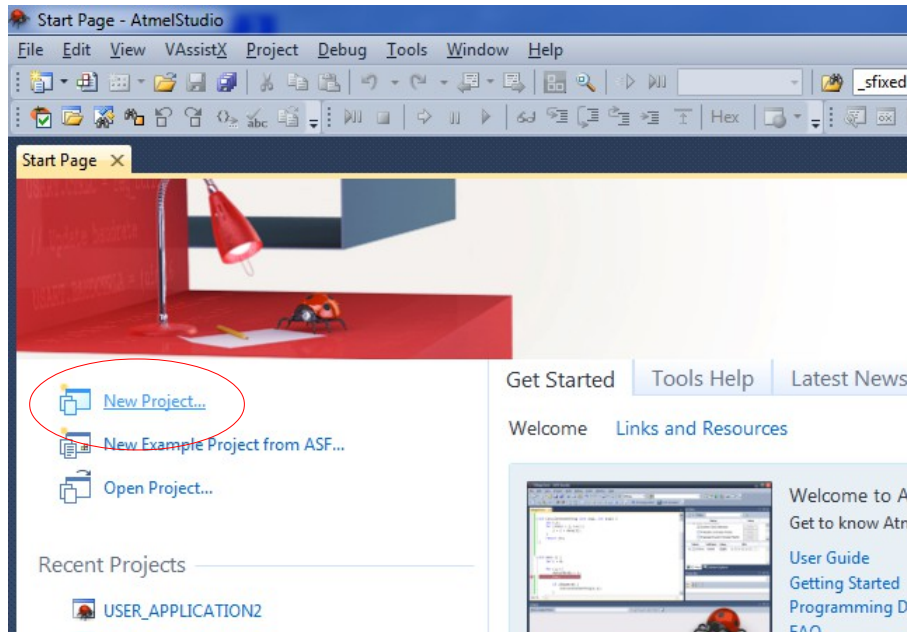
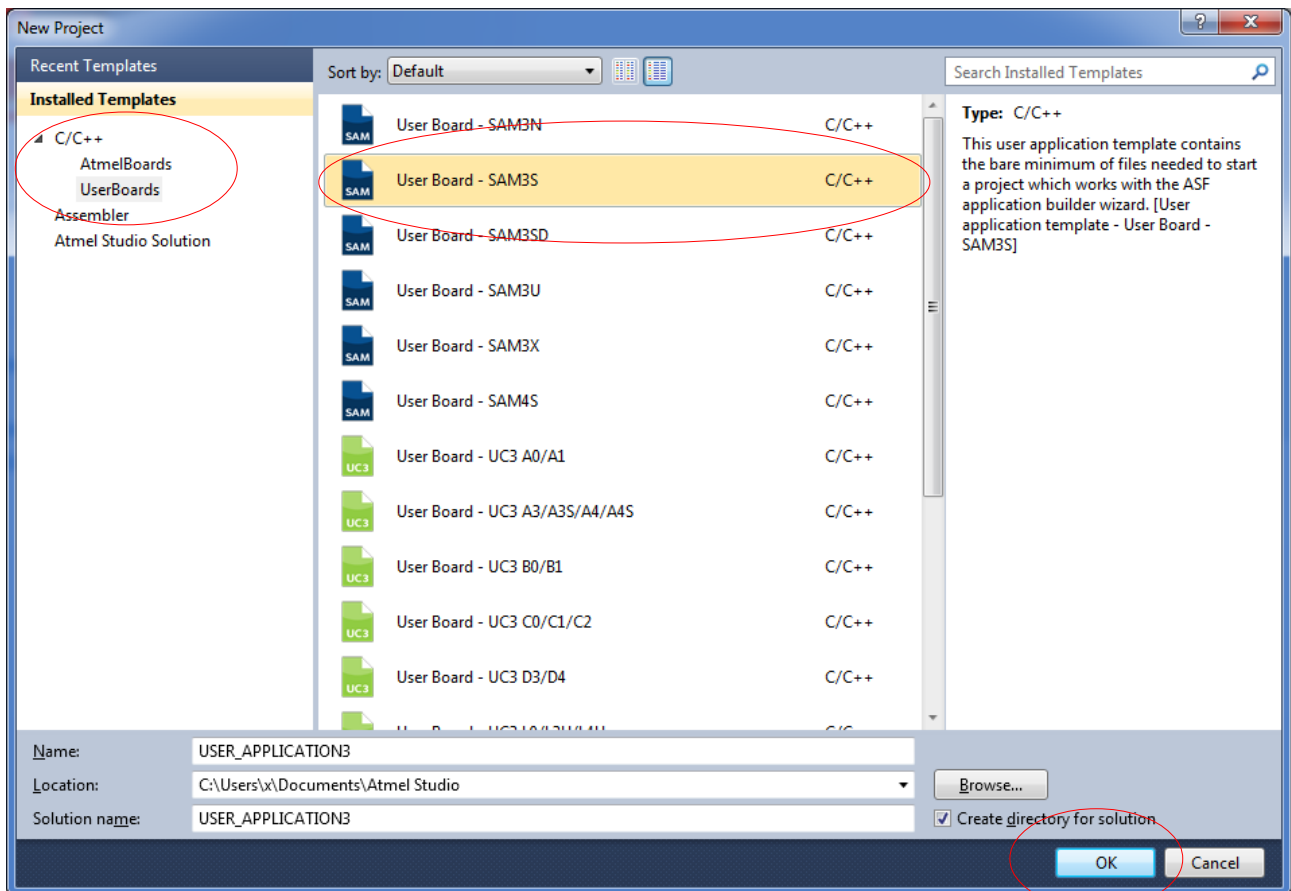


