

# Endian

Purpose:

1. Networking , any.
2. Doing some hacky trick to encrypt your data

Data is stored 8 bits/1 byte at a time. 2 ways of storing, Little Endian or Big Endian.

Example of an int = 0xABCDEF12

Most significant bit (MSB)

Least significant bit (LSB)

AB

CD

EF

12

32-bit Memory Layout: storing an int = 0xABCDEF12 , a short: 0x3456 , a char = 0x13, a char = 0x77

Big Endian

Little Endian

0x00000000 (Low Address)

AB

0x00000000 (Low Address)

0x00000001

CD

0x00000001

0x00000002

EF

0x00000002

0x00000003

12

0x00000003

0x00000004

34

0x00000004

0x00000005

56

0x00000005

0x00000006

13

0x00000006

0x00000007

77

0x00000007

0

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## Big Endian

## Little Endian

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0x00000008 (High Address)

0x00000008 (High Address)

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How to remember?

1. Lets set an anchor point where memory layout always stars at 0, normal way of remembering (e.g. 0x00000000)
2. Big Endian stores it's values as it is
3. Little Endian stores it's values flip

Byte by Byte

Reference:

<https://en.wikipedia.org/wiki/Endianness>