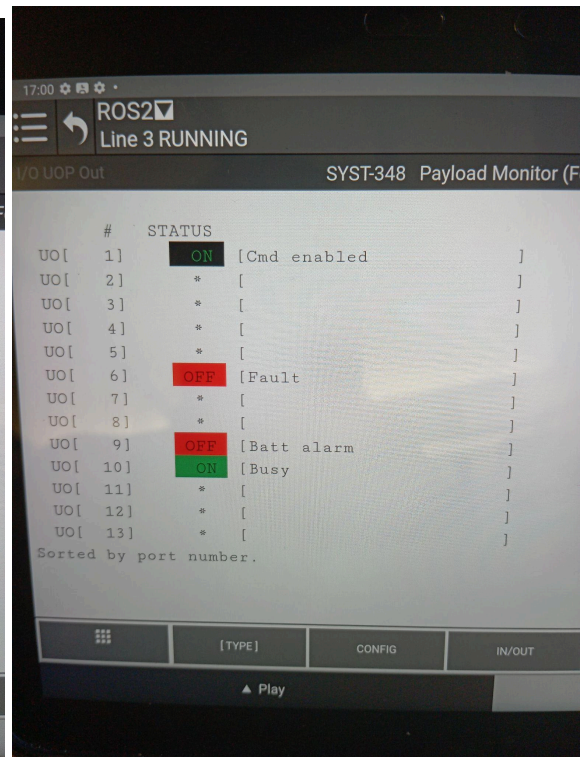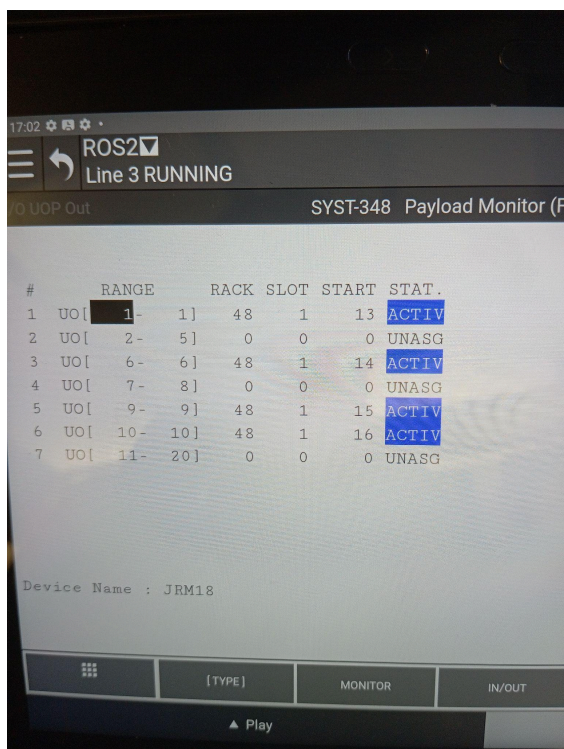# Secret Hacking Setup for Fanuc Auto Start and Recovery Program
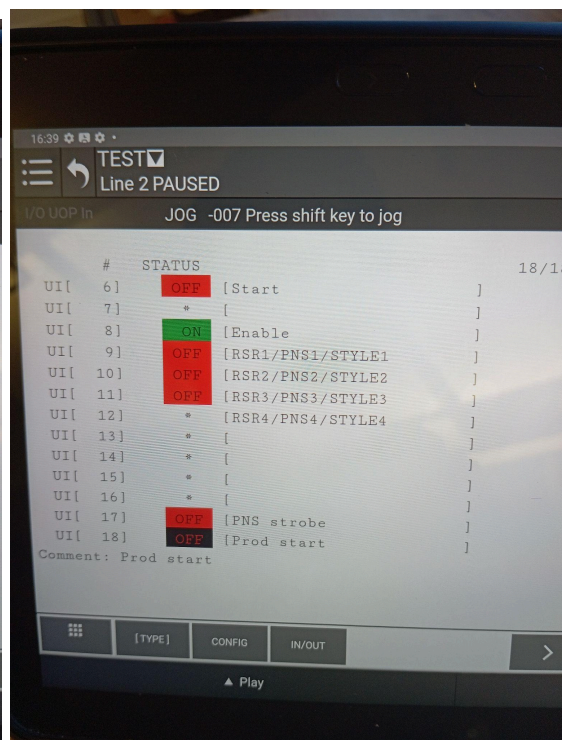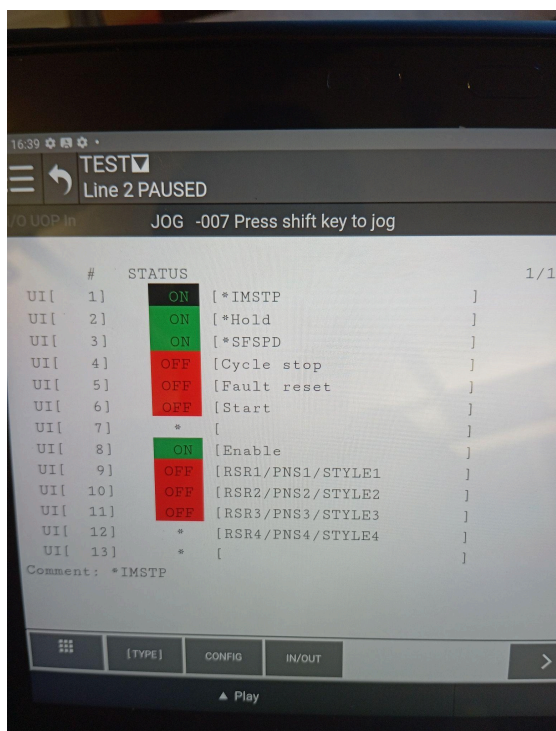
Warning: Working with our inhouse robot but not so sure the Sonepar robot maybe hardware wiring is different.