## Maßnahmenliste, um auf einem USER-BOARD einen ATSAM3S1B zu debuggen:

1.) Anlage: Auf der Start Seite „New Project“ auswählen:



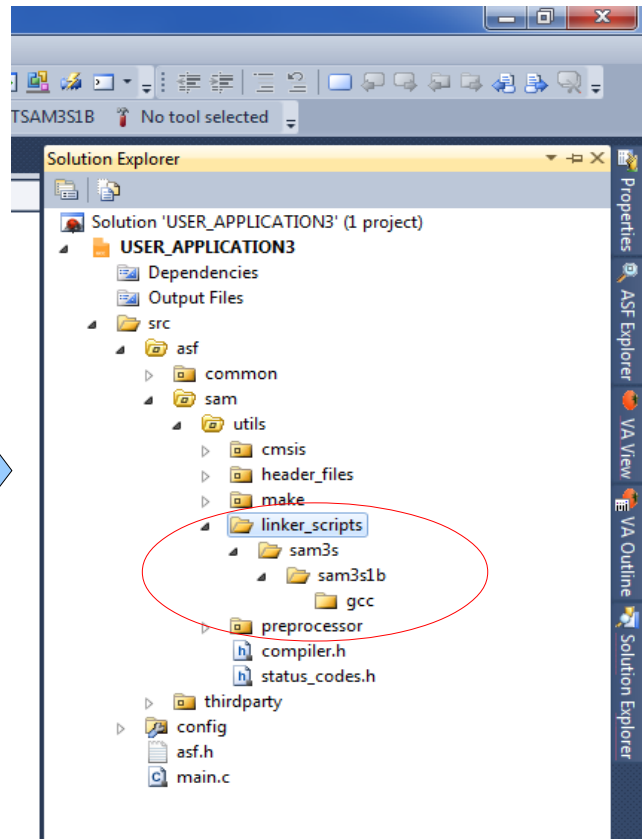
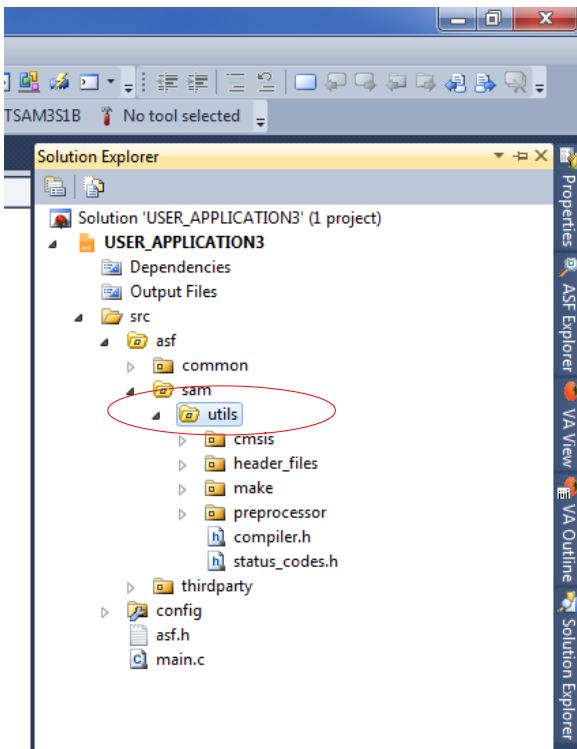
2.) C/C++\UserBoards\User Board-SAM3S => OK:



