SharpCheckerEntryPoint: DiagnosticAnalyzer

- +SupportedDiagnostics: ImmutableArray<DiagnosticDescriptor>
- + Initialize(AnalysisContext context): void
- GetCheckersFromAdditionalFiles(ImmutableArray<AdditionalText> additionalFiles, CancellationToken cancellationToken): List<st ring>

ASTUtilities

- + AnnotationDictionary : ConcurrentDictionary<SyntaxNode, List<List<String>>>
- + SharpCheckerAttributes : List<Node>
- analyzers : List<SCBaseAnalyzer>
- rules Dict: Dictionary<string, DiagnosticDescriptor>
- + ASTUtilities (List<string> checkers) : ASTUtilities
- + GetRules(): ImmutableArray<DiagnosticDescriptor>
- + AddAttributesForAllAnalyzers(): void + AddAttributeClassToAnalysis(Node attr): void
- + GetSyntaxKinds(): SyntaxKind[]
- + RemoveAttributeEnding(string raw): string
- + AnalyzeExpression(SyntaxNodeAnalysisContext context): void
- + GetSharpCheckerAttributeStrings(ImmutableArray<AttributeData>returnTypeAttrs): List<String>
- + AddSymbolAttributes(SyntaxNode sn, [NonNull] ISymbol symbol) : void
- + GetAttributes(SyntaxNodeAnalysisContext context, SyntaxNode synNode): List<string>
- + VerifyTypeAnnotations(SemanticModelAnalysisContext context): void

SCBaseAnalyzer

- + ASTUtil: ASTUtilities
- + GetRules(): Dictionary<string, DiagnosticDescriptor>
- + GetSyntaxKinds(): SyntaxKind[]
- + GetAttributesToUseInAnalysis(): List<Node>
- + GetSyntaxWalkerType(): Type
- + AnalyzeExpression(SyntaxNodeAnalysisContext context, SyntaxNode node): void
- AnalyzeReturnStatement(SyntaxNodeAnalysisContext context, ReturnStatementSyntax returnStmt): void
- # AnalyzeInvocationExpr(SyntaxNodeAnalysisContext context, InvocationExpressionSyntax invocationExpr): void + AnalyzeAssignmentExpression(SyntaxNodeAnalysisContext context, AssignmentExpressionSyntax assignmentExpression): void
- AnalyzeSubexpression(SyntaxNodeAnalysisContext context, ExpressionSyntax expr): void

TaintedAnalyzer

- + GetRules(): Dictionary<string, DiagnosticDescriptor>
- + GetAttributesToUseInAnalysis(): List<Node>
- + GetSyntaxWalkerType(): Type

EncryptedAnalyzer

- + GetRules(): Dictionary<string, DiagnosticDescriptor>
- + GetAttributesToUseInAnalysis(): List<Node>

NullnessAnalyzer

- + GetRules(): Dictionary<string, DiagnosticDescriptor>
- + GetAttributesToUseInAnalysis(): List<Node>
- $\#\ Analyzelnvocation Expr(SyntaxNodeAnalysisContext\ context, Invocation Expression Syntax\ invocation Expr): void$
- + GetSyntaxWalkerType(): Type

SCBaseSyntaxWalker: CSharpSyntaxWalker

- # rulesDict : Dictionary<string, DiagnosticDescriptor>
- # AnnotationDictionary : ConcurrentDictionary<SyntaxNode, List<List<String>>>
- # context : SemanticModelAnalysisContext
- # attributesOfInterest : List<Node>
- + SCBaseSyntaxWalker(Dictionary<string, DiagnosticDescriptor> rulesDict, ConcurrentDictionary<SyntaxNode, List<List<String>>> $annotation Dictionary, Semantic Model Analysis Context \ context, \ List < Node > attributes Of Interest): SCB as eSyntax Walker \ Analysis Context \ context, \ List < Node > attributes Of Interest): SCB as eSyntax Walker \ Analysis Context \ context, \ List < Node > attributes Of Interest): SCB as eSyntax Walker \ Analysis \ Context \ Contex$
- + VisitAssignmentExpression(AssignmentExpressionSyntax node): void
- + VisitInvocationExpression(InvocationExpressionSyntax node): void
- + VisitMethodDeclaration(MethodDeclarationSyntax node): void + VisitReturnStatement(ReturnStatementSyntax node): void
- VerifyReturnStmt(ReturnStatementSyntax node): void
- # VerifyMethodDecl(MethodDeclarationSyntax methodDecl): void # ReportDiagsForEach(Location location, List<string> expectedAttributes, List<string> actualAttributes): void
- RemoveAllInHierarchy(List<string> expectedAttributes, Node actualNode) : void
- # GetSharpCheckerAttributeStrings(ImmutableArray<AttributeData>attrDataCollection): List<String> # VerifyAssignmentExpr(AssignmentExpressionSyntax assignmentExpression): void
- ${\it \# VerifyInvocationExpr(InvocationExpressionSyntax\ invocationExpr): void}$
- Refine Types Based On Assertion (Invocation Expression Syntax invocation Expr, Member Access Expression Syntax mem Access): void a support of the following the following the following the following properties of the following the follow
- # VerifyExpectedAttrsInSyntaxNode([NonNull] List<string> expectedAttributes, [NonNull] SyntaxNode node): void
- # GetDefaultForStringLiteral(): string # GetDefaultForNullLiteral(): string

TaintedSyntaxWalker

- + TaintedSyntaxWalker(Dictionary<String, DiagnosticDescriptor> rulesDict, ConcurrentDictionary<SyntaxNode, List<List<String>>> annotationDictionary, SemanticModelAnalysisContext context, List<Node> attributesOfInterest): TaintedSyntaxWalker
- # GetDefaultForStringLiteral(): string
- # GetDefaultForNullLiteral(): string

NullnessSyntaxWalker

- + NullnessSyntaxWalker(Dictionary<string, DiagnosticDescriptor> rulesDict, ConcurrentDictionary<SyntaxNode, List<List<String>>> annotationDictionary, SemanticModelAnalysisContext context, List<Node> attributesOfInterest): NullnessSyntaxWalker
- # VerifyInvocationExpr(InvocationExpressionSyntax invocationExpr): void
- # VerifyExpectedAttrsInSyntaxNode([NonNull] List<string> expectedAttributes, [NonNull] SyntaxNode node): void
- # GetDefaultForStringLiteral(): string
- # GetDefaultForNullLiteral(): string