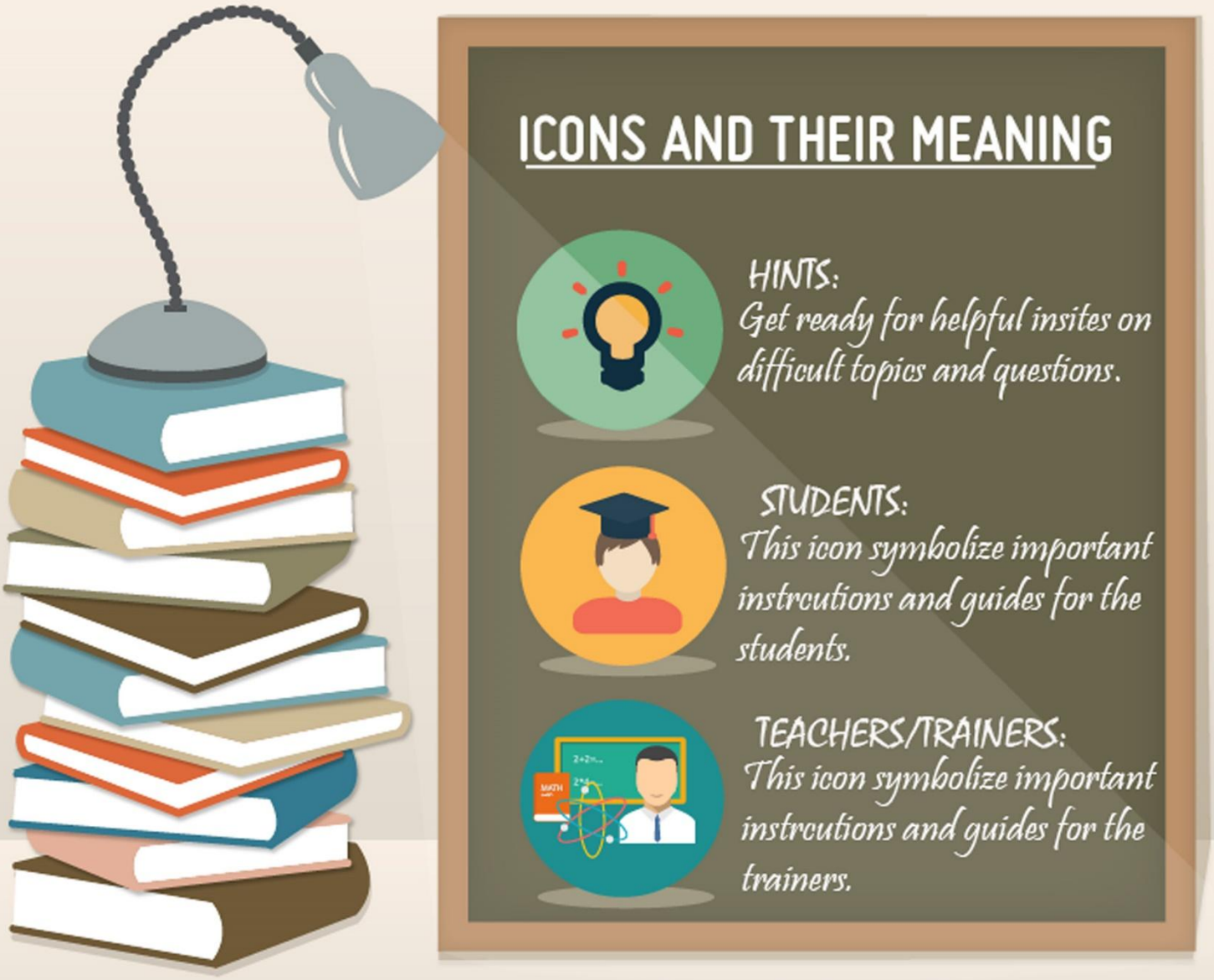
Full Stack Module-XIII

Manual V8.3

ANUDIP FOUNDATION


ICONS AND THEIR MEANING
HINTS:
Get ready for helpful insites on difficult topics and questions.
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Lesson No	Lesson Name	Practical Duration (Minutes)	Theory Duration (Minutes)	Page No
1	Understanding Redis	120	nil	03

Total Duration: __ Hours

Lesson 01: Understanding Redis (120 minutes)

Objective: After completing this lesson you will be able to learn about : • Basics • Installation • String Commands	**Materials Required:** • Computer With Windows XP and above • Stable Internet connection
Self- Learning Duration: 120 minutes	**Practical Duration:** nil
Total Duration: 120 minutes	

Basics

Redis can be best described as an open sourced, data structure server, since the keys can contain strings, hashes, lists, sets and sorted sets. Redis is written in C. Redis can definitely help in creating and deploying of a highly scalable and performance-oriented system.

Redis is an advanced key-value store and an apt solution for developing high performance, scalable web applications. There are three features that differentiate Redis from the others in the business:

1. Redis holds its database entirely in the memory, using the disk only for persistence.
2. Redis has a relatively rich set of data types when compared to many key-value data stores.
3. Redis can replicate data to any number of slaves.

