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What is Comdb2?

- Comdb2 is a clustered relational database management system that uses optimistic concurrency control techniques.
- Comdb2 offers full transactional support, a standard relational model, and the expressivity of SQL.

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Some Notable Features

- Provides multiple isolation levels, including snapshot and serializable isolation.
- Read/Write transactions run on any node, with the client library transparently negotiating connections to lowest cost (latency) node which is available.
- The client library provides transparent reconnect and resume.

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Anything else?

- Stored procedures via a dialect of Lua.
- Built using a variety of (heavily customized) open source technologies, including but not limited to:
 - -SQLite
 - —BerkeleyDB

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Anything else?

 Far more detailed information can be found in the VLDB 2016 paper, available here:

http://www.vldb.org/pvldb/vol9/p1377-scotti.pdf





What about Tcl?

- Tcl bindings are (now) included.
- One command will be added to the interpreter, named [cdb2].
- The [cdb2] command has approximately 20 subcommands.

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Server Installation

- The server can be installed using the instructions at: https://bloomberg.github.io/comdb2/install.html
- The examples that follow assume the initial test database is named "myDb".





Bindings Example #1

```
# load the bindings...
package require tclcdb2
# open database "myDb"...
set db [cdb2 open myDb local]
# perform a query...
cdb2 run $db "SELECT now();"
# close database...
cdb2 close $db
```

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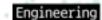
Bindings Example #2, part 1

```
cdb2 unbind $db

cdb2 bind $db 1 cstring two

cdb2 run $db \
 "SELECT x FROM t1 WHERE x = ?;"
```

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Bindings Example #2, part 2

```
# while there are more results...
while {[cdb2 next $db]} {
    # get column name, value, etc.
    puts [cdb2 colcount $db]
    puts [cdb2 colname $db 0]
    puts [cdb2 colvalue $db 0]
    puts [cdb2 coltype $db 0]
    puts [cdb2 colsize $db 0]
}
```

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What about TDBC?

 The thinking was that a TDBC interface for Comdb2 can be built upon the low-level interface exposed via the [cdb2] command.

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Questions?

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Useful Links

- Source Code: https://github.com/bloomberg/comdb2
- Documentation: http://bloomberg.github.io/comdb2
- VLDB 2016 Paper: http://www.vldb.org/pvldb/vol9/p1377-scotti.pdf

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