**Step-by-Step Setup and Execution Guide:**

**1. Setting Up Environment:**

* **Install Kali Linux**: Ensure Kali Linux is installed on your system. You can download it from [Kali Linux Official Website](https://www.kali.org/get-kali/).
* **Update Your System**: Before proceeding, update your system by running:

sudo apt-get update

sudo apt-get upgrade

**2. Installing SSDB**:

* **Download SSDB**: Fetch the latest version of SSDB from the official repository:

wget --no-check-certificate https://github.com/ideawu/ssdb/archive/master.zip

* **Unzip the Source Code**: Unpack the downloaded source code and navigate into the directory:

unzip master.zip

cd ssdb-master

* **Compile SSDB**: Compile the SSDB source code:

make

* **Install SSDB (Optional)**: Optionally, you can install SSDB to the specified location:

sudo make install

**Running SSDB**:

* **Start SSDB Server**: Launch the SSDB server using the default configuration file:

./ssdb-server ssdb.conf

* For older versions, you may need to manually kill the process:

kill `cat ./var/ssdb.pid`

**3. Installing MongoDB Community Edition:**

* **Install Required Tools**: Install **gnupg** and **curl**:

sudo apt-get install gnupg curl

* **Import MongoDB Public GPG Key**: (Copy and paste the whole command)

curl -fsSL https://pgp.mongodb.com/server-7.0.asc | sudo gpg --dearmor -o /usr/share/keyrings/mongodb-server-7.0.gpg

* **Create MongoDB List File** (for Debian 11 "Bullseye"):(Copy and paste the whole command)

echo "deb [ signed-by=/usr/share/keyrings/mongodb-server-7.0.gpg ] http://repo.mongodb.org/apt/debian bullseye/mongodb-org/7.0 main" | sudo tee /etc/apt/sources.list.d/mongodb-org-7.0.list

* **Install MongoDB**:

sudo apt-get update

sudo apt-get install -y mongodb-org

* **Start MongoDB Service**:

sudo systemctl start mongod

* **Verify MongoDB Installation**:

Check the status of MongoDB:

sudo systemctl status mongod

**4. Installing and Running Redis:**

* **Start Redis Server**: Redis comes pre-installed in Kali Linux. Start it using:

redis-server

**5. Installing YCSB:**

* **Download YCSB**: Use **curl** to download YCSB:

curl -O --location https://github.com/brianfrankcooper/YCSB/releases/download/0.17.0/ycsb-0.17.0.tar.gz

**Extract YCSB**:

tar xfvz ycsb-0.17.0.tar.gz

cd ycsb-0.17.0

**6. Running Benchmark Commands:**

First ensure you are in the folder

ycsb-0.17.0

then run the following commands:

For **Redis**:

* **Workload A**:

python2 ./bin/ycsb load redis -s -P workloads/workloada -p recordcount=100000 -p operationcount=100000 -p fieldcount=10 -p "redis.host=127.0.0.1" -p "redis.port=6379"

python2 ./bin/ycsb run redis -s -P workloads/workloada -p "redis.host=127.0.0.1" -p "redis.port=6379"

Repeat for Workloads B, C, D, E, F.

For **MongoDB**:

* **Workload A**:

python2 ./bin/ycsb load mongodb -s -P workloads/workloada -p recordcount=100000 -p operationcount=100000 -p threadcount=10 -p fieldlength=100 -p fieldcount=10 -threads 64 -p mongodb.url=mongodb://127.0.0.1:27017/ycsb

python2 ./bin/ycsb run mongodb -s -P workloads/workloada -p mongodb.url=mongodb://127.0.0.1:27017/ycsb

Repeat for Workloads B, C, D, E, F.

For **SSDB**:

* **Workload A**:

python2 ./bin/ycsb load redis -s -P workloads/workloada -p recordcount=100000 -p operationcount=100000 -p fieldcount=10 -p "redis.host=127.0.0.1" -p "redis.port=8888" > outputLoadSSDBA.txt

python2 ./bin/ycsb run redis -s -P workloads/workloada -p "redis.host=127.0.0.1" -p "redis.port=8888" > outputRunSSDBA.txt

python2 ./bin/ycsb run mongodb -s -P workloads/workloada -p mongodb.url=mongodb://127.0.0.1:27017/ycsb

Repeat for Workloads B, C, D, E, F.