NoSQL technologies applied to Life Sciences

Present bioinformatics faces an exponential growth of data. Genomics, clinical records, or simulation data accumulate terabytes of data that require new ways of storage. NoSQL database managers have become increasingly popular as an easily scalable solution to data management in biology.

Summary

Present bioinformatics faces an exponential growth of data. Genomics, clinical records, or simulation data accumulate terabytes of data that require new ways of storage. NoSQL database managers have become increasingly popular as an easily scalable solution to data management in biology. Our group is working in two main fields, genomics and simulation data, and exploring the use of managers like Cassandra or MongoDB. A first product BIGNASim constitutes the first large scale database for managing Nucleic Acids Simulation Data.

Objectives

Explore the use of NoSQL technology to manage genomics and simulation data

Develop interfaces to access NoSQL database from bioinformatics tools

Barcelona Supercomputing Center - Centro Nacional de Supercomputación