3.) Anschließend „ATSAM3S1B“ auswählen

#### 4.) Linker Datei integrieren:

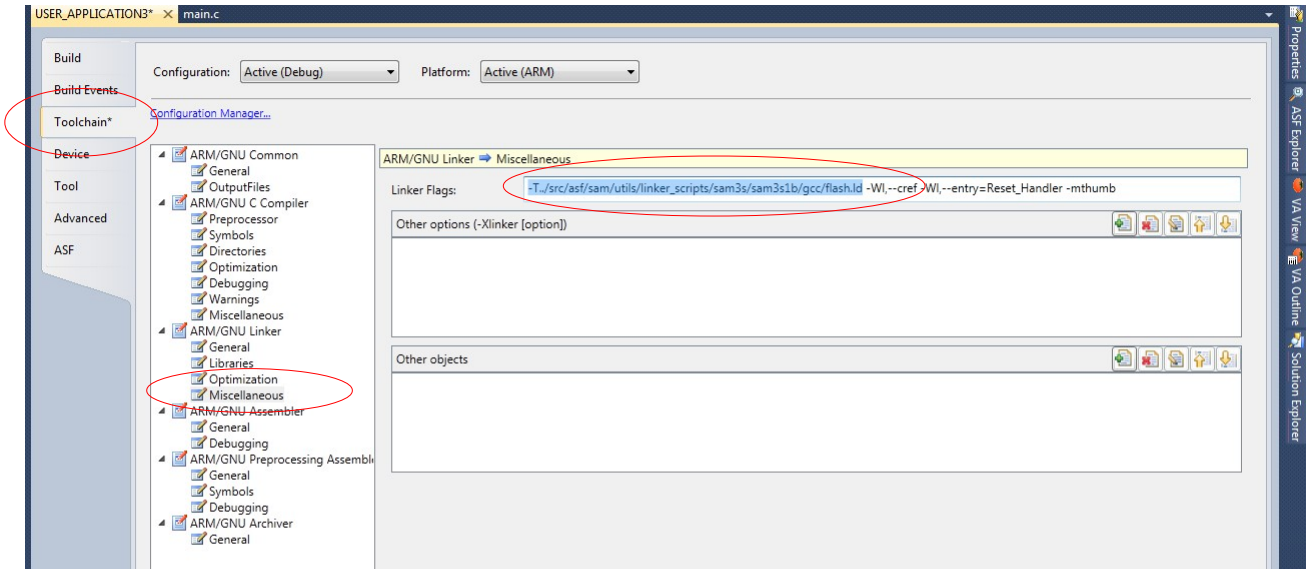
- Über den „Solution Explorer“ im Pfad: „...src\asf\sam\utils“
- den Pfad: „...linker\_scripts\sam3s\sam3s1b\gcc“ hinzufügen (dazu rechts-clicken, Add, New Folder“





