

H-Bridge Control Software

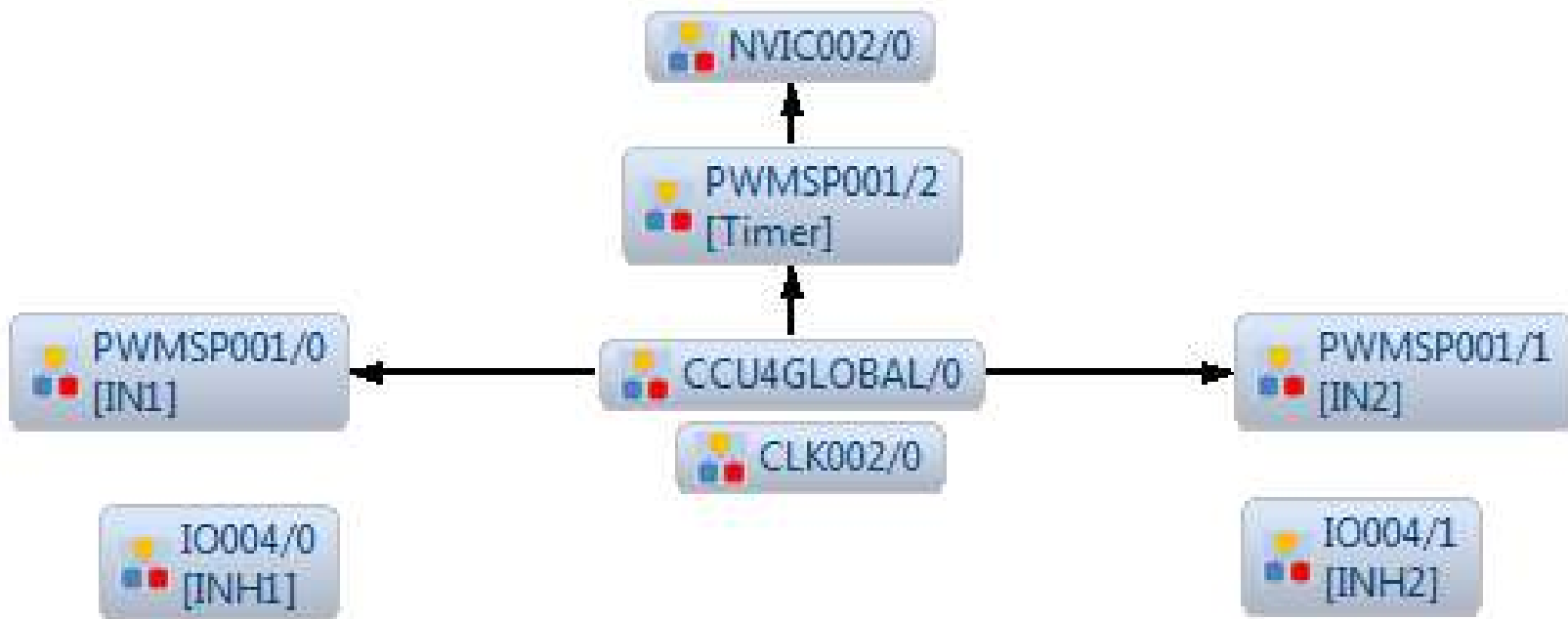
for the DC Motor Control Shield with
XMC1100 Boot Kit and DAVE

Q1 2015



DAVE APPs Structure

- Output Voltage is controlled by two PWMSP001 APPs
- Ramp time is controlled by a third PWMSP001 APP via Interrupts
- Inhibit signals are software controlled by IO004 (port pins)



Ramp Generator and its Parameters

```
// Parameters
const int32_t supplyvoltage = 12;// supply voltage, used for scaling the duty cycle
const int32_t outputvoltage_max = 4;// maximum output voltage
const int32_t outputvoltage_min = -4;// minimum output voltage
const int32_t flat_time = 100;// ticks based on 25Hz. (100 ticks = 4 seconds)
```