- For Hardware pls following Giang hacking
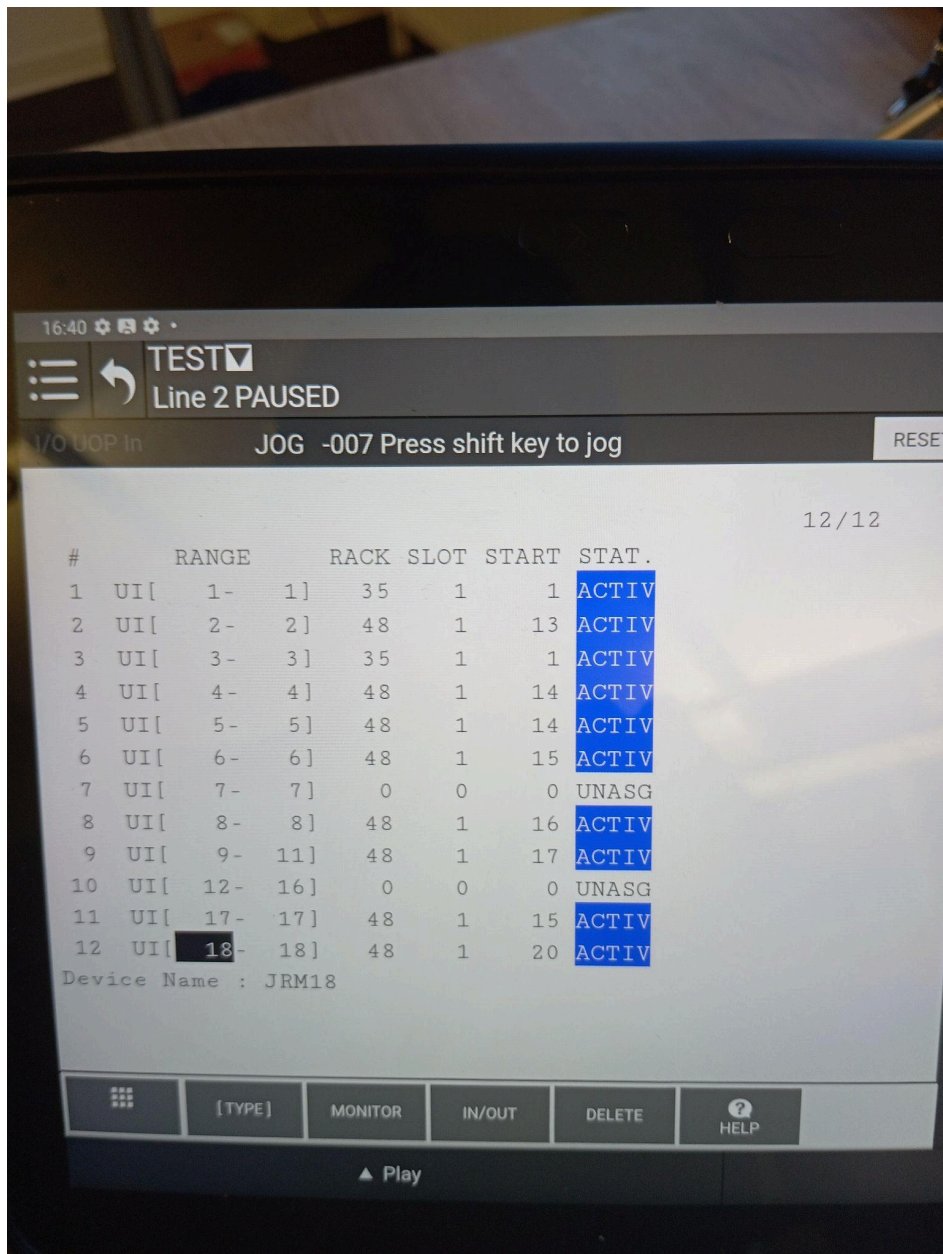- For software pls following these steps, we using the PNS mode because we can not set the RSR Mode.

