NATS CLI Messaging and JetStream

CONCEPTS

Subjects are dot-separated tokens. * matches one token, > matches all remaining tokens.

Publisher nats pub
↓ subject
Server routes by subject
↓ captured by
Stream JetStream, stored
↓ consumer reads
Consumer cursor + acks

Plain pub/sub is fire and forget: a subscriber that is offline misses the message. Streams (JetStream) keep it.

JetStream must be enabled on the server (nats-server -js), otherwise stream, consumer, kv and obj fail with no responders.

CONNECT AND CONTEXTS

nats context add *<name>* **--server** *<url>* **--select**
Save a server as a context

nats context ls
List saved contexts

nats context select *<name>*
Switch context

nats --server *<url>* *<command>*
Use a server without a context

nats --creds *<file>* *<command>*
Authenticate with a .creds file

NATS_URL=*<url>* **nats** *<command>*
Set the server by environment

PUBLISH AND SUBSCRIBE

nats pub *<subject>* "*<msg>*"
Publish a message

nats sub *<subject>*
Print messages as they arrive

nats sub "*<prefix>*.>"
Subscribe to a whole subject tree

PUBLISH AND SUBSCRIBE (cont.)

nats sub *<subject>* **--queue** *<group>*
Share messages across a queue group

echo "*<msg>*" **| nats pub** *<subject>*
Publish from stdin

nats pub *<subject>* "*<msg>*" **--jetstream**
Publish and wait for a stream ack

REQUEST AND REPLY

nats request *<subject>* "*<msg>*"
Send a request, print the reply

nats reply "*<subject>*" "*<body>*"
Answer requests with a fixed body

nats reply "*<subject>*" **--command** "*<cmd>*"
Answer with a command's output

SERVER AND ACCOUNT

nats account info
Show account limits and usage

nats-server -js
Start a local server with JetStream

STREAMS

nats stream add *<name>* **--subjects** "*<s>*.>" **--defaults**
Create a stream

nats stream ls
List streams

nats stream info *<name>*
Show config and state

nats stream view *<name>*
Browse stored messages

nats stream rm *<name>*
Delete a stream

nats stream purge *<name>*
Remove all messages

CONSUMERS

nats consumer add *<stream>* *<consumer>* **--pull --defaults**
Create a durable pull consumer

nats consumer next *<stream>* *<consumer>* **--count** *<n>*
Fetch and ack n messages

nats consumer ls *<stream>*
List a stream's consumers

nats consumer info *<stream>* *<consumer>*
Show pending and ack state

KEY-VALUE STORE

nats kv add *<bucket>*
Create a bucket

nats kv put *<bucket>* *<key>* *<value>*
Set a key

nats kv get *<bucket>* *<key>*
Read a key

nats kv ls
List buckets

nats kv watch *<bucket>*
Stream changes live

nats kv ls *<bucket>*
List keys in a bucket

nats kv del *<bucket>* *<key>*
Delete a key (leaves a marker)

nats kv history *<bucket>* *<key>*
Show all revisions of a key

OBJECT STORE

nats object get *<bucket>* *<name>*
Download a file

nats object put *<bucket>* *<file>*
Upload a file

obj is an alias for object, so nats obj put works too.

BENCHMARK

nats bench pub *<subject>* **--msgs** *<n>* **--clients** *<n>*
Measure publish throughput