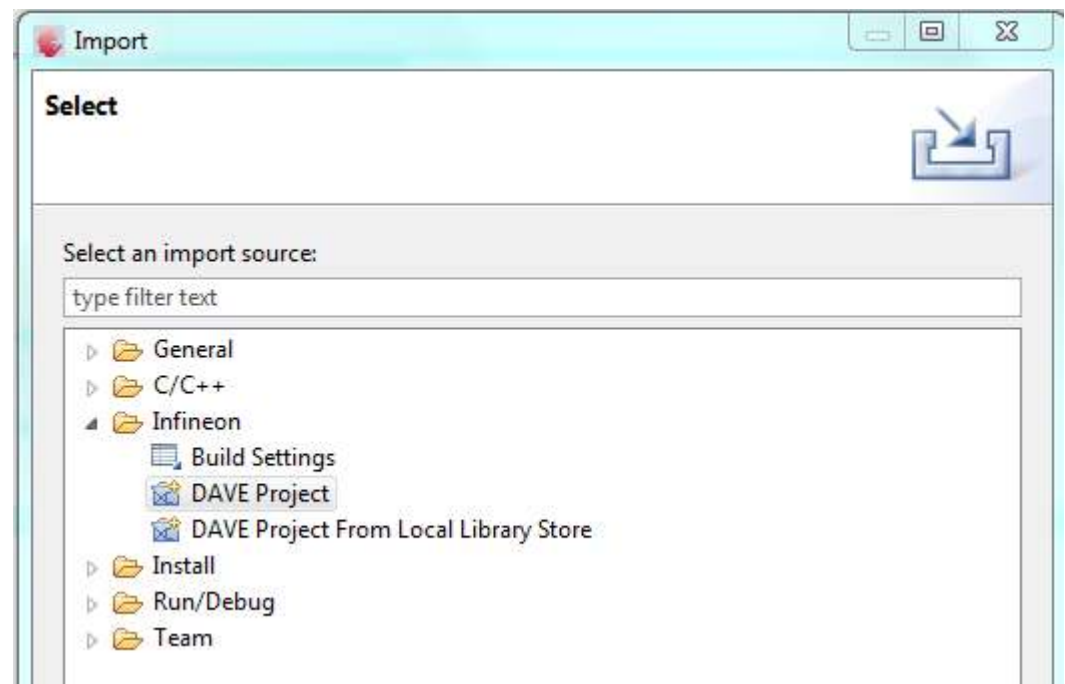
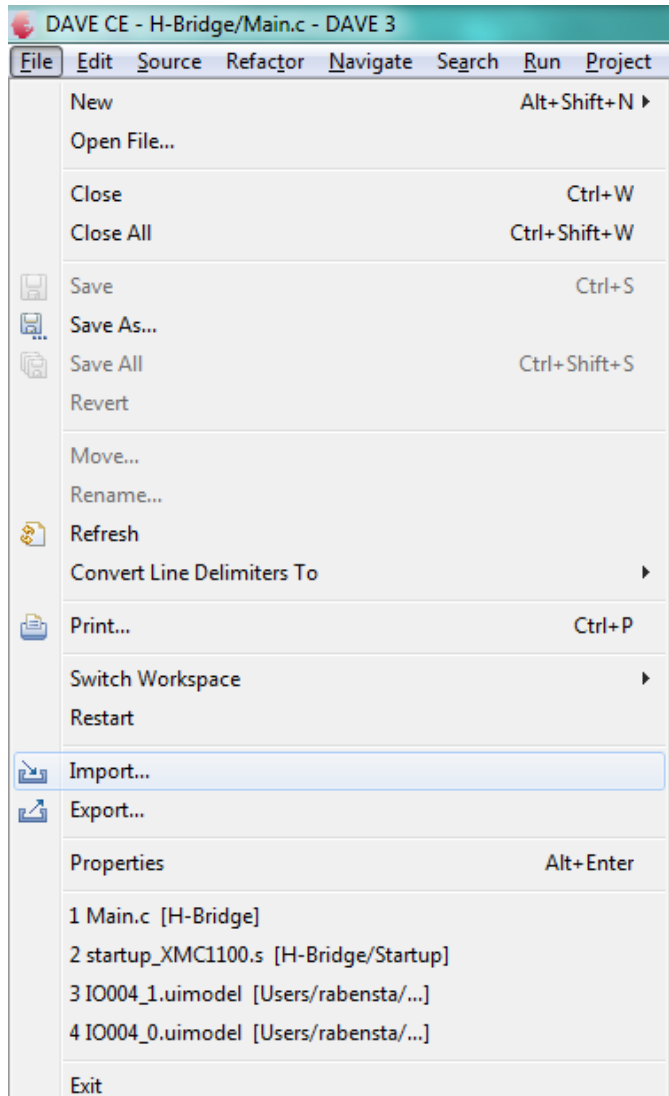
```

/*****
 *      Ramp Generator
 *
 *
 *
 * max      -----
 *          / flat_time \
 *         /             \
 *        /               \
 *       /                 \
 *      0 -/-----\-----/-----
 *         \             /
 *          \ flat_time /
 *         \           /
 *        \         /
 *       \       /
 *      min      -----
 *
 *****/

