

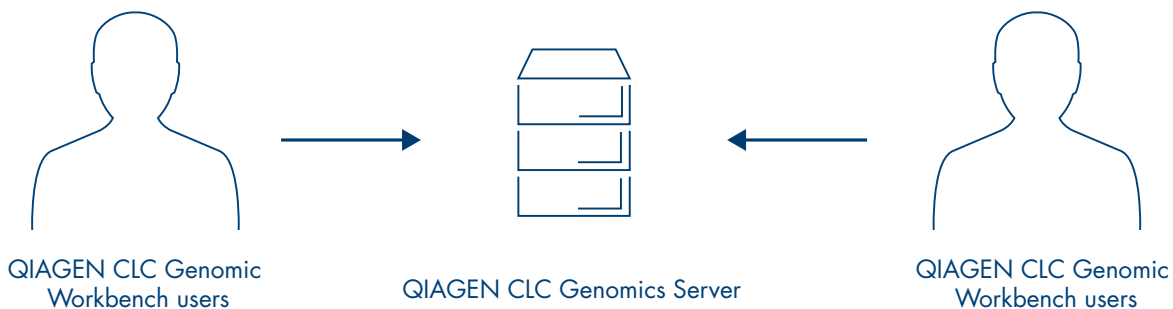


QIAGEN® CLC Genomics Server

QIAGEN CLC Genomics Server provides a solution for building and managing a modern and efficient enterprise-wide bioinformatics analysis platform for commercial, academic or government organizations of any size. The QIAGEN CLC Genomics Server enables a fully integrated and scalable bioinformatics environment that can be used directly from the QIAGEN CLC Genomics Workbench or from the QIAGEN CLC Command Line Interface. Whether running Windows®, Linux® or macOS® operating systems, QIAGEN CLC Genomics Server is a solution that can be easily integrated into any existing IT environment. It supports running all QIAGEN CLC Genomics Workbench tools, and also enables the use of third-party or open-source tools through the External Applications feature,

thereby providing any bioinformatics solution available to QIAGEN CLC Genomics Workbench users.

In addition, QIAGEN CLC Genomics Server delivers a central data storage and workflow execution platform, which includes a flexible queuing system that scales to handle extremely large-scale analysis requirements by multiple users. It runs all the tools and analyses available within QIAGEN CLC Genomics Workbench in the fields of genomics, transcriptomics and epigenomics. It also runs all the tools available within QIAGEN CLC Main Workbench, and supports extension modules which support QIAGEN CLC Microbial Genomics Module and QIAGEN CLC Genome Finishing Module.

