C and C++ checker reference

Checker name	Description	Default severity	Enabled by default?	Version
ABV.ANY_SIZE_ARRAY	Buffer Overflow - Array Index Out of Bounds	1	False	Pre-2020.1
ABV.GENERAL	Buffer Overflow - Array Index Out of Bounds	1	True	Pre-2020.1
ABV.GENERAL.MULTIDIMENSION	Buffer Overflow - Array Index Out of Bounds	1	True	2022.3
ABV.ITERATOR	Buffer Overflow - Array Index may be out of Bounds	1	True	Pre-2020.1
ABV.MEMBER	Buffer Overflow - Array Index Out of Bounds	1	True	Pre-2020.1
ABV.STACK	Buffer Overflow - Local Array Index Out of Bounds	1	True	Pre-2020.1
ABV.TAINTED	Buffer Overflow from Unvalidated Input	1	True	Pre-2020.1
ABV.UNICODE.BOUND_MAP	Buffer overflow in mapping character function	1	False	Pre-2020.1
ABV.UNICODE.FAILED_MAP	Mapping function failed	1	False	Pre-2020.1
ABV.UNICODE.NNTS_MAP	Buffer overflow in mapping character function	1	False	Pre-2020.1
ABV.UNICODE.SELF_MAP	Mapping function failed	1	False	Pre-2020.1
ABV.UNKNOWN_SIZE	Buffer Overflow - Array Index Out of Bounds	1	True	Pre-2020.1
ASSIGCOND.CALL	Assignment in condition (call)	3	False	Pre-2020.1
ASSIGCOND.GEN	Assignment in condition	3	False	Pre-2020.1
BSTR.CAST.C	C style type cast to BSTR	4	False	Pre-2020.1
BSTR.CAST.CPP	C++ style type cast to BSTR	4	False	Pre-2020.1
BSTR.FUNC.ALLOC	Incorrect call to BSTR allocating function	4	False	Pre-2020.1
BSTR.FUNC.FREE	Incorrect call to BSTR freeing function	4	False	Pre-2020.1
BSTR.FUNC.LEN	Trying to get length of non-BSTR string using BSTR-related functions	4	False	Pre-2020.1
BSTR.FUNC.REALLOC	Incorrect call to BSTR reallocating function	4	False	Pre-2020.1
BSTR.IA.ASSIGN	BSTR variable is assigned a non-BSTR value	4	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
BSTR.IA.INIT	BSTR variable is initialized with a non-BSTR value	4	False	Pre-2020.1
BSTR.OPS.ARITHM	Illegal arithmetic operations with BSTR values	4	False	Pre-2020.1
BSTR.OPS.COMP	Illegal comparison of BSTR values	4	False	Pre-2020.1
BSTR.OPS.EQS	Illegal equality comparison of BSTR values	4	False	Pre-2020.1
BYTEORDER.HTON.SEND	Missed conversion from host to network byte order	3	False	Pre-2020.1
BYTEORDER.HTON.WRITE	Missed conversion from host to network byte order	3	False	Pre-2020.1
BYTEORDER.NTOH.READ	Missed conversion from network to host byte order	3	False	Pre-2020.1
BYTEORDER.NTOH.RECV	Missed conversion from network to host byte order	3	False	Pre-2020.1
CERT.ARR.PTR.ARITH	Pointer is used in arithmetic expression	4	False	2022.3
CERT.CONC.ATOMIC_TWICE_EXPR	Do not refer to an atomic variable twice in an expression	4	False	2022.3
CERT.EXIT.HANDLER_TERMINATE	All exit handlers must return normally	2	False	2022.2
CERT.EXPR.PARENS	The precedence of operators within expressions should be made explicit.	4	False	2022.1
CERT.FILE_PTR.DEREF	A pointer to a FILE object shall not be dereferenced	4	False	2022.1
CERT.FILE_PTR.DEREF.CAST	Object is casted to a FILE pointer, and it shall not be dereferenced	4	False	2022.1
CERT.FILE_PTR.DEREF.INDIRECT	A pointer to a FILE object shall not be indirectly dereferenced by a system function	4	False	2022.1
CERT.FILE_PTR.DEREF.RETURN	A pointer to a FILE object (returned by function) shall not be dereferenced	4	False	2022.1
CERT.FIO.NO_FLUSH	Flush or positioning function call missing	3	False	2022.2
CERT.FSETPOS.VALUE	Only use values for fsetpos() that are returned from fgetpos()	3	False	2022.2

Checker name	Description	Default severity	Enabled by default?	Version
CERT.MEMCMP.FLOAT_MEMBER	Do not compare when member is floating point	4	False	2021.3
CERT.MEMCMP.PADDED_DATA	Do not compare padding data	4	False	2021.3
CERT.MEM.PLACEMENTNEW.MISALIGNED	Provide placement new with properly aligned storage	4	False	2024.3
CERT.MEM.PLACEMENTNEW.TOOSMALL	Provide placement new with sufficient storage	4	False	2024.3
CERT.OOP.CTOR.VIRTUAL_FUNC	Do not invoke virtual functions from constructors or destructors	4	False	2022.1