1. FOR UOP SETUP:
   OUTPUT:

INPUT:

#	STATUS			1/1
UI[1]	ON	[*IMSTP	]	
UI[2]	ON	[*Hold	]	
UI[3]	ON	[*SFSPD	]	
UI[4]	OFF	[Cycle stop	]	
UI[5]	OFF	[Fault reset	]	
UI[6]	OFF	[Start	]	
UI[7]	*	[	]	
UI[8]	ON	[Enable	]	
UI[9]	OFF	[RSR1/PNS1/STYLE1	]	
UI[10]	OFF	[RSR2/PNS2/STYLE2	]	
UI[11]	OFF	[RSR3/PNS3/STYLE3	]	
UI[12]	*	[RSR4/PNS4/STYLE4	]	
UI[13]	*	[	]	

Comment: *IMSTP

⠿   [TYPE]   CONFIG   IN/OUT   >

▲ Play

#	STATUS			18/18
UI[6]	OFF	[Start	]	
UI[7]	*	[	]	
UI[8]	ON	[Enable	]	
UI[9]	OFF	[RSR1/PNS1/STYLE1	]	
UI[10]	OFF	[RSR2/PNS2/STYLE2	]	
UI[11]	OFF	[RSR3/PNS3/STYLE3	]	
UI[12]	*	[RSR4/PNS4/STYLE4	]	
UI[13]	*	[	]	
UI[14]	*	[	]	
UI[15]	*	[	]	
UI[16]	*	[	]	
UI[17]	OFF	[PNS strobe	]	
UI[18]	OFF	[Prod start	]	