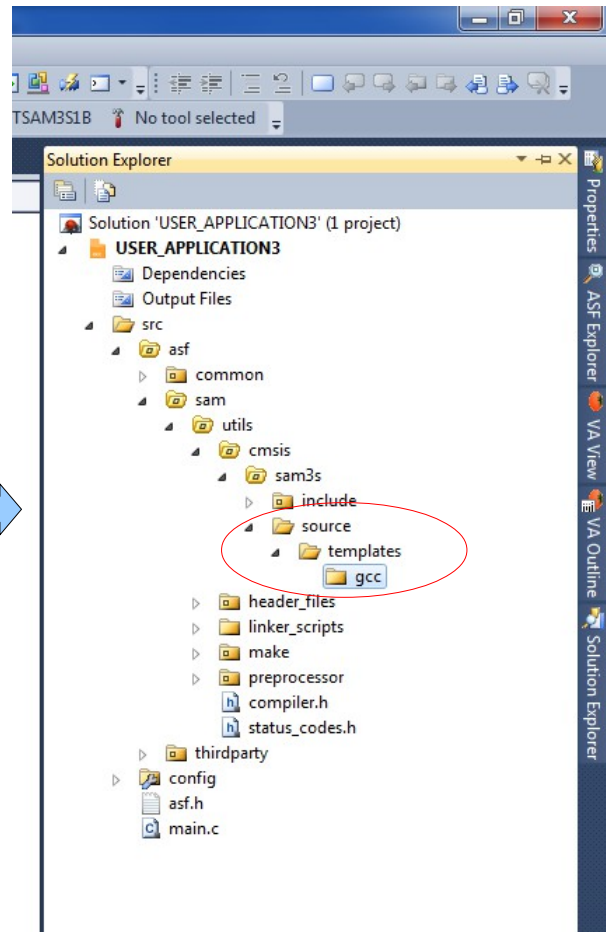
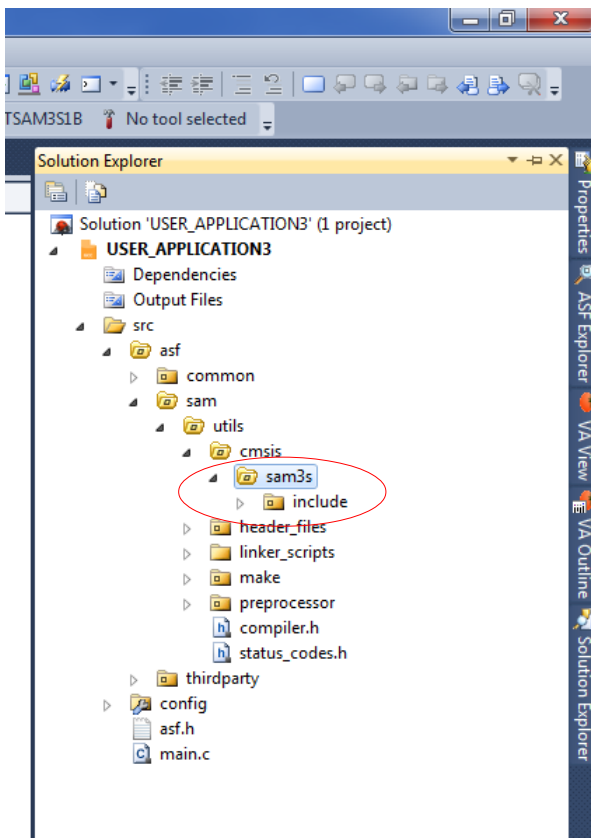
## 6.) Linker Datei in die Toolchain einbinden:

- Im Menü „Projekt“ die Projekt-Eigenschaften auswählen
- In den Projekt-Eigenschaften den Reiter „Toolchain“ auswählen
- Unter „...Linker\Miscellaneous..“ folgenden Pfad in der Linker Zeile einfügen:  
„-T./src/asf/sam/utils/linker\_scripts/sam3s/sam3s1b/gcc/flash.ld“



## 7.) Startup-Pfade integrieren

- Im Verzeichnis „...src\asf\sam\cmsis\sam3s\“ die folgenden Unterpfade anlegen:  
„...source\templates\gcc“





