

Advantech SE Technical Share Document

Date	2019 / 11 / 12	Related Product	CODESYS	
Category	<input type="checkbox"/> FAQ <input type="checkbox"/> SOP <input checked="" type="checkbox"/> Driver Tech Note			
Abstract	How to execute the program periodically?			
Keyword	CODESYS, Task Cycle Time			
Related OS				
Revision History				
Date	Version	Author	Reviewer	Description
2019/11/12	V1.0	Owen.Chang	Nick.Liu	CODESYS SP15

■ Problem Description & Architecture:

This FAQ shows how to execute the program periodically.

■ Brief Solution - Step by Step:

1. Use TON function

Please refer to the following program.

1. TON_1.Q will be **True** after 1 sec
2. bA will be flipped.
3. Next cycle, TON_1.IN := NOT TON_1.Q, so TON_1.IN = **False**
4. Next cycle, TON_1.IN := NOT TON_1.Q, so TON_1.IN = **True**
5. Back to the step one.

Expression	Type	Value	Prepared value	Address
bA	BOOL	FALSE		
TON_1	TON			
IN	BOOL	TRUE		
PT	TIME	T#1s		
Q	BOOL	FALSE		
ET	TIME	T#183ms		

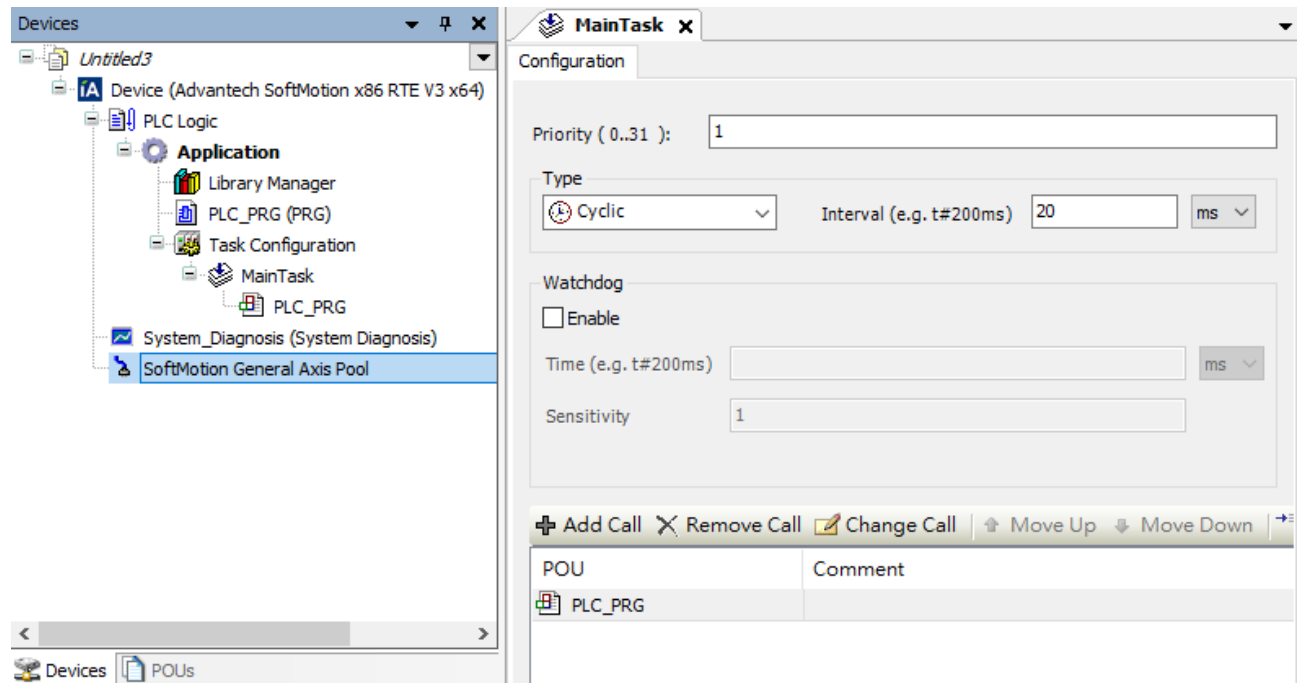
```

1
2 TON_1(IN TRUE := NOT TON_1.Q FALSE, PT T#1s := T#1s);
3 IF TON_1.Q FALSE = TRUE THEN
4   bA FALSE := Not bA FALSE;
5 END_IF RETURN
  
```

2. Set the periodical in task

Please refer to the following task configuration tab.

PLC_PRG will be executed every 20ms.



The screenshot displays the Advantech software interface for configuring a task. The left pane shows a project tree with the following structure:

- Devices
 - Untitled3
 - Device (Advantech SoftMotion x86 RTE V3 x64)
 - PLC Logic
 - Application
 - Library Manager
 - PLC_PRG (PRG)
 - Task Configuration
 - MainTask
 - PLC_PRG
 - System_Diagnosis (System Diagnosis)
 - SoftMotion General Axis Pool

The right pane shows the configuration for the selected task, **MainTask**. The configuration is as follows:

- Configuration** tab is active.
- Priority (0..31):** 1
- Type:** Cyclic (selected from a dropdown menu)
- Interval (e.g. t#200ms):** 20 ms
- Watchdog:**
 - ☐ Enable
 - Time (e.g. t#200ms):** (empty field) ms
 - Sensitivity:** 1

Below the configuration fields, there are buttons for task management: **Add Call**, **Remove Call**, **Change Call**, **Move Up**, and **Move Down**.

A table at the bottom lists the tasks:

POU	Comment
PLC_PRG	