Comment: Prod start

⠿   [TYPE]   CONFIG   IN/OUT   >

▲ Play
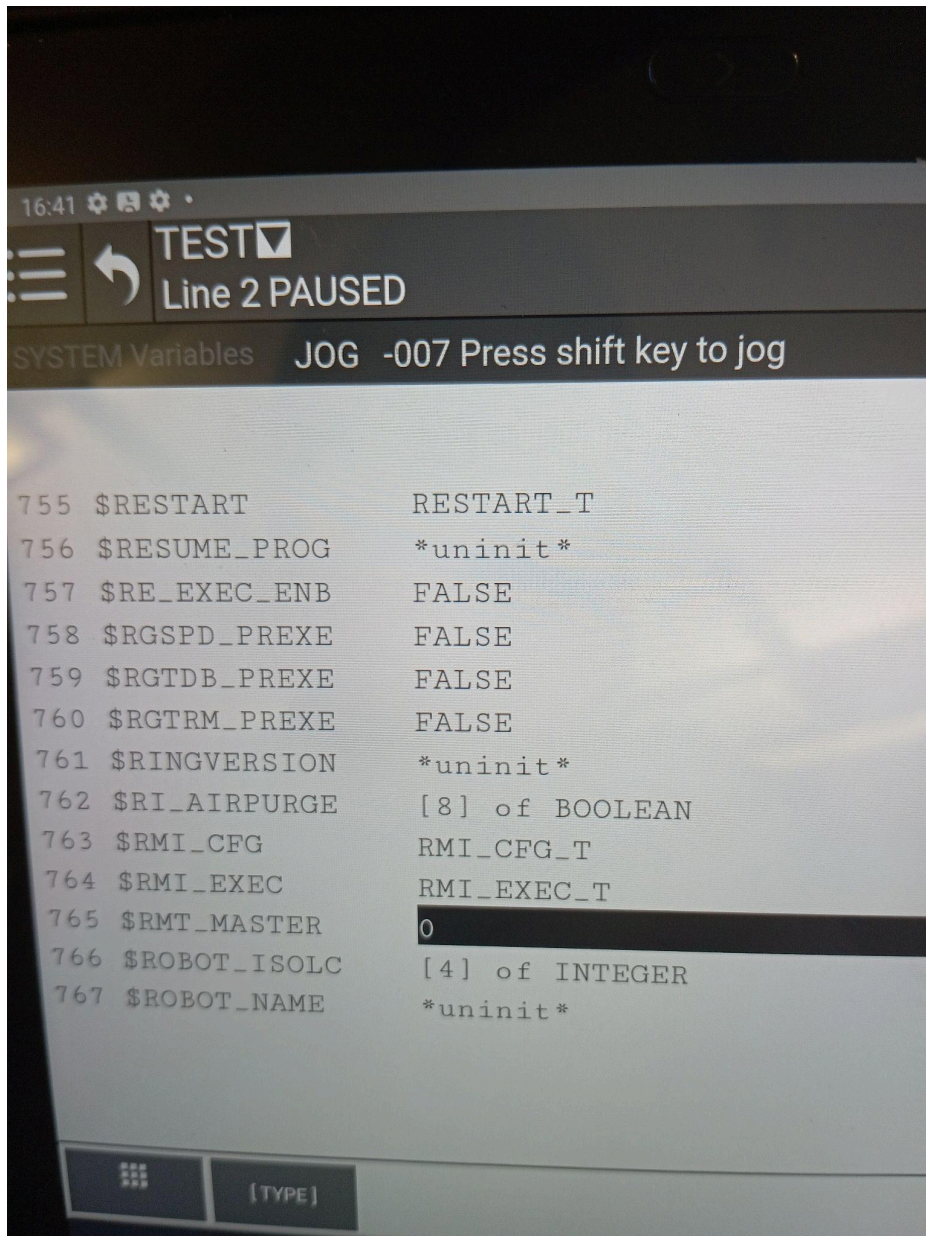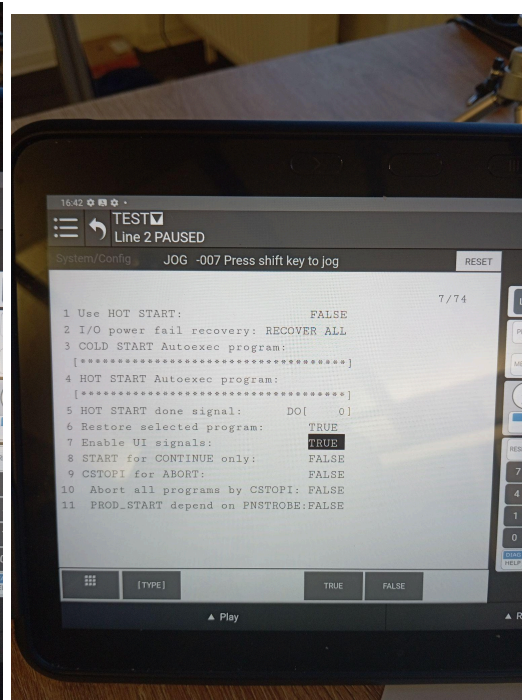
CONFIG:

2. SYSTEM VARIABLES, Set **$RMT_MASTER=0** and remember set the **base number is 0 in $Shell_Cfg.$PNS_Base**

TEST

Line 2 PAUSED

SYSTEM Variables   JOG   -007 Press shift key to jog

755	$RESTART	RESTART_T
756	$RESUME_PROG	*uninit*
757	$RE_EXEC_ENB	FALSE
758	$RGSPD_PREXE	FALSE
759	$RGTDB_PREXE	FALSE
760	$RGTRM_PREXE	FALSE
761	$RINGVERSION	*uninit*
762	$RI_AIRPURGE	[8] of BOOLEAN
763	$RMI_CFG	RMI_CFG_T
764	$RMI_EXEC	RMI_EXEC_T
765	$RMT_MASTER	0
766	$ROBOT_ISOLC	[4] of INTEGER
767	$ROBOT_NAME	*uninit*

[TYPE]