CERT.PUTENV.AUTO_VARIABLE	Do not call putenv() with a pointer to an automatic variable as the argument	4	False	2022.1
CERT.SIG.SIG_HANDLER.ASYNC_SAFE	Call only asynchronous-safe functions within signal handlers	4	False	2024.3
CERT.STDLIB.SIGNAL	Do not return from a computational exception signal handler	4	False	2022.2
CERT.VA_ARG.TYPE	Do not call va_arg with an argument of the incorrect type	4	False	2022.2
CERT.VA_START.TYPE	Pass an object of the correct type to va_start	4	False	2022.2
CL.ASSIGN.NON_CONST_ARG	Assignment operator declares non-constant reference argument	4	True	Pre-2020.1
CL.ASSIGN.RETURN_CONST	Assignment operator returns constant reference	4	True	Pre-2020.1
CL.ASSIGN.VOID	Assignment operator returns void	4	True	Pre-2020.1
CL.FFM.ASSIGN	Use of free memory (double free) - no operator=	3	True	Pre-2020.1
CL.FFM.COPY	Use of free memory (double free) - no copy constructor	3	True	Pre-2020.1
CL.FMM	Freeing Mismatched Memory - in destructor	3	True	Pre-2020.1
CL.MLK	Memory Leak - in destructor	3	True	Pre-2020.1
CL.MLK.ASSIGN	Memory Leak - in assignment operator	3	True	Pre-2020.1
CL.MLK.VIRTUAL	Memory Leak - possible in destructor	2	True	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
CL.SELF-ASSIGN	Use of free memory (double free) - in operator=	2	True	Pre-2020.1
CL.SHALLOW.ASSIGN	Use of free memory (double free) - shallow copy in operator=	2	True	Pre-2020.1
CL.SHALLOW.COPY	Use of free memory (double free) - shallow copy in copy constructor	2	True	Pre-2020.1
CONC.DBL_LOCK	Double Lock	2	False	2021.2
CONC.DBL_UNLOCK	Double Unlock	2	False	2021.2
CONC.DL	Deadlock	2	False	Pre-2020.1
CONC.NO_LOCK	Missing lock for variable	2	False	2021.2
CONC.NO_UNLOCK	Missing unlock for variable	2	True	2022.3
CONC.SLEEP	Function may block in critical section	3	True	2022.3
CWARN.ALIGNMENT	Incorrect pointer scaling is used	4	True	Pre-2020.1
CWARN.BAD.PTR.ARITH	Bad pointer arithmetic	4	False	Pre-2020.1
CWARN.BITOP.SIZE	Operands of different size in bitwise operation	4	True	2020.3
CWARN.BOOLOP.INC	A boolean is incremented or decremented	4	True	Pre-2020.1
CWARN.CAST.VIRTUAL_INHERITANCE	C-style cast of pointer to object with virtual methods to pointer to its derived class	4	False	Pre-2020.1
CWARN.CMPCHR.EOF	A 'char' expression compared with EOF constant	4	False	Pre-2020.1
CWARN.CONSTCOND.DO	'do' controlling expression is constant	4	False	Pre-2020.1
CWARN.CONSTCOND.IF	'if' controlling expression is constant	4	False	Pre-2020.1
CWARN.CONSTCOND.SWITCH	'switch' selector expression is constant	4	False	Pre-2020.1
CWARN.CONSTCOND.TERNARY	Controlling condition in conditional expression is constant	4	False	Pre-2020.1
CWARN.CONSTCOND.WHILE	'while' controlling expression is constant	4	False	Pre-2020.1
CWARN.COPY.NOASSIGN	Class defines copy constructor, but no assignment operator	4	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
CWARN.DTOR.NONVIRT.DELETE	Delete expression for an object of a class with virtual methods and no virtual destructor	2	True	Pre-2020.1
CWARN.DTOR.NONVIRT.NOTEMPTY	Class has virtual functions inherited from a base class, but its destructor is not virtual and not empty	2	True	Pre-2020.1
CWARN.DTOR.VOIDPTR	Delete expression with an object of type pointer to void	3	True	Pre-2020.1
CWARN.EMPTY.LABEL	Empty label statement	4	False	Pre-2020.1
CWARN.EMPTY.TYPEDEF	Missing typedef name	4	False	Pre-2020.1
CWARN.FUNCADDR	Function address is used instead of a call to this function	2	False	Pre-2020.1
CWARN.HIDDEN.PARAM	Parameter hidden by local variable	4	False	Pre-2020.1
CWARN.IMPLICITINT	Anachronistic 'implicit int'	4	False	2023.4
CWARN.INCL.ABSOLUTE	Absolute path is used in include directive	4	False	Pre-2020.1
CWARN.INCL.NO_INTERFACE	Source file does not include its interface header	4	False	Pre-2020.1
CWARN.INLINE.NONFUNC	'inline' used with non-function	4	False	Pre-2020.1
CWARN.MEMBER.INIT.ORDER	Members of the initialization list are not listed in the order in which they are declared in the class	4	False	Pre-2020.1