```

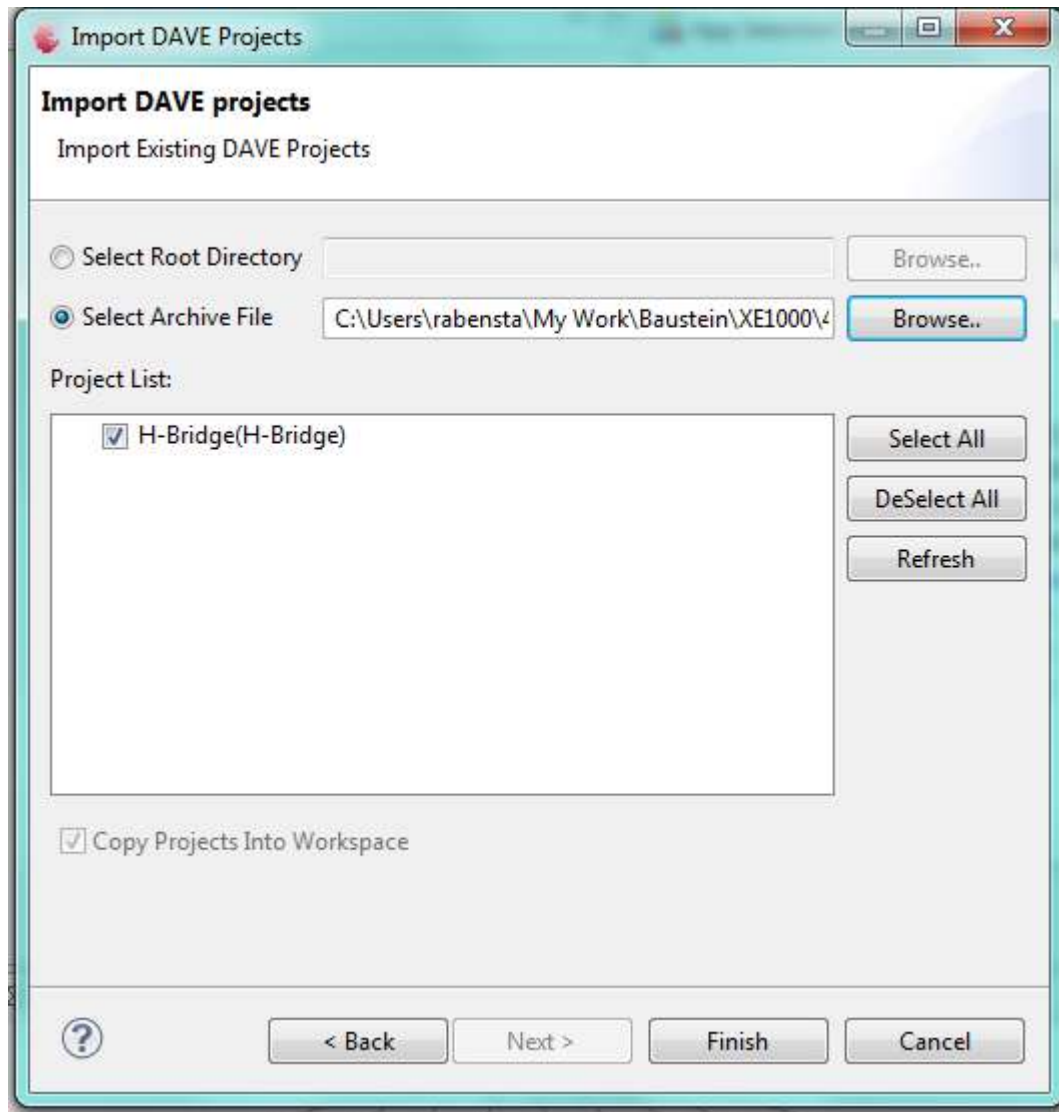
How to import the project into DAVE

- 1) Select File – Import
- 2) Chose Infineon – DAVE Project



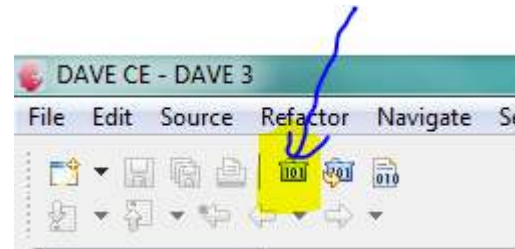
How to import the project into DAVE

- Select archive File
- Browse for the file
- Select the project
- Click Finish

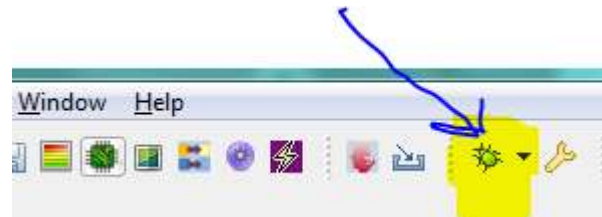