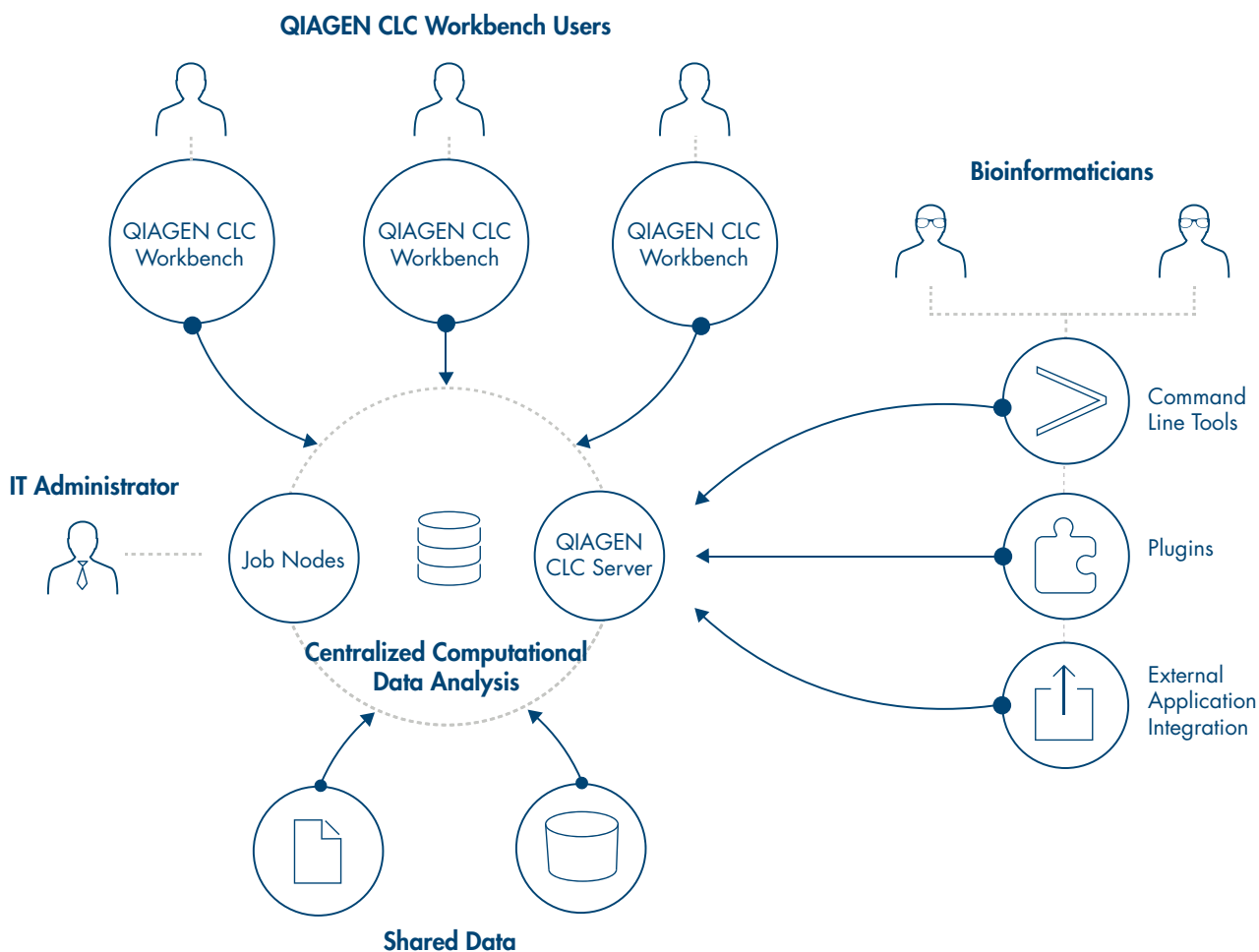


Scale-up your data analysis

Analyze multiple samples simultaneously on a central execution platform with a flexible queuing system. QIAGEN CLC Genomics Server is highly scalable, with overall great performance and high speed of processing, helping to lower the computational costs for data analysis, while keeping up with the rate at which data is generated from the chosen sequencing platform.

The solution comes with a built-in scheduling system for dedicated hardware, but also supports external grid integration via a DRMAA interface to enable mixed used environments where the hardware is shared by multiple services. We have verified our grid integration on the following systems:

- SLURM 16.05.2
- UNIVA 8.4.1
- LSF 9.1.1 and 10.1
- PBS Pro 14.2.1



Support multiple users in an intuitive way

QIAGEN CLC Genomics Server provides a solution for building and managing a modern and efficient enterprise-wide platform in organizations of any size. It enables sharing of data for all end-users of QIAGEN CLC Genomics Workbench through mounting the data folders from the central data storage system attached to the compute cluster or server. With a group-based access privilege system at a folder level, it is possible to define which user groups should have access to reading and writing of specific data

folders. Users and groups can be managed either with a built-in directory system, through a connection to well-known LDAP based directory systems, or through Microsoft Active Directory.

In addition, data can be optionally shared by connecting QIAGEN CLC Genomics Server to a centralized relational database management system, such as Oracle®, MySQL® or PostgreSQL®.

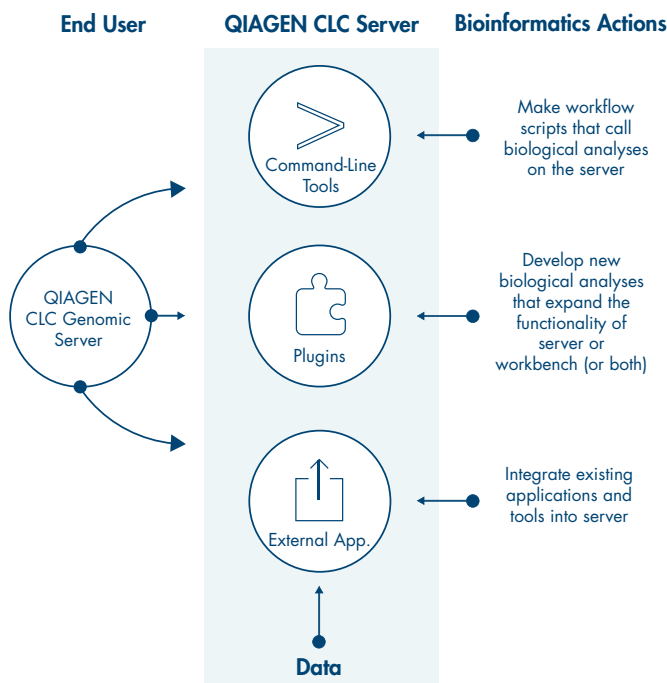
Tailor it to your own environment

QIAGEN CLC Command Line Interface is a collection of client tools for QIAGEN CLC Genomics Server that allows advanced users to integrate and deploy functionalities provided by QIAGEN CLC Genomics Server into their own, in-house command-line pipelines. Furthermore, the powerful External Applications Feature of QIAGEN CLC Genomics Server enables third-party software to be wrapped into workflow-enabled functions, which can then be deployed for users to leverage from QIAGEN CLC Genomics Workbench or command-line tools.

The QIAGEN CLC Genomics Server also includes a flexible plug-in system, utilized by QIAGEN CLC Developer API

and our Software Development Kit, which makes it possible to tightly integrate your own algorithms directly into the software and deploy them to other QIAGEN CLC Genomics Workbench users.

Our tools support IT administrators and bioinformaticians in customizing QIAGEN CLC Genomics Server to meet the demanding requirements of modern genomics and bioinformatics. In addition, the QIAGEN Discovery Services Custom Solutions team is able to provide a comprehensive suite of consulting, development, training and professional services that match the bioinformatics and integration requirements, regardless of complexity.



Server system requirements

- **Windows:** Windows 7, Windows 8, Windows 10, Windows Server 2012, Windows Server 2016 and Windows Server 2019
- **Mac®:** OS X 10.10, 10.11 and macOS 10.12, 10.13, 10.14
- **Linux:** RHEL 6.7 and later, Suse Linux Enterprise Server 11 and later (the software is expected to run without problem on other recent Linux systems)
- 64 bit
- The CLC Server and its backends, including the CLC Server job nodes and the grid nodes, must run on the same type of operating system
- File system that supports file locking

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The QIAGEN CLC Genomics Server is intended for molecular biology applications. These products are not intended for the diagnosis, prevention or treatment of a disease.

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