CWARN.MEM.NONPOD	Memory manipulation routine applied to a non-POD object	4	True	Pre-2020.1
CWARN.MEMSET.SIZEOF.PTR	Memset-like function is called for 'sizeof' applied to pointer	4	False	Pre-2020.1
CWARN.MOVE.CONST	Const value used as argument for std::move	4	True	2020.1
CWARN.NOEFFECT.OUTOFRANGE	Value outside of range	3	False	Pre-2020.1
CWARN.NOEFFECT.SELF_ASSIGN	A variable is assigned to self	4	False	Pre-2020.1
CWARN.NOEFFECT.UCMP.GE	Comparison of unsigned value against 0 is always true	4	True	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
CWARN.NOEFFECT.UCMP.GE.MACRO	Comparison of unsigned value against 0 within a macro is always true	4	False	Pre-2020.1
CWARN.NOEFFECT.UCMP.LT	Comparison of unsigned value against 0 is always false	4	True	Pre-2020.1
CWARN.NOEFFECT.UCMP.LT.MACRO	Comparison of unsigned value against 0 within a macro is always false	4	False	Pre-2020.1
CWARN.NULLCHECK.FUNCNAME	Function address was directly compared against 0	4	True	Pre-2020.1
CWARN.OVERRIDE.CONST	Function overriding fails due to mismatch of 'const' qualifiers	4	True	Pre-2020.1
CWARN.PACKED.TYPEDEF	'packed' attribute ignored in typedef	4	False	Pre-2020.1
CWARN.PASSBYVALUE.ARG	Function argument passed by value is too large	4	False	Pre-2020.1
CWARN.PASSBYVALUE.EXC	Exception object passed by value is too large	4	False	Pre-2020.1
CWARN.RET.MAIN	Bad return type of main	4	True	Pre-2020.1
CWARN.SIGNEDBIT	Signed one bit field	4	True	Pre-2020.1
CXX.BITOP.BOOL_OPERAND	Potential logic error: Boolean expressions should not be used directly as bitwise operator arguments. Consider using logical operators instead.	4	False	2021.1
CXX.BITOP.NON_CONST_OPERAND	Bitwise operators should be applied to constants only	4	False	2021.1
CXX.CAST.OBJ_PTR_TO_OBJ_PTR	Cast between a pointer to object type and a pointer to a different object type	4	False	2021.3
CXX.CAST.SIGNED_CHAR_TO_INTEGER	Cast char to unsigned char before converting to larger integer sizes	4	False	2021.3
CXX.DIFF.WIDTH.STR_AND_FUNC	Implicit cast between narrow and wide character string while calling function	4	False	2021.3
CXX.ERRNO.INCORRECTLY_CHECKED	Errno condition check not required after calling library function	3	False	2021.2
CXX.ERRNO.NOT_CHECKED	Errno condition check is missing after calling library function	3	False	2021.2

Checker name	Description	Default severity	Enabled by default?	Version
CXX.ERRNO.NOT_SET	Errno is not reset to zero before calling library function	3	False	2021.2
CXX.ID_VIS.GLOBAL_VARIABLE.EXTERN	Visibility of extern global variable is too wide	4	False	Pre-2020.1
CXX.ID_VIS.GLOBAL_VARIABLE.STATIC	Visibility of static global variable is too wide	4	False	Pre-2020.1
CXX.INT_TO_FLOAT.CONV	Use of implicit conversion in an arithmetic operation	4	False	2021.2
CXX.LOGICAL_OP.INT_OPERAND	Potential logic error: Integral expressions should not be used directly as logical operator operands. Boolean expressions should be used instead.	4	False	2021.1
CXX.LOGICAL_OP.NON_BOOL_CONSTANT	Logical operators should not be applied directly to constants	4	False	2021.1
CXX.OVERWRITE_CONST_CHAR	Attempt to overwrite a constant string	3	False	2021.1
CXX.POSSIBLE_COPY_PASTE.FSTRING.APPEND_SAME_STRING	Possible copy-paste error: Appending the same FString twice	4	False	2021.1
CXX.POSSIBLE_COPY_PASTE.LOGICAL_OP.CMP_SAME_OBJECT	Possible copy-paste error: An object should not be logically compared to itself	4	False	2021.1
CXX.POSSIBLE_COPY_PASTE.TERNARY_OP	Possible copy-paste in the 'then' and 'else' branches of a ternary operator	4	False	2021.1
CXX.SQL.INJECT	SQL Injection	2	False	2021.2
CXX.STDLIB.ILLEGAL_REUSE	The pointer returned by the Standard Library functions asctime and similar shall not be used following a subsequent call to the same function	4	False	2021.3
CXX.STDLIB.ILLEGAL_WRITE	The pointers returned by the Standard Library functions localeconv, getenv, setlocale or, strerror shall only be used as if they have pointer to const-qualified type	4	False	2021.3
