BOSCH
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How-To run QA Framework for Integration use-case

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1 Setup QA Framework TOOL

- QAFramework installation is available by TCC
- Licences Server Info has to be provided for initial setup see QA Framework Project Generation

2 Create a QA Framework Project

Living with QA-Framework for C-Sources

support provided by btc_tools In the repo

e.g. pj-if

1. get consistent commit to your disk
2. be sure to have **RB_QA_PROJECT_QAF_CFG_EXTERNSOURCE** set in your .cmake file
   this provides the configuration for C_ALL_FILES QAC Configuration

```
e.g.
# QA Framework
set(RB_QA_PROJECT_QAF_CFG_EXTERNSOURCE radar_int/tools/qaf/QAF_Cfg_ExternSource.txt
```

   Be sure paths to all external deliverd C Files, the provider takes care for Misra are listed there
   (min. CAP Delivery, CAP generated files and Vector MT Driver)

```
e.g.
./ip_if/rba/CUBAS/
./radar_int/cubas/gen/
./ip_if/tools/vx1100
```

3. rebuild complete SW
   a. in case there are several Variants build all of the with the following description
      (take care to have step 2 done for all necessary variants)

```
e.g.
PJIF:
     cmake_gen.bat -p Radar -hw C0_MXL -cfg radar_int/tools/cmake/cfg -m -c -f
     cmake_gen.bat -p DASY -hw INT_DEFAULT_ENH -cfg dasy_int/tools/cmake/cfg -m -c -f
VW Radar:
     cmake_gen.bat -p Radar -hw C2_ASIL_B -cfg vwmqb37w_apl/tools/cmake/cfg -btcdir ip_if/btc_tools -toolsdir ip_if/tools -m -c  -f
```

4. run in remaining make environment **for all variants**

```
e.g.
make QAPROJECT
or run batchjob .\generatedFiles\Radar_C0_MXL\prqa\00_initQAProjects.bat
```

QA Project will be created.

Now you have got 2 ways to do the complete analysis

1. via QA Framework Gui → see Living with QA-Framework for C-Sources
2. use the commandline:

3 Analyze Complete Project → automation see next chapter

generic

```
C:\TCC\Tools\prqa_framework\2.4.0_rb3_WIN64\common\bin\qacli.exe analyze -P <path to created "qa-framework-app.xml"> -f --force-complete > logfile_analyze.log
```

e.g.

```
C:\TCC\Tools\prqa_framework\2.4.0_rb3_WIN64\common\bin\qacli.exe analyze -P E:\SBX\pj-if\generatedFiles\Radar_C0_MXL\prqa\C_ALL_FILES\ -f --force-complete >
Radar_C0_MXL_C_ALL_FILES_analyze.log
```

4 View results of analyzed Project

generic

```
C:\TCC\Tools\prqa_framework\2.4.0_rb3_WIN64\common\bin\qacli.exe view -P <path to created "qa-framework-app.xml"> -f "%F;%l;%c;%p:%N;%Y;%t;%S;%j" -s -M -m STDOUT >
logfile_view.log
```

e.g.

```
C:\TCC\Tools\prqa_framework\2.4.0_rb3_WIN64\common\bin\qacli.exe view -P E:\SBX\pj-if\generatedFiles\Radar_C0_MXL\prqa\C_ALL_FILES\ -f "%F;%l;%c;%p:%N;%Y;%t;%S;%j" -s
-M -m STDOUT > Radar_C0_MXL_C_ALL_FILES_view.log
```

5 sw-metrics: Automation of QAFramework and Compiler warnings analysis and summary

get a version of the tooling:

currently Zip File here -> *planned to be distributed by ip_*if/tools or lucxbox in future

1. adapt sw-metrics.ini for your local needs

```
sbxRoot =
variantList =

generatedFilesDir = generatedFiles -> most likely unchanged

qacli =

qaConfList = C_ALL_FILES,C_CROSS_MODULE,C_DA_AD_FILES,CPP_ALL_FILES -> most likely unchanged
```

select steps to be done

```
doQacliAnalyze = True -> to be deactivated for subsequent try in case analysis results are yet available (takes very long)
doQacliView = True -> to be deactivated for subsequent try in case export of analysis results to ascii are yet available (takes very long)
```

configure team allocation table [Team-Allocation]
'pathsnippet case sensitive, separated by /' = 'team name'

```
e.g.
1r1v_fw/= 1R1V
dasy_uC_fw/= DASy
ip_if/= PJIFip_dc/= DA-Core
rc_fw/= DSP
...
```

2. adapt helper batch jobs
   a. getGHSlog.bat adapt path for all variants
   b. getFlist.bat adapt path for all variants
   c. Getfluxinfo.bat might not work for your project, in the mean time if missing for the result all files will be considered to be part of the delivery, and "component" Info in result is missing
      FluxinfoRadar.txt.txt
      FluxinfoDASY.txt.txt

3. get compiler Warnings for Build from build result

```
call getGHSlog.bat
```

4. get used files for Build from buildresult

```
call getFlist.bat
```

5. get delivery info from Flux or provide prepared results (see 6c)

6. start evaluation and wait.....

```
call _sw-metrics.bat
```

7. once done start SW_Metrics.xlsm for formating the results → press button "DoIt"
   Pleas activate Macros in Excel to do so !!

6 Results of the script

debug output:

File	Content
*_analyze.log	list of files analyzed by QA-Framework per QA-Framework Project
*_view.log	analyzis result as Ascii file per QA-Framework Project (not to be distributed without acquiring a licence of QA-Framework)
evalViewLog_*.log	content of the dictionaries used inside of script
*_warninglog.log	copy of Compiler warning summary result of the build
*_flist.log	copy of list used files for the build of the variant, result of the build

results:

File	Content
evalView.log	logfile of evaluation part of sw-metrics script
GHSWarninglist.csv	list of Greenhils compiler warnings for files identified as delivery
GHSWarninglistFull.csv	list of all Greenhils compiler warnings independent of delivery
messageSummary.csv	Summary of QA Framework messages → statistics of which message appears how often
QAFrameworkWarningList.csv	QA Framework warnings for files identified as delivery without message and messagetext (uncritical as per licence conditions of QA-Systems)

File	Content
QAFrameworkWarningListFull.csv	QA Framework warnings for files identified as delivery with message and messagetext (gray area as per licence conditions of QA-Systems)
QAFrameworkWarningListFullAll.csv	QA Framework warnings independent of delivery with message and messagetext (gray area as per licence conditions of QA-Systems)
QASystems_Radar_default.log	logfile of QA-Framework part of sw-metrics script
warningSummary.csv	raw version of aggregated result list of files with amountof QA Framewort + ammount of GHS warning + several additional attributes if available → input to SW_Metrics.xlsm
190715-1809_SW_Metrics.xlsx	Formated result of warningSummary.csv excel sheet containing Sheet warning summary with filters and sums + pivot charts for QACPP, QAC and GHS findings per Team