

NODOCKER Environment for Inkblink

Requirements

Kafka (Apache)

[Kafka Binaries Download](#)

Install Kafka Using Homebrew

```
# Install Homebrew (if you already have homebrew, skip this step)
/bin/bash -c "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

# Install Kafka
brew update
brew install kafka
```

Create kraft.properties File

Create a file *kraft.properties* and place it in the directory homebrew installed Kafka; it may look something like this

```
/usr/local/Cellar/kafka/<version>/libexec
```

<kraft.properties>

```
node.id=1
process.roles=broker,controller
listeners=PLAINTEXT://0.0.0.0:9092,CONTROLLER://127.0.0.1:19092
advertised.listeners=PLAINTEXT://100.78.239.70:9092
controller.quorum.voters=1@127.0.0.1:19092
controller.listener.names=CONTROLLER
```

```
listener.security.protocol.map=CONTROLLER:PLAINTEXT,PLAINTEXT:PLAINTEXT
inter.broker.listener.name=PLAINTEXT
offsets.topic.replication.factor=1
group.initial.rebalance.delay.ms=0
log.retention.hours=1
log.cleanup.policy=delete
message.max.bytes=33554432
```

Format Storage (Using Created Properties File)

```
kafka-storage format -t $(kafka-storage random-uuid) -c /path/to/kraft.properties
```

Start Kafka Server

```
kafka-server-start /path/to/kraft.properties
```

Install Kafka Manually

Extract downloaded tar file

```
tar -xzf kafka_2.13-3.5.1.tgz
cd kafka_2.13-3.5.1
```

Create kraft.properties File

Create a file *kraft.properties* and place it in the extracted directory

```
node.id=1
process.roles=broker,controller
listeners=PLAINTEXT://0.0.0.0:9092,CONTROLLER://127.0.0.1:19092
advertised.listeners=PLAINTEXT://100.78.239.70:9092
controller.quorum.voters=1@127.0.0.1:19092
controller.listener.names=CONTROLLER
listener.security.protocol.map=CONTROLLER:PLAINTEXT,PLAINTEXT:PLAINTEXT
inter.broker.listener.name=PLAINTEXT
offsets.topic.replication.factor=1
group.initial.rebalance.delay.ms=0
log.retention.hours=1
```

```
log.cleanup.policy=delete
message.max.bytes=33554432
```

Format Storage (Using Created Properties File)

```
#In your extracted directory, run
bin/kafka-storage.sh format -t $(bin/kafka-storage.sh random-uuid) -c config/kraft.properties
```

Start Kafka Server

```
bin/kafka-server-start.sh config/kraft.properties
```

Check if Kafka is Running Properly

```
nc -vz <your_ip> 9092
# Or
kafka-topics --bootstrap-server <your_ip>:9092 --list
```

Configure .env for One Machine

```
# Replace with corresponding tailscale IPs
# TAILSCALE_IP is your machine IP
# Replace all others with your TAILSCALE_IP
TAILSCALE_IP=100.78.239.70
KAFKA_IP=100.78.239.70
COORDINATOR_IP=100.76.248.111
PRIMARY_SERVER_IP=100.78.239.70
BACKUP_SERVER_1_IP=100.78.239.70
BACKUP_SERVER_2_IP=100.72.227.86
BACKUP_SERVER_3_IP=100.78.239.70
BACKUP_SERVER_4_IP=100.72.227.86
KAFKA_BOOTSTRAP_SERVERS=100.78.239.70:9092
```

Run Servers Individually

You must run in the following order:

Kafka -> Coordinator -> Backups -> Primary

Have open 7 terminals for each server (including Kafka)

```
# Run export once on each terminal
export $(grep -v '^#' .env | xargs)

# arguments: coordinator, primary, backup1, backup2, backup3, backup4
sh run-server.sh <server>
```

Restart Kafka (Hard Reset) when you restart servers

```
# for MAC
rm -rf kafka-logs # Run inside Kafka directory

# for Windows
rm -rf C:\tmp\kafka-logs # Using non PowerShell
Remove-Item -Recurse -Force C:\tmp\kafka-logs # Using PowerShell
```

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