

```
#include "HC-SR04.h"
```

```
void ultra_init(void){  
    /*Configuring PA5 for generating pulse sent to trig pin*/  
    RCC->APB2ENR |= RCC_APB2ENR_IOPAEN; //Enable GPIOA clock  
    GPIOA->CRL |= GPIO_CRL_MODE0; //Set the PA0 pin to output mode  
    GPIOA->CRL &= ~GPIO_CRL_CNF0; //Set the PA0 pin to push-pull mode  
  
    //Configuring output from echo pin to be sent to the board (PA6 pin)  
    GPIOA->CRL &= ~GPIO_CRL_MODE1; //Set PA1 to input mode  
    GPIOA->CRL &= ~GPIO_CRL_CNF1; //Set PA1 to floating input mode  
    GPIOA->CRL |= GPIO_CRL_CNF1_1;  
}
```

```
void TIM2_us_Delay(uint32_t delay){  
    RCC->APB1ENR |= 1; //Start the clock for the timer peripheral  
    TIM2->ARR = (int)(delay/0.0625); // Total period of the timer  
    TIM2->CNT = 0;  
    TIM2->CR1 |= 1; //Start the Timer  
    while(!(TIM2->SR & TIM_SR_UIF)){ //Polling the update interrupt flag  
        TIM2->SR &= ~(0x0001); //Reset the update interrupt flag  
    }  
}
```