3. SYSTEM CONFIG

Left screen:

```
                                                    42/74
38  Set when prompt displayed: DO[     0]
39  Output when WAIT on Input:<*DETAIL*>
40  Signal if OVERRIDE = 100   DO[    0]
41  Hand broken :              <*GROUPS*>
42  Remote/Local setup:        Remote
43    External I/O(ON:Remote):DI [    0]
44  UOP auto assignment:  Simple(JRM18)
45  Multi Program Selection:     FALSE
46  WAIT at Taught Position:     FALSE
47  Brake control ECO mode:      FALSE
48  J7,J8 jog key Setup :     <*DETAIL*>
49  Collection name(F1):       [STYLE  ]
50  Collection name(F2):       [COL    ]


         [TYPE]              [CHOICE]
                   ▲ Play
```

Right screen:

```
                                                    7/74
1  Use HOT START:                FALSE
2  I/O power fail recovery: RECOVER ALL
3  COLD START Autoexec program:
   [******************************]
4  HOT START Autoexec program:
   [******************************]
5  HOT START done signal:     DO[    0]
6  Restore selected program:     TRUE
7  Enable UI signals:            TRUE
8  START for CONTINUE only:      FALSE
9  CSTOPI for ABORT:             FALSE
10  Abort all programs by CSTOPI: FALSE
11  PROD_START depend on PNSTROBE:FALSE


         [TYPE]              TRUE    FALSE
                   ▲ Play
```

