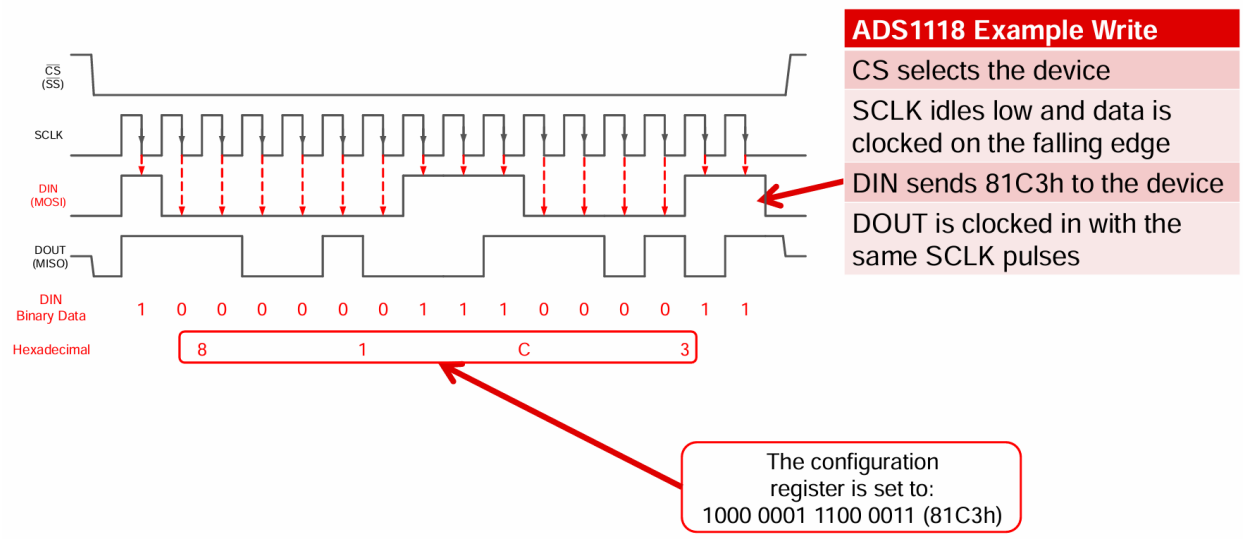
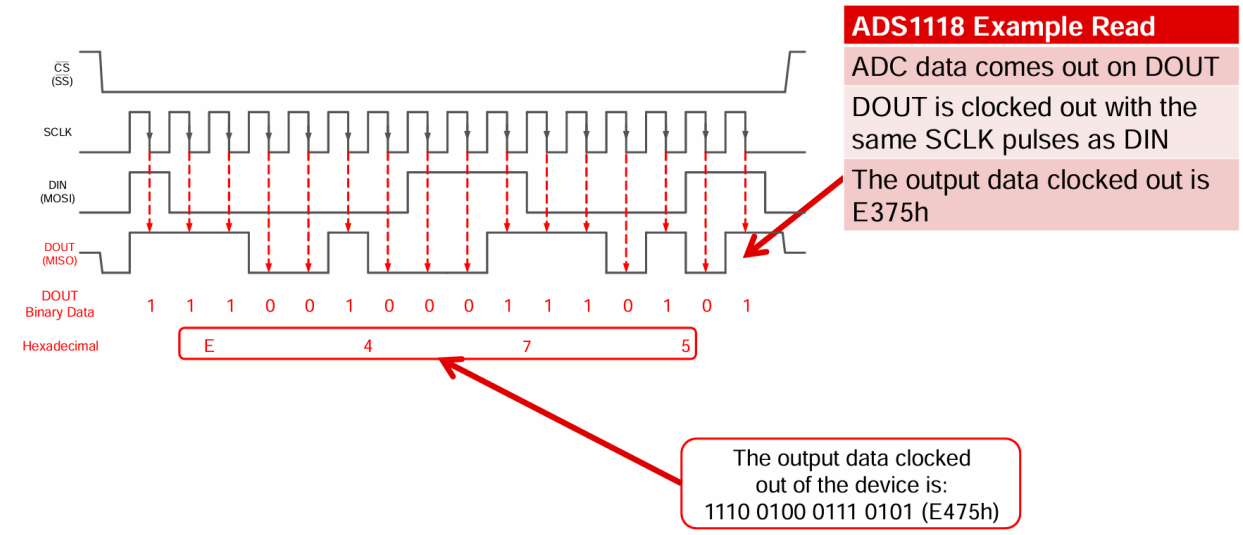
# SPI COMMUNICATION EXAMPLE

# EXAMPLE 1:ADS1118 CONNECTED TO A MICROCONTOLLER




The ADS118 uses a 16 bit full duplex operation in mode 1 (CPOL-0,CPHA-1).During write operation the microcontroller transmits a 16 bit configuration word on the DIN(MOSI) pin , sampled by ADS1118 on the falling edge of the clock.

During read operation , 16 bits of ADC data are clocked out on each falling edge of clock.

AS soon as the data is sent to the ADS1118 from the microcontroller the next transmission begins and during the next transmission ADS1118 will be sending data of the previous conversion.

**EXAMPLE 2:**

The PIC microcontroller functions as the SPI Master, and the EEPROM acts as the Slave.

Communication begins when the PIC pulls the CS (Chip Select) pin LOW, enabling the EEPROM.

The PIC sends SPI commands and memory addresses to the EEPROM through the MOSI line, synchronized with clock pulses from SCK.

During a write operation, the PIC enables write mode, then sends the WRITE command, target memory address, and data byte to be stored.

During a read operation, the PIC sends the READ command and the memory address, after which the EEPROM outputs the stored data via the MISO line.

All data transfer occurs bit-by-bit in synchronization with the clock generated by the PIC.

After completing the read or write operation, the PIC sets the CS pin HIGH, disabling the EEPROM and ending communication.