

The SymbolTableBuilder decorates AST nodes with scopes (each node has a scope) and defines both built-in and user-defined types in the global scope. It also checks for cyclic inheritance. Variable and method declarations are decorated with type information.

The interface INodeVisitor is defined in the Support package. It defines visit methods for all AST nodes. For some nodes, several entry points are defined (e.g. visit before and after the node's children have been handled).

**<<interface>>
INodeVisitor**

SymbolTableBuilder
ExitCode BuildSymbolTable()

ReferenceChecker
bool RunCheck()

TypeChecker
bool RunCheck()

PHASE 1

PHASE 2

TypeSetBuilder
bool BuildTypeSet(out
IEnumerable<string> result)

SemanticsChecker
bool RunCheck()

ReferenceChecker checks that name references (for types, variables and methods) are valid. It decorates the AST's expression nodes with type information that can be used by the type checker.

TypeChecker checks that the types of expressions given as operands or parameters are valid, that uninitialized local variables are not referred to, that all paths in methods return the correct types of values etc.