computing service by Amazon.

By integrating Amazon Braket into the Quantum Computing toolkit Qoqo, users can seamlessly leverage the power and scalability of Amazon Web Services (AWS) computing resources for quantum circuit simulation. Qoqo for Braket enables users to run their circuits on Amazon Braket simulators using OpenQASM 3.0, allowing thorough testing, debugging, and verification of quantum circuits within the Qoqo environment. Simulators provide a valuable tool for refining quantum algorithms and exploring their potential without the constraints of physical hardware.

For those who want to run their circuits on real hardware Qoqo for Braket facilitates automatic execution on quantum hardware supported by Amazon Braket. Qoqo for Braket automatically transpiles user-generated circuits to hardware-native operations and executes the tasks on the hardware via the Amazon Braket interface. This allows users to realize the full potential of their quantum algorithms on real hardware without manual intervention and lowers the barrier to entry for users.

"By bridging the gap between Qoqo and Amazon Braket, we provide our users with a powerful and versatile tool for executing quantum circuits. We are excited to witness the applications that we expect to emerge because of the integration of Amazon Braket into the Qoqo toolkit," said Dr. Sebastian Zanker, CTO and Co-Founder of HQS Quantum Simulations

The Qoqo quantum computing toolkit is designed to simplify quantum algorithm development and execution on various backends. With Qoqo for Braket, users can seamlessly extend their quantum computing capabilities by leveraging Amazon Braket resources and infrastructure.

To learn more about Qoqo for Braket and explore its capabilities, please visit the official repository at <https://github.com/HQSimulations/qoqo-braket#readme>.

About HQS Quantum Simulations: HQS Quantum Simulations was founded in 2017 as a Karlsruhe Institute of Technology (KIT) spin-off and develops software to simulate quantum systems. The start-up's software works on regular computers but can be easily transferred to quantum computers. HQS Quantum Simulations intend this approach to allow companies and researchers to transition their simulation workflow quickly and efficiently to quantum computing as soon as it becomes available.

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