How to download and run the project

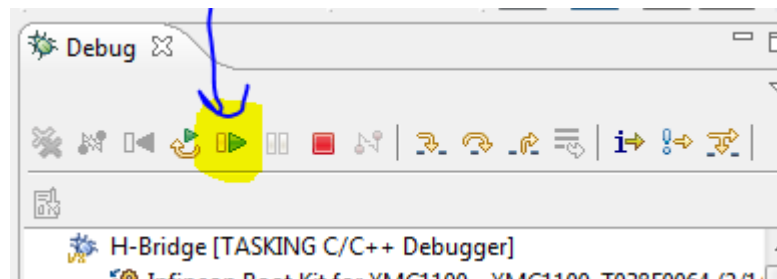
- Build the project



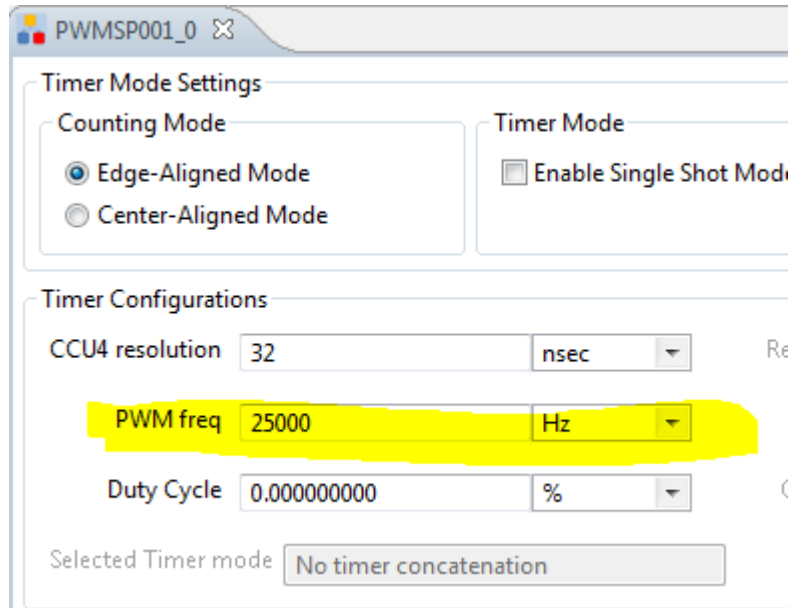
- Start Debugger



- Run the software



How to change PWM Frequency



- Change PWM Frequency in both PWM APP instances

- PWMSP001/0

- PWMSP001/1





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