

SHACL Core Cheat Sheet

1) “Core Core” *(note: there’s no such thing as “core core,” we invented that)*

a) Node shapes

- i) sh:NodeShape

b) Property shapes

- i) sh:property
- ii) sh:path

c) Constraint components

i) Cardinality

- (1) sh:minCount
- (2) sh:maxCount

ii) Value types

- (1) sh:datatype
 - (a) xsd:
 - (b) custom
- (2) sh:class
- (3) sh:nodeKind
 - (a) sh:IRI
 - (b) sh:BlankNode
 - (c) sh:Literal
 - (d) sh:BlankNodeOrLiteral
 - (e) sh:BlankNodeOrIRI
 - (f) sh:IRIOrLiteral

- (4) **Sets:** sh:in
- (5) **Specific value:** sh:hasValue

iii) Value ranges

- (1) sh:minInclusive
- (2) sh:maxInclusive
- (3) sh:minExclusive
- (4) sh:maxExclusive

iv) String-based

- (1) sh:minLength
- (2) sh:maxLength
- (3) sh:length

- (4) sh:pattern

- (a) **optional:** sh:flags

v) Language-based

- (1) sh:languageIn
- (2) sh:uniqueLang

vi) Logical

- (1) sh:and
- (2) sh:or
- (3) sh:not
- (4) sh:xone

vii) Shape-based

- (1) sh:node
- (2) *(See “Intermediate Core” below):*
 - (a) sh:property
 - (b) sh:qualifiedValueShape
 - (c) sh:qualifiedValueShapeDisjoint
 - (d) sh:qualifiedMinCount
 - (e) sh:qualifiedMaxCount

viii) Closed shapes *(see “Intermediate Core” below)*

ix) Property pairs *(see “Intermediate Core” below)*

x) Non-validating *(see “Intermediate Core” below)*

d) Target declarations

- i) sh:targetNode
- ii) sh:targetClass
- iii) sh:targetSubjectsOf
- iv) sh:targetObjectsOf

e) Validation reporting

- i) sh:message
- ii) sh:severity

2) Intermediate Core *(note: there's no such thing as "intermediate core," we invented that)*

f) Importing and referencing (Gayo 5.6.6)

- i) owl:imports
- ii) sh:deactivated

g) Combining logical operators (Gayo 5.11.5)

- i) If-then
- ii) If-then-else

h) Shape based constraints (Gayo 5.12)

i) The constraints:

- (1) sh:node
- (2) sh:property
- (3) **qualified value shapes:**
 - (a) sh:qualifiedValueShape
 - (b) sh:qualifiedValueShapeDisjoint
 - (c) sh:qualifiedMinCount
 - (d) sh:qualifiedMaxCount

ii) Shape references and recursion

i) Closed shapes

- i) sh:closed
- ii) sh:ignoredProperties

j) Property pair constraints

- i) sh:equals
- ii) sh:disjoint
- iii) sh:lessThan
- iv) sh:lessThanOrEquals

k) Non-validating constraints

- i) sh:name
- ii) sh:description
- iii) sh:order
- iv) sh:group
- v) sh:defaultValue

l) SHACL paths

SHACL path	SPARQL path
schema:name	schema:name
[sh:inversePath schema:knows]	^schema:knows
(schema:knows schema:name)	schema:knows/schema:name
[sh:alternativePath (schema:knows schema:follows)]	schema:knows schema:follows
[sh:zeroOrOnePath schema:knows]	schema:knows?
[sh:oneOrMorePath schema:knows]	schema:knows+
([sh:zeroOrMorePath schema:knows] schema:name)	schema:knows*/schema:name