

# Understanding and decoding Ignition QualityCodes

If you've ever seen Ignition 8 Quality codes that look unfamiliar (i.e., not listed in [this](#) IA docs page), in our module message payloads, when scripting in Ignition, etc., you may need to do further decoding.

To get the specific subcode you must look only at the lower 16 bits of the QualityCode 32 bit Integer.



Please note that our Cirrus Link modules often optimize Sparkplug payloads by excluding Good tag qualities from a payload. If you see a Sparkplug payload that is missing the tag quality, it should be assumed to be Good.

See Ignition Java docs [here](#) for more details.

Below is a table of decoded Ignition 8 Quality codes (Python script below that was used to generate this list on Ignition 8.1.13)

Quality	Code	Subcode
Good_Unspecified	0	0
Good_WritePending	2	2
Good	192	192
Good_Provisional	200	200
Good_Initial	201	201
Good_Overload	202	202
Good_Backfill	203	203
Uncertain	1073742080	256
Uncertain_LastKnownValue	1073742081	257
Uncertain_InitialValue	1073742082	258
Uncertain_DataSubNormal	1073742083	259
Uncertain_EngineeringUnitsExceeded	1073742084	260
Uncertain_IncompleteOperation	1073742085	261
Bad	-2147483136	512
Bad_Unauthorized	-2147483135	513
Bad_AccessDenied	-2147483134	514
Bad_Disabled	-2147483133	515
Bad_Stale	-2147483132	516
Bad_TrialExpired	-2147483131	517
Bad_LicenseExceeded	-2147483130	518
Bad_NotFound	-2147483129	519
Bad_ReferenceNotFound	-2147483128	520
Bad_AggregateNotFound	-2147483127	521
Bad_NotConnected	-2147483126	522
Bad_GatewayCommOff	-2147483125	523
Bad_OutOfRange	-2147483124	524
Bad_DatabaseNotConnected	-2147483123	525
Bad_ReadOnly	-2147483122	526
Bad_Failure	-2147483121	527
Bad_Unsupported	-2147483120	528
Error	-1073741056	768

Error_Configuration	-1073741055	769
Error_ExpressionEval	-1073741054	770
Error_TagExecution	-1073741053	771
Error_TypeConversion	-1073741052	772
Error_DatabaseQuery	-1073741051	773
Error_IO	-1073741050	774
Error_TimeoutExpired	-1073741049	775
Error_Exception	-1073741048	776
Error_InvalidPathSyntax	-1073741047	777
Error_Formatting	-1073741046	778
Error_ScriptEval	-1073741045	779
Error_CycleDetected	-1073741044	780



Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a particular need.

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```
from com.inductiveautomation.ignition.common.model.values import QualityCode
```

```
codesAsJson = QualityCode.getCodesJson()
print codesAsJson
```

```
for code in codesAsJson:
    print "%s, %s, %s" % (codesAsJson[code], code, int(code) & 0xFFFF)
```