## 9.) Startup-Datei speziell für ATSAM3S1B anpassen:

- Die Datei „startup\_sam3s.c“ öffnen
- folgende Einträge durch „Dummy\_Handler“ ersetzen:
  - SMC\_Handler
  - PIOC\_Handler
  - TC3\_Handler
  - TC4\_Handler
  - TC5\_Handler

```
MemManage_Handler,  
BusFault_Handler,  
UsageFault_Handler,  
0, 0, 0, 0, /* Reserved */  
SVC_Handler,  
DebugMon_Handler,  
0, /* Reserved */  
PendSV_Handler,  
SysTick_Handler,  
  
/* Configurable interrupts */  
SUPC_Handler, /* 0 Supply Controller */  
RSTC_Handler, /* 1 Reset Controller */  
RTC_Handler, /* 2 Real Time Clock */  
RTT_Handler, /* 3 Real Time Timer */  
WDT_Handler, /* 4 Watchdog Timer */  
PMC_Handler, /* 5 PMC */  
EFC_Handler, /* 6 EFC */  
Dummy_Handler, /* 7 Reserved */  
UART0_Handler, /* 8 UART0 */  
UART1_Handler, /* 9 UART1 */  
SMC_Handler, /* 10 SMC */  
PIOA_Handler, /* 11 Parallel IO Controller A */  
PIOB_Handler, /* 12 Parallel IO Controller B */  
PIOC_Handler, /* 13 Parallel IO Controller C */  
USART0_Handler, /* 14 USART 0 */  
USART1_Handler, /* 15 USART 1 */  
Dummy_Handler, /* 16 Reserved */  
Dummy_Handler, /* 17 Reserved */  
HSMCI_Handler, /* 18 HSMCI */  
TWI0_Handler, /* 19 TWI 0 */  
TWI1_Handler, /* 20 TWI 1 */  
SPI_Handler, /* 21 SPI */  
SSC_Handler, /* 22 SSC */  
TC0_Handler, /* 23 Timer Counter 0 */  
TC1_Handler, /* 24 Timer Counter 1 */  
TC2_Handler, /* 25 Timer Counter 2 */  
TC3_Handler, /* 26 Timer Counter 3 */  
TC4_Handler, /* 27 Timer Counter 4 */  
TC5_Handler, /* 28 Timer Counter 5 */  
ADC_Handler, /* 29 ADC controller */  
DACC_Handler, /* 30 DACC controller */  
PWM_Handler, /* 31 PWM */  
CRCCU_Handler, /* 32 CRC Calculation Unit */  
ACC_Handler, /* 33 Analog Comparator */  
UDP_Handler, /* 34 USB Device Port */  
Dummy_Handler /* 35 not used */
```



```
MemManage_Handler,  
BusFault_Handler,  
UsageFault_Handler,  
0, 0, 0, 0, /* Reserved */  
SVC_Handler,  
DebugMon_Handler,  
0, /* Reserved */  
PendSV_Handler,  
SysTick_Handler,  
  
/* Configurable interrupts */  
SUPC_Handler, /* 0 Supply Controller */  
RSTC_Handler, /* 1 Reset Controller */  
RTC_Handler, /* 2 Real Time Clock */  
RTT_Handler, /* 3 Real Time Timer */  
WDT_Handler, /* 4 Watchdog Timer */  
PMC_Handler, /* 5 PMC */  
EFC_Handler, /* 6 EFC */  
Dummy_Handler, /* 7 Reserved */  
UART0_Handler, /* 8 UART0 */  
UART1_Handler, /* 9 UART1 */  
Dummy_Handler, /* 10 SMC */  
PIOA_Handler, /* 11 Parallel IO Controller A */  
PIOB_Handler, /* 12 Parallel IO Controller B */  
Dummy_Handler, /* 13 Parallel IO Controller C */  
USART0_Handler, /* 14 USART 0 */  
USART1_Handler, /* 15 USART 1 */  
Dummy_Handler, /* 16 Reserved */  
Dummy_Handler, /* 17 Reserved */  
HSMCI_Handler, /* 18 HSMCI */  
TWI0_Handler, /* 19 TWI 0 */  
TWI1_Handler, /* 20 TWI 1 */  
SPI_Handler, /* 21 SPI */  
SSC_Handler, /* 22 SSC */  
TC0_Handler, /* 23 Timer Counter 0 */  
TC1_Handler, /* 24 Timer Counter 1 */  
TC2_Handler, /* 25 Timer Counter 2 */  
Dummy_Handler, /* 26 Timer Counter 3 */  
Dummy_Handler, /* 27 Timer Counter 4 */  
Dummy_Handler, /* 28 Timer Counter 5 */  
ADC_Handler, /* 29 ADC controller */  
DACC_Handler, /* 30 DACC controller */  
PWM_Handler, /* 31 PWM */  
CRCCU_Handler, /* 32 CRC Calculation Unit */  
ACC_Handler, /* 33 Analog Comparator */  
UDP_Handler, /* 34 USB Device Port */  
Dummy_Handler /* 35 not used */
```

10.) Pfade in die Toolchain integrieren:

- Im Menü „Projekt“ die Projekt-Eigenschaften auswählen
- In den Projekt-Eigenschaften den Reiter „Toolchain“ auswählen
- Unter „...Compiler\Directories.“, „...Assembler\General“ und „... Preprocessing Assembler“ folgenden Pfad einfügen:  
„../src/asf/sam/utlis/cmsis/sam3s/source/templates“