CXX.SUSPICIOUS_INDEX_CHECK	Suspicious use of index after boundary check	1	False	2023.4
CXX.SUSPICIOUS_INDEX_CHECK.CALL	Suspicious use of index in a function call after a boundary check	1	False	2023.4

Checker name	Description	Default severity	Enabled by default?	Version
CXX.SUSPICIOUS_INDEX_CHECK.ZERO	Suspicious use of index after index check for zero	1	False	2023.4
CXX.SV.INSECURE_COOKIE	Insecure cookie	4	False	2023.1
CXX.SV.PERSISTENT_COOKIE	Illegal usage of a persistent cookie	4	False	2023.1
CXX.SV.PRIVATE_KEY.EMPTY_PASSWD	Attempt to serialize private key in an unauthorized way	3	False	2023.2
CXX.SV.PRIVATE_KEY.UNENCRYPTED	Attempt to serialize private key in an unauthorized way	3	False	2023.2
CXX.SV.PWD.PLAIN	Attempt to set password using a plain string	2	False	2023.2
CXX.SV.PWD.PLAIN.LENGTH	Attempt to set password with a length less than 15 characters	3	False	2023.2
CXX.SV.PWD.PLAIN.LENGTH.ZERO	Attempt to set password with a length of zero characters	3	False	2023.2
CXX.SV.PWD_INPUT.REVIEW	Password authentication should be checked against brute force attacks	4	False	2023.2
CXX.SV.XXE	Attempting to resolve external entities while parsing a XML file can lead to XXE attack	4	False	2023.1
DBZ.CONST	Division by a zero constant occurs	1	False	2020.2
DBZ.CONST.CALL	The value '0' is passed to function that can use this value as divisor	1	False	Pre-2020.1
DBZ.GENERAL	Division by zero might occur	1	False	2023.3
DBZ.ITERATOR	Division by zero might occur in a loop iterator	1	False	Pre-2020.1
DBZ.ITERATOR.CALL	Division by zero might occur in a function call	1	False	Pre-2020.1
EFFECT	Statement has no effect	4	False	Pre-2020.1
FMM.MIGHT	Freeing Mismatched Memory - possible	2	True	Pre-2020.1
FMM.MUST	Freeing Mismatched Memory	1	True	Pre-2020.1
FNH.MIGHT	Freeing Non-Heap Memory - possible	1	True	Pre-2020.1
FNH.MUST	Freeing Non-Heap Memory	2	True	Pre-2020.1
FREE.INCONSISTENT	Inconsistent Freeing of Memory	3	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
FUM.GEN.MIGHT	Freeing Unallocated Memory - possible	1	True	Pre-2020.1
FUM.GEN.MUST	Freeing Unallocated Memory	1	True	Pre-2020.1
FUNCRET.GEN	Non-void function does not return value	1	True	Pre-2020.1
FUNCRET.IMPLICIT	Non-void function implicitly returning int does not return value	2	True	Pre-2020.1
HCC	Use of hardcoded credentials	2	True	Pre-2020.1
HCC.PWD	Use of a hardcoded password	2	True	Pre-2020.1
HCC.USER	Use of a hardcoded user name	2	True	Pre-2020.1
INCONSISTENT.LABEL	Inconsistent Case Labels	4	True	Pre-2020.1
INCORRECT.ALLOC_SIZE	Incorrect Allocation Size	3	True	Pre-2020.1
INFINITE_LOOP.GLOBAL	Infinite loop	2	False	Pre-2020.1
INFINITE_LOOP.LOCAL	Infinite loop	2	True	Pre-2020.1
INFINITE_LOOP.MACRO	Infinite loop	2	False	Pre-2020.1
INVARIANT_CONDITION.GEN	Invariant expression in a condition	3	False	2020.1
INVARIANT_CONDITION.UNREACH	Invariant expression in a condition	3	False	Pre-2020.1
ITER.CONTAINER.MODIFIED	Use of invalid iterator	3	True	Pre-2020.1
ITER.END.DEREF.MIGHT	Dereference of 'end' iterator	3	True	Pre-2020.1
ITER.END.DEREF.MUST	Dereference of 'end' iterator	3	True	Pre-2020.1
ITER.INAPPROPRIATE	Use of iterator with inappropriate container object	4	True	Pre-2020.1
ITER.INAPPROPRIATE.MULTIPLE	Use of iterator with inappropriate container object	4	True	Pre-2020.1
LA_UNUSED	Label unused	4	False	Pre-2020.1
LOCRET.ARG	Function returns address of local variable	1	True	Pre-2020.1
LOCRET.GLOB	Function returns address of local variable	1	True	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
LOCRET.RET	Function returns address of local variable	1	True	Pre-2020.1
LS.CALL	Suspicious use of non-localized string in GUI function	3	False	Pre-2020.1
LS.CALL.STRING	Suspicious use of non-localized string in GUI function	3	False	Pre-2020.1
LV_UNUSED.GEN	Local variable unused	4	False	2020.3
MLK.MIGHT	Memory Leak - possible	2	True	Pre-2020.1
