

BlinkDB - Storage Engine

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Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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Chapter 2

Class Documentation

2.1 BlinkDB Class Reference

A lightweight single-threaded key-value store with LRU eviction and AOF persistence.

Public Member Functions

- [BlinkDB](#) (size_t cap=100)
Constructs a [BlinkDB](#) instance with a given capacity.
- [~BlinkDB](#) ()
Destroys the [BlinkDB](#) instance and cleans up resources.
- void [set](#) (const string &key, const string &value)
Sets a key-value pair in the database.
- string [get](#) (const string &key)
Retrieves the value associated with a key.
- void [del](#) (const string &key)
Deletes a key-value pair from the database.
- void [runREPL](#) ()
Runs a simple REPL (Read-Eval-Print Loop) for interacting with [BlinkDB](#).

2.1.1 Detailed Description

A lightweight single-threaded key-value store with LRU eviction and AOF persistence.

[BlinkDB](#) stores key-value pairs in memory with a fixed capacity. When the cache is full, the least recently used (LRU) key is evicted. All operations are logged to an append-only file (AOF) for persistence.

2.1.2 Constructor & Destructor Documentation

2.1.2.1 BlinkDB()

```
BlinkDB::BlinkDB (  
    size_t cap = 100) [inline]
```

Constructs a [BlinkDB](#) instance with a given capacity.

Parameters

<i>cap</i>	The maximum number of entries allowed in memory (default is 100).
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2.1.2.2 ~BlinkDB()

```
BlinkDB::~BlinkDB () [inline]
```

Destroys the [BlinkDB](#) instance and cleans up resources.

Removes the AOF file on destruction.

2.1.3 Member Function Documentation**2.1.3.1 del()**

```
void BlinkDB::del (
    const string & key) [inline]
```

Deletes a key-value pair from the database.

Parameters

<i>key</i>	The key to delete.
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2.1.3.2 get()

```
string BlinkDB::get (
    const string & key) [inline]
```

Retrieves the value associated with a key.

Parameters

<i>key</i>	The key to look up.
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Returns

The value associated with the key, or "NULL" if not found.

2.1.3.3 set()

```
void BlinkDB::set (
    const string & key,
    const string & value) [inline]
```

Sets a key-value pair in the database.

Parameters

<i>key</i>	The key to set.
<i>value</i>	The value to associate with the key.

The documentation for this class was generated from the following file:

- main.cpp

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