4. Create PROGRAM Name: **PNS0001** add CALL function to call the TP
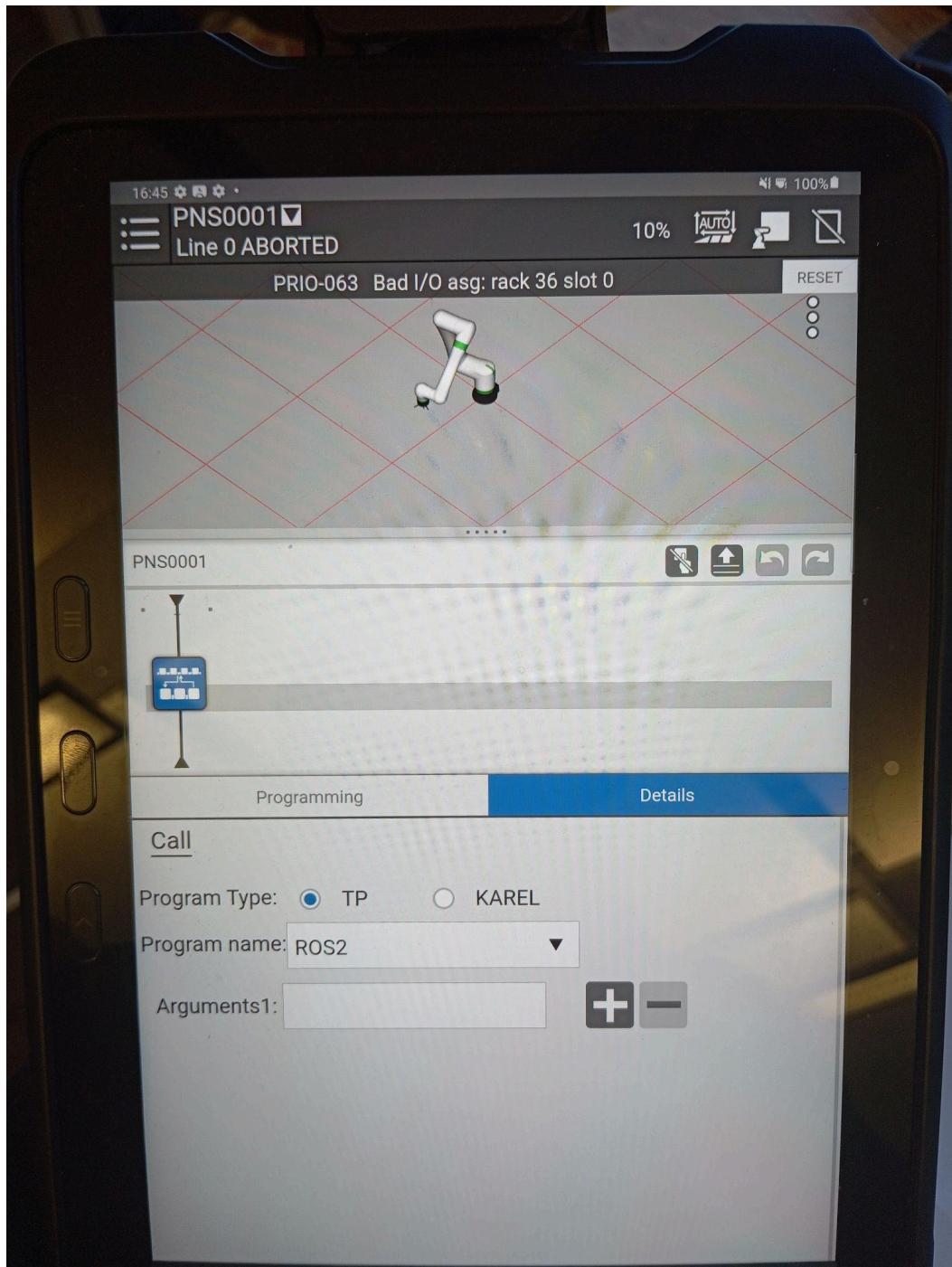
5. TO RUN THIS SYSTEM
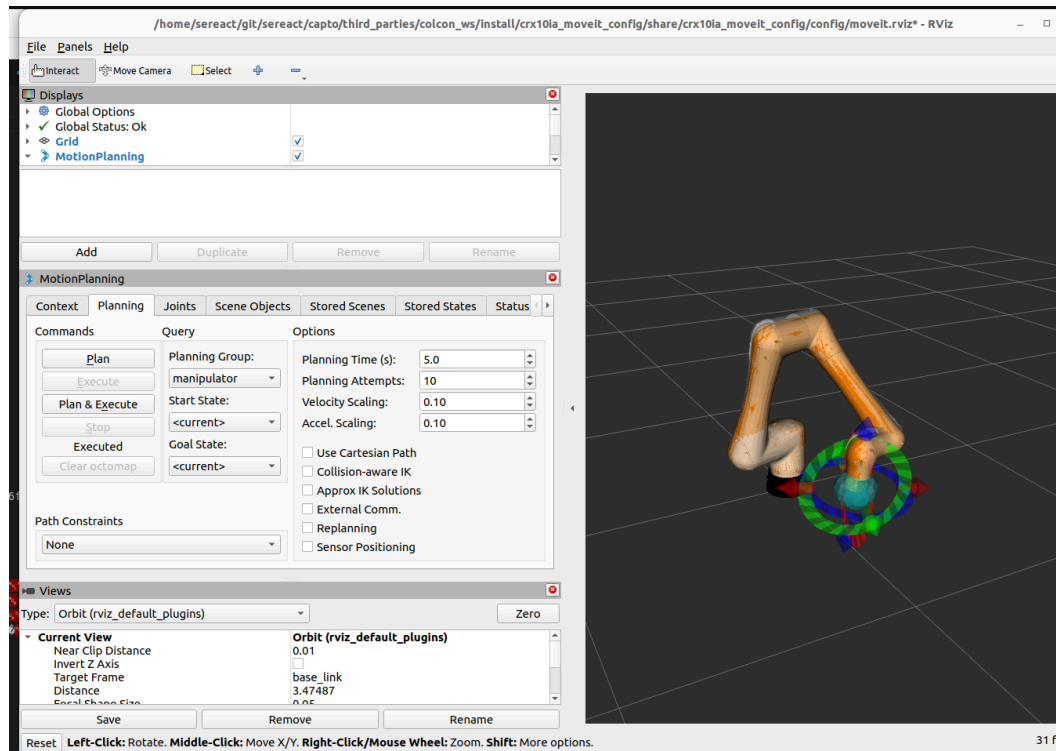   -   UI[1] IMSTP, UI[2] Hold, UI[3] SFSPD =   ON
    -   UI[8] Enable = ON
    -   UI[9] RSR1/PNS1 = ON -> Choose **PNS0001**
    -   SET UI[18] Prod Start -> ON -> Call **PNS0001**
    -   then SET UI[17] PNS strobe -> ON then OFF -> Play   Program **PNS0001**

We can pause system by UI[2] Hold = OFF then want to run the robot again:

UI[2] Hold = ON and SET UI[18] Prod Start -> ON

6. RUN ROS

ros2 launch fanuc_control robot_bringup.launch.py robot_ip:=192.168.1.100 robot_type:=crx10ia

DONE