MLK.MUST	Memory Leak	2	True	2020.1
MLK.RET.MIGHT	Memory Leak - possible	2	False	Pre-2020.1
MLK.RET.MUST	Memory Leak	2	True	Pre-2020.1
NNTS.MIGHT	Buffer Overflow - Non-null Terminated String	1	True	Pre-2020.1
NNTS.MUST	Buffer Overflow - Non-null Terminated String	1	True	Pre-2020.1
NNTS.TAINTED	Unvalidated User Input Causing Buffer Overflow - Non-Null Terminated String	1	True	Pre-2020.1
NPD.CHECK.CALL.MIGHT	Pointer may be passed to function that can dereference it after it was positively checked for NULL	1	True	Pre-2020.1
NPD.CHECK.CALL.MUST	Pointer will be passed to function that may dereference it after it was positively checked for NULL	1	True	Pre-2020.1
NPD.CHECK.MIGHT	Pointer may be dereferenced after it was positively checked for NULL	1	True	Pre-2020.1
NPD.CHECK.MUST	Pointer will be dereferenced after it was positively checked for NULL	1	True	Pre-2020.1
NPD.CONST.CALL	NULL is passed to function that can dereference it	1	False	Pre-2020.1
NPD.CONST.DEREF	NULL is dereferenced	1	False	Pre-2020.1
NPD.FUNC.CALL.MIGHT	Result of function that may return NULL may be passed to another function that may dereference it	1	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
NPD.FUNC.CALL.MUST	Result of function that may return NULL will be passed to another function that may dereference it	1	False	Pre-2020.1
NPD.FUNC.MIGHT	Result of function that can return NULL may be dereferenced	1	True	Pre-2020.1
NPD.FUNC.MUST	Result of function that may return NULL will be dereferenced	1	True	Pre-2020.1
NPD.GEN.CALL.MIGHT	Null pointer may be passed to function that may dereference it	1	True	Pre-2020.1
NPD.GEN.CALL.MUST	Null pointer will be passed to function that may dereference it	1	True	Pre-2020.1
NPD.GEN.MIGHT	Null pointer may be dereferenced	1	True	Pre-2020.1
NPD.GEN.MUST	Null pointer will be dereferenced	1	True	Pre-2020.1
NUM.OVERFLOW	Possible Overflow	3	False	Pre-2020.1
NUM.OVERFLOW.DF	Possible numeric overflow or wraparound	3	False	2024.2
PORTING.BITFIELDS	Usage of bitfields within a structure	4	False	Pre-2020.1
PORTING.BSWAP.MACRO	A custom byte swap macro is used without checking endian	4	False	Pre-2020.1
PORTING.BYTEORDER.SIZE	An incompatible type is used with a network macro such as 'ntohl'	4	False	Pre-2020.1
PORTING.CAST.FLTPNT	Cast of a floating point expression to a non floating point type	4	False	Pre-2020.1
PORTING.CAST.PTR	Cast between types that are not both pointers or not pointers	4	False	Pre-2020.1
PORTING.CAST.PTR.FLTPNT	Cast of a pointer to a floating point expression to a non floating point type pointer	4	False	Pre-2020.1
PORTING.CAST.PTR.SIZE	Attempt to cast an expression to a type of a potentially incompatible size	4	False	Pre-2020.1
PORTING.CAST.SIZE	Expression is cast to a type of potentially different size	4	False	Pre-2020.1
PORTING.CMPSPEC.EFFECTS.ASSIGNMENT	Assignment in a function parameter	4	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
PORTING.CMPSPEC.TYPE.BOOL	Assignment to a 'bool' type is larger than 1 byte	4	False	Pre-2020.1
PORTING.CMPSPEC.TYPE.LONGLONG	Use of 'long long'	4	False	Pre-2020.1
PORTING.MACRO.NUMTYPE	Macro describing a builtin numeric type is used	4	False	Pre-2020.1
PORTING.OPTS	Compiler dependant option is used	4	False	Pre-2020.1
PORTING.PRAGMA.ALIGN	#pragma align usage	4	False	Pre-2020.1
PORTING.PRAGMA.PACK	#pragma pack usage	4	False	Pre-2020.1
PORTING.SIGNED.CHAR	'char' used without explicitly specifying signedness	4	False	Pre-2020.1
PORTING.STORAGE.STRUCT	Byte position of elements in a structure could depend on alignment and packing attributes.	4	False	Pre-2020.1
PORTING.STRUCT.BOOL	Struct/class has a bool member	4	False	Pre-2020.1
PORTING.UNIONS	Union is used within an enclosing struct/class/other union	4	False	Pre-2020.1
PORTING.UNSIGNEDCHAR.OVERFLOW.FALSE	Relational expression may be always false depending on 'char' type signedness	4	False	Pre-2020.1
