



Apache Ignite for Node.js Developers

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- Why Apache Ignite and Node.JS?
- Apache Ignite for Node.JS overview
- Node.JS client implementation details
- Node.JS client roadmap
- Q&A



Why to use Node.JS with Ignite?

- Node.JS is best suited for real-time applications
 - Fast response time and events processing
 - Prudent resources utilization -> single-threaded
 - No compute intensive tasks -> single-threaded
- Apache Ignite solves performance and scalability problems
 - Ultra fast distributed memory-centric storage
 - Used as a cache, IMDG or IMDB for real-time applications



Apache Ignite and GridGain Overview



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GridGain

Accelerate Existing Applications with No Rip and Replace

In-Memory Streaming Continuous Database Analytics Learning Framework ACID **ANSI-99 SQL Transactions Compute and Service Grid In-Memory Data Store**

GridGain as an In-Memory Data Grid (IMDG)

- Slides in-between apps and RDBMSs ۲ with no rip and replace
 - ANSI-99 SQL compliant
 - Support for ACID transactions
- Accelerates existing app performance ۲
- Offload new data and computing ٠ requirements (real-time auditing and compliance, analytics, computations)





Clustering



- Server Nodes
 - Act as containers for data and computations
 - Generally started as standalone processes
- Clients
 - Used from the Node.JS apps





Node.JS Client

- Lightweight Connectivity
 - Connects through a socket-based protocol
- APIs for real-time apps
 - Key-value
 - SQL
 - Scan queries
- Model configuration





Demo:

- Start several nodes with ignite.sh (clustering demo)
- Connect to console.gridgain.com (monitoring demo)
 Open Node.JS Ignite examples with WebStorm or other IDE
- Run the key-value sample





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Distributed SQL







Demo:

Run the SQL samples of Node.JS examples package
Switch to WebConsole showing that the tables are created and metrics are updated





Thin Clients – Implementation Details

- Socket-level binary protocol
 - Cross-platform
- Thin Client is
 - An API above the protocol and
 - Language specific implementation
- Supported languages
 - Java, .NET, C++
 - Node.JS, Python, PHP





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	Regular (aka. Thick) Client	Thin Client
Cluster Communication	 Starts a JVM process Part of a cluster topology Several ports have to be opened 	 Connects through a proxy TCP/IP connection One port has to be opened
Scalability and performance	BestGoes to primary nodes directly	 Worse Communicates through the proxy (now) Direct communication (coming)
Supported APIs	All Ignite and GridGain APIs	 Get/put, SQL, scans, configuration
Supported Languages	 Java, .NET, C++ Time consuming to support other language 	 Easy to support any language Java, .NET, C++, Node.JS, Python, PHP are already available



Node.JS Client - Roadmap

- 2x and up performance acceleration
 - Direct connectivity to servers
 - Partition-awareness
- Triggering compute tasks execution
 - Java tasks deployed on servers
 - More powerful version of stored procedures
- Continuous queries
- Tell the community what you need





Resources



- Documentation:
 - https://apacheignite.readme.io/docs/nodejs-thin-client
- Getting Started Article:
 - <u>https://www.gridgain.com/resources/blog/getting-started-nodejs-and-apacher-ignitetm</u>
- RDBMs acceleration how-to:
 - <u>https://www.gridgain.com/resources/blog/using-no-rip-and-replace-apacher-ignitetm-mysql-and-nodejs</u>
- Ignite community:
 - <u>https://ignite.apache.org/community/resources.html#ask</u>
- GridGain Community Edition:
 - <u>https://www.gridgain.com/products/software/community-edition</u>





Apache Ignite Support – Faster Time to Reliable Ignite

- Get up and running faster with 2 hours initial consultation
- Ensure fast, reliable Ignite with unlimited 24x7 global support
 - Unlimited web/e-mail support
 - Identify bugs, workarounds
 - Troubleshoot performance, reliability issues



https://www.gridgain.com/products/services/support/support-apache-ignite



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Any Questions?

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