

## ASCET System Constant as parameter in the experiment



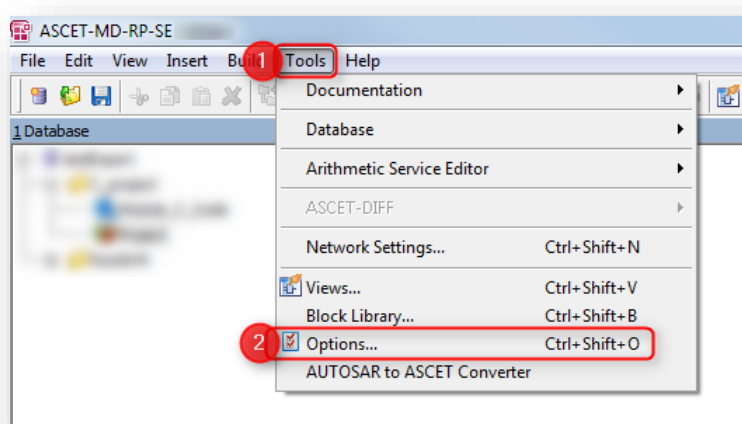
### Question

- How to configure that System Constants behave like parameters?

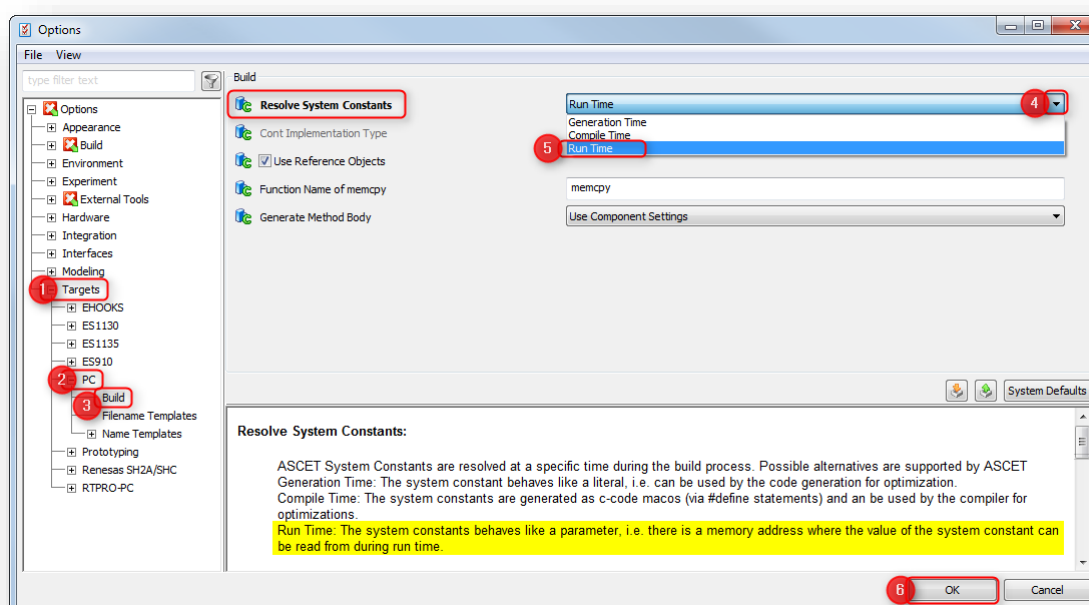


### Answer

1. In **ASCET** → **Menu bar** → **Tools** → **Options...**



2. In dialog **Options** → **Targets** → **<target\_name>** → **Build** → **Resolve System Constants**: Click black triangle → **Run Time** → Click **OK** button



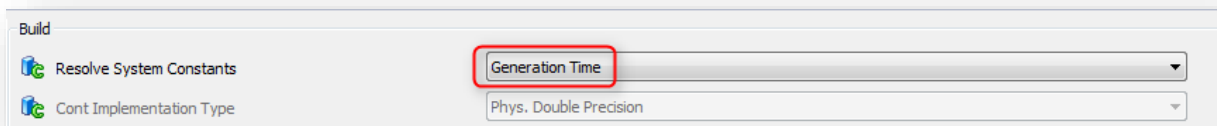


Additional information

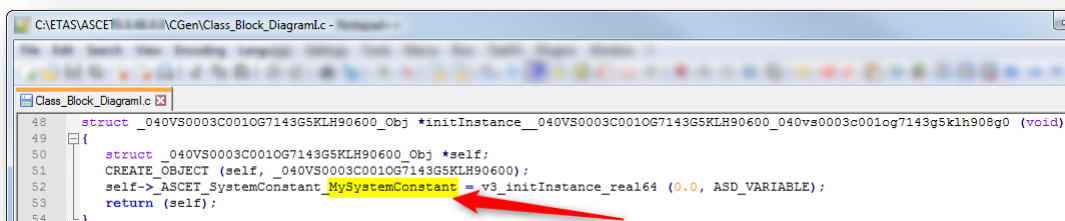
- ASCET System Constants are resolved at a specific time during the build process:

Generation Time

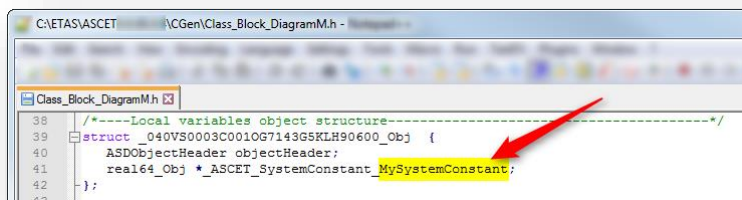
- The system constant behaves like a literal, i.e. can be used by the code generation for optimization.
- In **Options**:



- Generated code:
- Class\_Block\_DiagramI.c:**

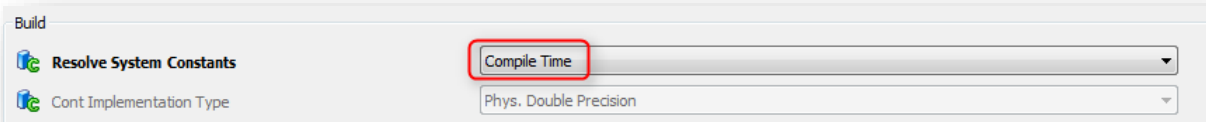


- Class\_Block\_DiagramM.h:**



## Compile Time

- The system constants are generated as c-code macros (via #define statements) and can be used by the compiler for optimizations.
- In **Options:**



- Generated code:
- **Class\_Block\_DiagramI.c:**

```

CAETASVASCET C:\Gen\Class_Block_DiagramI.c - [Workspace]
Class_Block_DiagramI.c
48 struct _040VS0003C0010G7143G5KLN90600_Obj *initInstance__040VS0003C0010G7143G5KLN90600_040vs0003c001og7143g5klh908g0 (void)
49 {
50     struct _040VS0003C0010G7143G5KLN90600_Obj *self;
51     CREATE_OBJECT (self, _040VS0003C0010G7143G5KLN90600);
52     self->ASCET_SystemConstant_MySystemConstant = v3_initInstance_real64 (0.0, ASD_VARIABLE);
53     return (self);
54 }
    
```

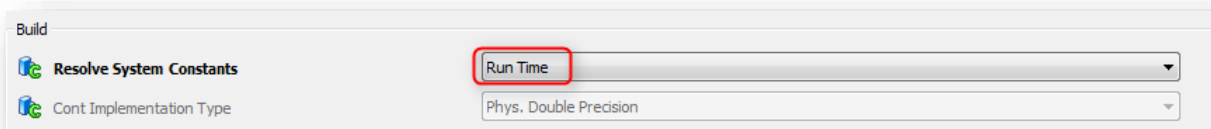
- **Class\_Block\_DiagramM.h:**

```

CAETASVASCET C:\Gen\Class_Block_DiagramM.h - [Workspace]
Class_Block_DiagramM.h
33 /*-----
34  * BEGIN: System Constants
35  *-----*/
36 #ifndef _040VS0003C0010G7143G5KLN90600_MYSYSTEMCONSTANT
37 #define _040VS0003C0010G7143G5KLN90600_MYSYSTEMCONSTANT 0.0
38 #endif
39
40 /*-----
41  * END: System Constants
42  *-----*/
43
    
```

## Run Time

- The system constants behaves like a parameter, i.e. there is a memory address where the value of the system constant can be read from during run time.
- In **Options**:



- Generated code:
- **Class\_Block\_DiagramI.c:**

```

C:\ETAS\ASCET - \CGen\Class_Block_DiagramI.c -
48 struct _040VS0003C0010G7143G5KLH90600_Obj *initInstance__040VS0003C0010G7143G5KLH90600_040vs0003c001og7143g5klh908g0 (void)
49 {
50     struct _040VS0003C0010G7143G5KLH90600_Obj *self;
51     CREATE_OBJECT (self, 040VS0003C0010G7143G5KLH90600);
52     self->MySystemConstant = y3_initInstance_real64 (0.0, ASD_VARIABLE);
53     return (self);
54 }
55
    
```

- **Class\_Block\_DiagramM.h:**

```

C:\ETAS\ASCET - \CGen\Class_Block_DiagramM.h -
38 /*-----Local variables object structure-----*/
39 struct _040VS0003C0010G7143G5KLH90600_Obj {
40     ASDObjectHeader objectHeader;
41     real64_Obj *MySystemConstant;
42 };
43
    
```



Do you still have questions?

- You will find **further FAQ articles** on the ETAS homepage: [www.etas.com/en/faq](http://www.etas.com/en/faq)
- **Movies** corresponding to FAQ articles can be found on the [ETAS YouTube channel](#)
- Please feel free to contact our Support Center, if you have further questions.
- Here you can find all information: <http://www.etas.com/en/hotlines.php>

This information (here referred to as „FAQ“) is provided without any (express or implied) warranty, guarantee or commitment regarding completeness or accuracy. Except in cases of wilful damage, ETAS shall not be liable for losses and damages which may occur or result from the use of this information (including indirect, special or consequential damages).