PORTING.UNSIGNEDCHAR.OVERFLOW.TRUE	Relational expression may be always true depending on 'char' type signedness	4	False	Pre-2020.1
PORTING.UNSIGNEDCHAR.RELOP	Relational operations used between explicitly signed/unsigned char and char without signedness specification	4	False	Pre-2020.1
PORTING.VAR.EFFECTS	Variable used twice in one expression where one usage is subject to side-effects	4	False	Pre-2020.1
PRECISION.LOSS	Loss of Precision	4	False	Pre-2020.1
PRECISION.LOSS.CALL	Loss of Precision during function call	4	False	Pre-2020.1
PRECISION.LOSS.INIT	Loss of Precision during initialization	4	False	2023.3
RABV.CHECK	Suspicious use of index before boundary check	1	True	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
RCA	Risky cryptographic algorithm used	2	True	Pre-2020.1
RCA.HASH.SALT.EMPTY	Use of a one-way hash with an empty salt	2	True	Pre-2020.1
RETVOID.GEN	Non-void function returns void value	2	True	Pre-2020.1
RETVOID.IMPLICIT	Implicitly int function returns void value	2	True	Pre-2020.1
RH.LEAK	Resource leak	2	True	2020.1
RN.INDEX	Suspicious use of index before negative check	1	True	Pre-2020.1
RNPD.CALL	Suspicious dereference of pointer in function call before NULL check	1	True	Pre-2020.1
RNPD.DEREF	Suspicious dereference of pointer before NULL check	1	True	Pre-2020.1
SEMICOL	Suspiciously placed semicolon	4	False	Pre-2020.1
SPECTRE.VARIANT1	Potential exploit of speculative execution	3	False	Pre-2020.1
STRONG.TYPE.ASSIGN	Assignment does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.ASSIGN.ARG	Assignment does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.ASSIGN.CONST	Assignment does not respect strong typing	4	False	2022.4
STRONG.TYPE.ASSIGN.INIT	Assignment does not respect strong typing	4	False	2020.3
STRONG.TYPE.ASSIGN.RETURN	Assignment does not respect strong typing	4	False	2020.3
STRONG.TYPE.ASSIGN.ZERO	Assignment does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.EXTRACT	Assignment does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.JOIN.CMP	Joining with binary operator does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.JOIN.CONST	Joining with binary operator does not respect strong typing	4	False	2020.1
STRONG.TYPE.JOIN.EQ	Joining with binary operator does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.JOIN.OTHER	Joining with binary operator does not respect strong typing	4	False	Pre-2020.1
STRONG.TYPE.JOIN.ZERO	Joining with binary operator does not respect strong typing	4	False	2020.1

Checker name	Description	Default severity	Enabled by default?	Version
SV.BANNED.RECOMMENDED.ALLOCA	Banned recommended API: stack allocation functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.NUMERIC	Banned recommended API: unsafe numeric conversion functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.OEM	Banned recommended API: OEM character page conversion functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.PATH	Banned recommended API: unsafe path name manipulation functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.SCANF	Banned recommended API: unsafe scanf-type functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.SPRINTF	Banned recommended API: unsafe sprintf-type functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.STRLEN	Banned recommended API: unsafe string length functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.TOKEN	Banned recommended API: unsafe string tokenizing functions	4	False	Pre-2020.1
SV.BANNED.RECOMMENDED.WINDOW	Banned recommended API: unsafe window functions	4	False	Pre-2020.1
SV.BANNED.REQUIRED.CONCAT	Banned required API: unsafe string concatenation functions	4	False	Pre-2020.1
SV.BANNED.REQUIRED.COPY	Banned required API: unsafe buffer copy functions	4	False	Pre-2020.1
SV.BANNED.REQUIRED.GETS	Banned required API: unsafe stream reading functions	4	False	Pre-2020.1
SV.BANNED.REQUIRED.ISBAD	Banned required API: IsBad-type functions	4	False	Pre-2020.1
