



JanusGraph

Distributed, open source, massively scalable graph database

JanusGraph is a scalable graph database optimized for storing and querying graphs containing hundreds of billions of vertices and edges distributed across a multi-machine cluster.

JanusGraph is a project under The Linux Foundation, and includes participants from Expero, Google, GRAKN.AI, Hortonworks, IBM and Amazon.



Getting started (<https://docs.janusgraph.org/getting-started/>)



View on GitHub (<https://github.com/JanusGraph/janusgraph>)



Scalable

- Elastic and linear scalability for a growing data and user base
- Data distribution and replication for performance and fault tolerance
- Multi-datacenter high availability and hot backups



Open source

All functionality is totally free. No need to buy commercial licenses. JanusGraph is fully Open Source under the Apache 2 license.



Transactional

JanusGraph is a transactional database that can support thousands of concurrent users executing complex graph traversals in real time. Support for ACID and eventual consistency.



Data Storage

Graph data can be stored in:

- Apache Cassandra (<https://cassandra.apache.org>)
- Apache HBase (<https://hbase.apache.org>)
- Google Cloud Bigtable (<https://cloud.google.com/bigtable>)
- Oracle BerkeleyDB (<https://www.oracle.com/technetwork/database/berkeleydb/overview/index-093405.html>)

Native integration with the Apache TinkerPop™ graph stack:

- ScyllaDB (<https://scylladb.com/>)
- Gremlin graph query language (<https://tinkerpop.apache.org/docs/current/reference/#gremlin>)
- Gremlin Server (<https://tinkerpop.apache.org/docs/current/reference/#gremlin-server>)
- Gremlin Console (<https://tinkerpop.apache.org/docs/current/reference/#gremlin-console>)



Search

Advanced search capabilities like full-text search can optionally be supported via:

- Elasticsearch (<https://www.elastic.co>)
- Apache Solr (<https://lucene.apache.org/solr>)
- Apache Lucene (<https://lucene.apache.org>)



Adapters

There are different 3rd party storage adapters for JanusGraph:

- Aerospike (<https://github.com/Playtika/aerospike-janusgraph-storage-backend>)
- DynamoDB (<https://github.com/aws-labs/dynamodb-janusgraph-storage-backend>)
- Neo4j (<https://github.com/expero-inc/janusgraph-neo4j>)



Analytics

In addition to online transactional processing (OLTP

(https://en.wikipedia.org/wiki/Online_transaction_processing)),

JanusGraph supports global graph analytics

(OLAP

(https://en.wikipedia.org/wiki/Online_analytical_processing))

with its Apache Spark

(<https://spark.apache.org>) integration.



Visualization

JanusGraph supports variety of visualization tools like Arcade Analytics

(<https://arcadeanalytics.com/usermanual/#arcade-analytics>), Cytoscape (<https://cytoscape.org>),

Gephi (<https://tinkerpop.apache.org/docs/current/reference/#gephi-plugin>) plugin for Apache TinkerPop,

Graphexp (<https://github.com/bricaud/graphexp>),

Graphlytic (<https://graphlytic.com/>), G.V() -

Gremlin IDE (<https://gdotv.com>), Key Lines by

Cambridge Intelligence (<https://cambridge-intelligence.com/keylines/janusgraph>), Ogma

and Tom Sawyer Perspectives

(<https://www.tomsawyer.com/perspectives>).

Presentations

- TinkerPop Wide: Q&A with JanusGraph (<https://youtu.be/TJmmkJFyJol>), Oleksandr Porunov, Boxuan Li, & Stephen Mallette - 2024.02.23
- JanusGraph Online Meetup (<https://youtu.be/C9IYlapw6As>), Boxuan Li, Natalia Tisseyre, & Oleksandr Porunov - 2023.11.06
- JanusGraph Online Meetup (<https://youtu.be/oo-b4P1kHu8>), Marc de Lignie, Saurabh Verma, & Bruno Berisso - 2021.05.18
- JanusGraph Online Meetup (<https://youtu.be/g71MqqirQIE>), Florian Grieskamp, Bruno Berisso, & Ted Wilmes - 2020.10.07
- JanusGraph Online Meetup (<https://youtu.be/d6NRdIxdT60>), Ryan Stauffer, Ted Wilmes, Aaron Ploetz, Becky Nelson, & Rick Paiste - 2019.08.07
- JanusGraph Online Meetup (<https://youtu.be/vCKLzIIdfpU>), Chris Hupman, Ryan Stauffer, Jan Jansen, John Mertic, & Ted Wilmes - 2019.03.27
- DataWorksJun2017: Large Scale Graph Analytics with JanusGraph (<https://www.slideshare.net/ptgoetz/large-scale-graph-analytics-with-janusgraph>), P. Taylor Goetz, 2017.06.13
- HBaseCon2017 Community-Driven Graphs with JanusGraph (<https://www.slideshare.net/HBaseCon/communitydriven-graphs-with-janusgraph-77117443>), Jing Chen He & Jason Plurad, 2017.06.12

Users



The following users have deployed JanusGraph in production.



MAPPED

(<https://www.mapped.com>)



(<https://www.ebay.com>)



CRÉDIT AGRICOLE
CORPORATE & INVESTMENT BANK

(<https://www.ca-cib.com>)



TIMES INTERNET

(<https://www.timesinternet.in>)



(<https://www.target.com>)



redhat

(<https://www.redhat.com>)



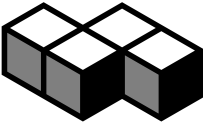
(<https://www.360.cn>)



(<https://gdatasoftware.com>)

FiNC

(<https://finc.com>)



COMPOSE
AN IBM COMPANY

(<https://www.compose.com>)



CELUM

(<https://www.celum.com>)

See all users →

(<https://github.com/JanusGraph/janusgraph/blob/master/README-by-janusgraph>)

Join our community channels

(<https://lists.lfaiidata.foundation/g/janusgraph-users/topics>) for troubleshooting help or questions about installation, configuration, and usage of JanusGraph.

Join Gremlin users group

(<https://groups.google.com/forum/#!forum/gremlin-users>) for questions regarding the Gremlin graph traversal language in general.



(<https://twitter.com/JanusGraph>)



(https://join.slack.com/join/shared_invite/zt-4096w409-f4096w409)



(<https://stackoverflow.com/questions/tagged/janusgraph>)



(<https://github.com/JanusGraph/janusgraph>)



(<https://www.linkedin.com/company/janusgraph>)



See Documentation (<https://docs.janusgraph.org>)

For discussion on internal implementation details of JanusGraph or proposing a major new feature or subproject use the JanusGraph dev group (<https://lists.lfaiidata.foundation/g/janusgraph-dev/topics>).

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