


# UEFI Basic Tutorial (Seventeen) - Simple Use of SMM

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## 1. Write SMM driver to register SMM service

### 1. Use SwDispatch Demo1

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```
1 EFI_STATUS
2 EFIAPI
3 CsdnSmiHandler (
4     IN EFI_HANDLE DispatchHandle,
5     IN CONST VOID *Context OPTIONAL,
6     IN OUT VOID *CommBuffer OPTIONAL,
7     IN OUT UINTN *CommBufferSize OPTIONAL
8 )
9 {
10     DEBUG((EFI_D_ERROR, "[CSDN] %a Enter\n", __FUNCTION__));
11     // 实现SMM服务
12     DEBUG((EFI_D_ERROR, "[CSDN] %a Exit\n", __FUNCTION__));
13     return EFI_SUCCESS;
14 }
15
16
17 Status = gSmst->SmmLocateProtocol(
18     &gEfiSmmSwDispatch2ProtocolGuid,
19     NULL,
20     (VOID **)&SwDispatch
twen );
twen
twen SwContext.SwSmiInputValue = CSDN_SW_SMI_NO; //自定义SMI Number
twen ASSERT_EFI_ERROR(SwContext.SwSmiInputValue < SwDispatch->MaximumSmiValue);
25
26 Status = SwDispatch->Register(
27     SwDispatch,
28     CsdnSmiHandler,
29     &SwContext,
30     &SwSmiHandle
31 );
32
< ● >
```

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### 2. Use gSmst->SmiHandlerRegister Demo2

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```
1 EFI_STATUS
2 EFIAPI
3 SmmCsdnSmiHandler (
4     IN EFI_HANDLE DispatchHandle,
5     IN CONST VOID *Context OPTIONAL,
6     IN OUT VOID *CommBuffer OPTIONAL,
7     IN OUT UINTN *CommBufferSize OPTIONAL
8 )
9 {
10     DEBUG((EFI_D_ERROR, "[CSDN] %a Enter\n", __FUNCTION__));
11     //可以将SMM RAM 内容copy回 communication buffer
12     DEBUG((EFI_D_ERROR, "[CSDN] %a Exit\n", __FUNCTION__));
13     return EFI_SUCCESS;
14 }
15
16
```

```
16 | Status = gSmst->SmiHandlerRegister(  
17 |     SmmCsdnSmiHandler,  
18 |     &gCsdnSmmGuid,  
19 |     &DispatchHandle  
20 | );  
twen
```

收起 ^

2. Triggering SMM service

1. Use IO Demo3

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```
1 | IoWrite8 (0xB2, CSDN_SW_SMI_NO);
```

2. Use SmmCommunication to access SMM Demo4

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```
1 | Status = SmmCommunication->Communicate(SmmCommunication, CommBuffer, &CommSize);
```

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