SV.BANNED.REQUIRED.SPRINTF	Banned required API: unsafe sprintf-type functions	4	False	Pre-2020.1
SV.BFC.USING_STRUCT	Use of INADDR_ANY in sin_addr.s_addr field of struct sockaddr_in Structure Used for Call to bind Function	4	False	Pre-2020.1
SV.BRM.HKEY_LOCAL_MACHINE	HKEY_LOCAL_MACHINE Used as 'hkey' Parameter for Registry Manipulation Function	4	False	Pre-2020.1
SV.CODE_INJECTION.SHELL_EXEC	Command Injection into Shell Execution	3	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
SV.DLLPRELOAD.NONABSOLUTE.DLL	Potential DLL-preload hijack vector	2	False	Pre-2020.1
SV.DLLPRELOAD.NONABSOLUTE.EXE	Potential process injection vector	2	False	Pre-2020.1
SV.DLLPRELOAD.SEARCHPATH	Do not use SearchPath to find DLLs	2	False	Pre-2020.1
SV.FIU.PROCESS_VARIANTS	Use of Dangerous Process Creation	4	False	Pre-2020.1
SV.FMTSTR.GENERIC	Format String Vulnerability	1	False	Pre-2020.1
SV.FMT_STR.BAD_SCAN_FORMAT	Input format specifier error	2	True	Pre-2020.1
SV.FMT_STR.PRINT_FORMAT_MISMATCH.BAD	Incompatible type of a print function parameter	2	True	Pre-2020.1
SV.FMT_STR.PRINT_FORMAT_MISMATCH.UNDESIRED	Unexpected type of a print function parameter	4	True	Pre-2020.1
SV.FMT_STR.PRINT_IMPROP_LENGTH	Improper use of length modifier in a print function call	2	True	Pre-2020.1
SV.FMT_STR.PRINT_PARAMS_WRONGNUM.FEW	Too few arguments in a print function call	2	True	Pre-2020.1
SV.FMT_STR.PRINT_PARAMS_WRONGNUM.MANY	Too many arguments in a print function call	2	True	Pre-2020.1
SV.FMT_STR.SCAN_FORMAT_MISMATCH.BAD	Incompatible type of a scan function parameter	2	True	Pre-2020.1
SV.FMT_STR.SCAN_FORMAT_MISMATCH.UNDESIRED	Unexpected type of a scan function parameter	2	True	2021.4
SV.FMT_STR.SCAN_IMPROP_LENGTH	Improper use of length modifier in a scan function call	2	True	Pre-2020.1
SV.FMT_STR.SCAN_PARAMS_WRONGNUM.FEW	Too few arguments in a scan function call	2	True	Pre-2020.1
SV.FMT_STR.SCAN_PARAMS_WRONGNUM.MANY	Too many arguments in a scan function call	2	True	Pre-2020.1
SV.FMT_STR.UNKWN_FORMAT	Unknown format specifier in a print function call	3	True	Pre-2020.1
SV.FMT_STR.UNKWN_FORMAT.SCAN	Unknown format specifier in a scan function call	3	True	Pre-2020.1
SV.INCORRECT_RESOURCE_HANDLING.URH	Insecure Resource Handling	3	False	Pre-2020.1
SV.INCORRECT_RESOURCE_HANDLING.WRONG_STATUS	Insecure Resource Handling	3	False	Pre-2020.1
SV.LPP.CONST	Use of Insecure Macro for Dangerous Functions	3	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
SV.LPP.VAR	Use of Insecure Parameter for Dangerous Functions	3	False	Pre-2020.1
SV.PCC.CONST	Insecure (Constant) Temporary File Name in Call to CreateFile	4	False	Pre-2020.1
SV.PCC.INVALID_TEMP_PATH	Insecure Temporary File Name in Call to CreateFile	4	False	Pre-2020.1
SV.PCC.MISSING_TEMP_CALLS.MUST	Missing Secure Temporary File Names in Call to CreateFile	4	False	Pre-2020.1
SV.PCC.MISSING_TEMP_FILENAME	Missing Temporary File Name in Call to CreateFile	4	False	Pre-2020.1
SV.PCC.MODIFIED_BEFORE_CREATE	Modification of Temporary File Name before Call to CreateFile	4	False	Pre-2020.1
SV.PIPE.CONST	Potential pipe hijacking	3	False	Pre-2020.1
SV.PIPE.VAR	Potential pipe hijacking	3	False	Pre-2020.1
SV.RVT.RETVAL_NOTTESTED	Ignored Return Value	4	False	2021.2
SV.SIP.CONST	Use of Insecure Macro for Dangerous Functions	3	False	Pre-2020.1
SV.SIP.VAR	Use of Insecure Parameter for Dangerous Functions	3	False	Pre-2020.1
SV.STRBO.BOUND_COPY.OVERFLOW	Buffer Overflow in Bound String Copy	1	False	2023.4
SV.STRBO.BOUND_COPY.UNTERM	Possible Buffer Overflow in Following String Operations	2	False	Pre-2020.1
SV.STRBO.BOUND_SPRINTF	Buffer Overflow in Bound sprintf	1	False	Pre-2020.1
SV.STRBO.UNBOUND_COPY	Buffer Overflow in Unbound String Copy	1	False	Pre-2020.1
SV.STRBO.UNBOUND_SPRINTF	Buffer Overflow in Unbound sprintf	1	False	Pre-2020.1
SV.STR_PAR.UNDESIRED_STRING_PARAMETER	Undesired String for File Path	4	False	Pre-2020.1
SV.TAINTED.ALLOC_SIZE	Use of Unvalidated Integer in Memory Allocation	2	True	Pre-2020.1