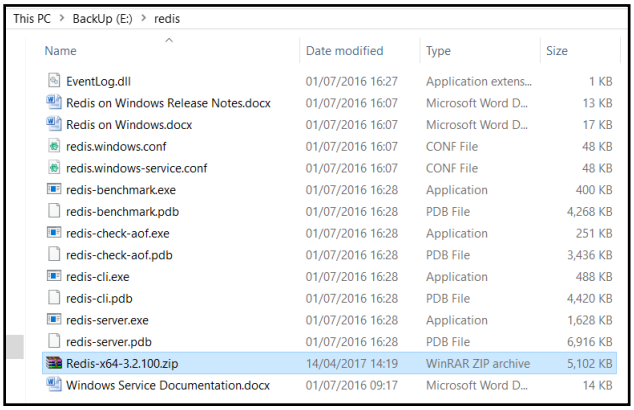
Advantages

- Exceptionally fast – Redis is very fast and can perform about 110000 SETs per second, about 81000 GETs per second.
- Supports rich data types – Redis natively supports most of the datatypes that developers already know such as list, set, sorted set, and hashes. This makes it easy to solve a variety of problems as we know which problem can be handled better by which data type.
- Operations are atomic – All Redis operations are atomic, which ensures that if two clients concurrently access, Redis server will receive the updated value.
- Multi-utility tool – Redis is a multi-utility tool and can be used in a number of use cases such as caching, messaging-queues (Redis natively supports Publish/Subscribe), any short-lived data in your application, such as web application sessions, web page hit counts, etc.

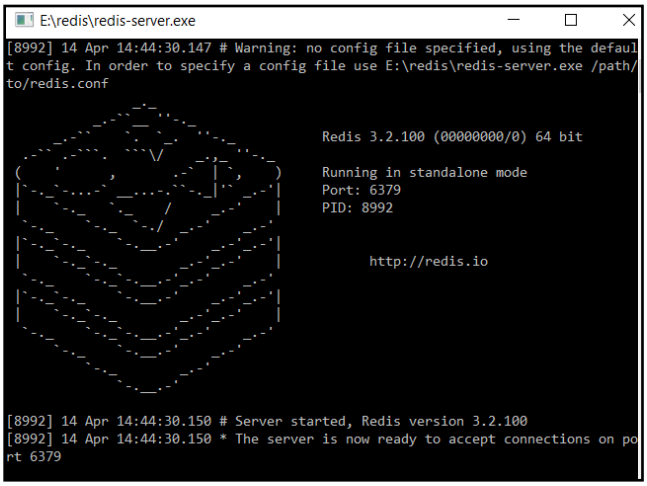
Installing Redis

Visit the official Redis site and download the version that's applicable to work with Windows 8.1 or higher version. You will find both the .msi and .zip files available in the site. Choose the one you want to download.

Extract the zip file to prepared directory.

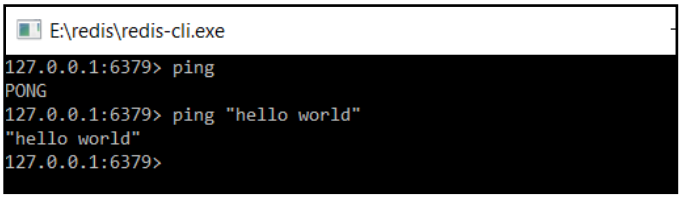


Run redis-server.exe, you can either directly run redis-server.exe by clicking or run via command prompt.



Run redis-cli.exe, after successfully running the redis-server. You can access it and test commands by running redis-cli.exe

PING command is used to test if a connection is still alive.



Your Redis installation is completed. You can now start using Redis.

String Commands

Strings commands in Redis are used for managing string values in Redis.

The syntax for using String commands in Redis:

redis 127.0.0.1:6379> COMMAND KEY_NAME

Below is a list of string commands used in Redis

- SET key value - This command sets the value at the specified key
- GET key - Gets the value of a key
- GETRANGE key start end - Gets a substring of the string stored at a key
- GETSET key value - Sets the string value of a key and return its old value
- GETBIT key offset - Returns the bit value at the offset in the string value stored at the key
- MGET key1 [key2..] - Gets the values of all the given keys
- SETBIT key offset value - Sets or clears the bit at the offset in the string value stored at the key
- SETEX key seconds value - Sets the value with the expiry of a key
- SETNX key value - Sets the value of a key, only if the key does not exist
- SETRANGE key offset value - Overwrites the part of a string at the key starting at the specified offset
- STRLEN key - Gets the length of the value stored in a key
- MSET key value [key value ...] - Sets multiple keys to multiple values
- MSETNX key value [key value ...] - Sets multiple keys to multiple values, only if none of the keys exist
- PSETEX key milliseconds value - Sets the value and expiration in milliseconds of a key
- INCR key - Increments the integer value of a key by one
- INCRBY key increment - Increments the integer value of a key by the given amount
- INCRBYFLOAT key increment - Increments the float value of a key by the given amount
- DECR key - Decrements the integer value of a key by one
- DECRBY key decrement - Decrements the integer value of a key by the given number
- APPEND key value - Appends a value to a key

Reviewing the chapter

- Redis is an advanced key-value store and an apt solution for developing high performance, scalable web applications.
- Redis is extremely fast and supports rich data types.

Testing your skills

1. _____ sets the string value of a key and return its old value

a) GETSET key value, b) GETBIT key offset, c) SET key value, d) GET key

2. _____gets the values of all the given keys

a) GETSET key value, b) MGET key1 [key2..], c) SETNX key value, d) MSET key value [key value ...]

3. _____ increments the integer value of a key by one

a) INCR key, b) INCRBY key increment, c) INCRBYFLOAT key increment, d) None of the above

4. _____ decrements the integer value of a key by the given number

a) DECR key, b) DECRBY key decrement, c) Both (a) and (b), d) None of the above

5. Which of the following are advantages of Redis

a) multi-utility tool, b) exceptionally fast, c) atomic operations, d) all of the above