SV.TAINTED.BINOP	Use of Unvalidated Integer in Binary Operation	3	False	2021.2
SV.TAINTED.CALL.BINOP	Use of Unvalidated Integer in Binary Operation	3	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
SV.TAINTED.CALL.DEREF	Dereference Of An Unvalidated Pointer	3	False	Pre-2020.1
SV.TAINTED.CALL.GLOBAL	Use of Unvalidated Integer in an Assignment Operation	3	False	2020.2
SV.TAINTED.CALL.INDEX_ACCESS	Use of Unvalidated Integer as Array Index by Function Call	2	True	Pre-2020.1
SV.TAINTED.CALL.LOOP_BOUND	Use of Unvalidated Integer in Loop Condition through a Function Call	2	True	Pre-2020.1
SV.TAINTED.DEREF	Dereference Of An Unvalidated Pointer	3	False	Pre-2020.1
SV.TAINTED.FMTSTR	Use of Unvalidated Data in a Format String	1	True	Pre-2020.1
SV.TAINTED.GLOBAL	Use of Unvalidated Integer in an Assignment Operation	3	False	2020.2
SV.TAINTED.INDEX_ACCESS	Use of Unvalidated Integer as Array Index	1	True	Pre-2020.1
SV.TAINTED.INJECTION	Command Injection	3	True	Pre-2020.1
SV.TAINTED.LOOP_BOUND	Use of Unvalidated Integer in Loop Condition	2	True	Pre-2020.1
SV.TAINTED.PATH_TRAVERSAL	Use of Unvalidated Data in a Path Traversal	1	True	Pre-2020.1
SV.TAINTED.SECURITY_DECISION	Security Decision	3	False	Pre-2020.1
SV.TAINTED.XSS.REFLECTED	Cross-site Scripting Vulnerability	3	False	2020.3
SV.TOCTOU.FILE_ACCESS	Time of Creation/Time of Use Race condition in File Access	4	False	Pre-2020.1
SV.UNBOUND_STRING_INPUT.CIN	Usage of cin for unbounded string input	1	True	Pre-2020.1
SV.UNBOUND_STRING_INPUT.FUNC	Usage of unbounded string input	1	True	Pre-2020.1
SV.USAGERULES.PERMISSIONS	Use of Privilege Elevation	4	False	Pre-2020.1
SV.USAGERULES.PROCESS_VARIANTS	Use of Dangerous Process Creation Function	4	False	Pre-2020.1
SV.USAGERULES.SPOOFING	Use of Function Susceptible to Spoofing	4	False	Pre-2020.1
SV.WEAK_CRYPTO.WEAK_HASH	Weak Hash Function	4	False	Pre-2020.1
UFM.DEREF.MIGHT	Use of free memory (access) - possible	1	True	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
UFM.DEREF.MUST	Use of Freed Memory by Pointer	1	True	Pre-2020.1
UFM.FFM.MIGHT	Use of free memory (double free) - possible	1	True	Pre-2020.1
UFM.FFM.MUST	Freeing Freed Memory	1	True	Pre-2020.1
UFM.RETURN.MIGHT	Use of freed memory (return) - possible	2	True	Pre-2020.1
UFM.RETURN.MUST	Use of Freed Memory on Return	2	True	Pre-2020.1
UFM.USE.MIGHT	Use of free memory - possible	2	True	Pre-2020.1
UFM.USE.MUST	Use of Freed Memory	2	True	Pre-2020.1
UNINIT.CTOR.MIGHT	Uninitialized Variable in Constructor - possible	1	True	Pre-2020.1
UNINIT.CTOR.MUST	Uninitialized Variable in Constructor	2	False	2020.1
UNINIT.HEAP.MIGHT	Uninitialized Heap Use - possible	1	True	Pre-2020.1
UNINIT.HEAP.MUST	Uninitialized Heap Use	1	True	Pre-2020.1
UNINIT.STACK.ARRAY.MIGHT	Uninitialized Array - possible	1	True	Pre-2020.1
UNINIT.STACK.ARRAY.MUST	Uninitialized Array	1	True	Pre-2020.1
UNINIT.STACK.ARRAY.PARTIAL.MUST	Partially Uninitialized Array	1	True	Pre-2020.1
UNINIT.STACK.MIGHT	Uninitialized Variable - possible	1	True	Pre-2020.1
UNINIT.STACK.MUST	Uninitialized Variable	1	True	Pre-2020.1
UNREACH.ENUM	Code is unreachable due to the possible value(s) of an enum	3	False	2021.3
UNREACH.GEN	Unreachable code	3	False	Pre-2020.1
UNREACH.RETURN	Unreachable Void Return	3	False	Pre-2020.1
UNREACH.SIZEOF	Architecture-related unreachable code	3	False	Pre-2020.1
UNUSED.FUNC.GEN	Function defined but not used	4	False	2023.4
UNUSED.FUNC.STL_EMPTY	Ignored return value of an STL object empty() method	3	True	2020.1
UNUSED.FUNC.WARN	Potential unused function	4	False	Pre-2020.1

Checker name	Description	Default severity	Enabled by default?	Version
VA.LIST.INDETERMINATE	Attempt to call va_arg() on a va_list that has an indeterminate value	3	False	2021.2
VA_UNUSED.GEN	Value is Never Used after Assignment	4	False	Pre-2020.1
VA_UNUSED.INIT	Value is Never Used after Initialization	4	False	Pre-2020.1
VOIDRET	Void function returns value	2	True	Pre-2020.1