

*Od_l*₃ Syntax

⟨OdISpecification⟩	::=	⟨Definition⟩ ⟨DOT⟩ ⟨Definition⟩ ⟨SEMI⟩ ⟨Definition⟩ ⟨SEMI⟩ ⟨OdISpecification⟩
⟨Definition⟩	::=	⟨TypeDcl⟩ ⟨ConstDcl⟩ ⟨ExceptDcl⟩ ⟨Interface⟩ ⟨RuleDcl⟩ ⟨ExtRuleDcl⟩ ⟨ThesaurusRelation⟩ ⟨Module⟩ ⟨error⟩
⟨TypeDcl⟩	::=	typedef ⟨TypeDeclarator⟩ ⟨ConstrTypeSpec⟩
⟨TypeDeclarator⟩	::=	⟨TypeSpec⟩ ⟨Declarators⟩
⟨Declarators⟩	::=	⟨Declarator⟩ ⟨Declarators⟩ ⟨COMMA⟩ ⟨Declarator⟩
⟨Declarator⟩	::=	⟨Identifier⟩ ⟨Identifier⟩ ⟨ArraySizeList⟩
⟨ArraySizeList⟩	::=	⟨FixedSize⟩ ⟨ArraySizeList⟩ ⟨FixedSize⟩
⟨TypeSpec⟩	::=	⟨SimpleTypeSpec⟩ ⟨ConstrTypeSpec⟩
⟨SimpleTypeSpec⟩	::=	⟨BaseTypeSpec⟩ ⟨TemplateTypeSpec⟩ ⟨Identifier⟩
⟨BaseTypeSpec⟩	::=	⟨FloatingPtType⟩ ⟨IntegerType⟩ ⟨CharType⟩ ⟨BooleanType⟩ ⟨OctetType⟩ ⟨RangeType⟩ ⟨DateType⟩ ⟨AnyType⟩

⟨FloatingPtType⟩	::=	float
		double
⟨DateType⟩	::=	⟨DATE⟩
		⟨TIMESTAMP⟩
⟨IntegerType⟩	::=	⟨LongIntType⟩
		short
		unsigned long
		unsigned short
⟨LongIntType⟩	::=	integer
		int
		long
⟨CharType⟩	::=	char
⟨BooleanType⟩	::=	boolean
⟨OctetType⟩	::=	octet
⟨RangeType⟩	::=	range ⟨LPAR⟩ ⟨RangeSpecifier⟩ ⟨RPAR⟩
⟨RangeSpecifier⟩	::=	⟨SignedIntegerLiteral⟩ ⟨COMMA⟩ ⟨SignedIntegerLiteral⟩
		⟨SignedIntegerLiteral⟩ ⟨COMMA⟩ ⟨PLUS⟩ infinite
		⟨MINUS⟩ infinite ⟨COMMA⟩ ⟨SignedIntegerLiteral⟩
⟨AnyType⟩	::=	any
⟨TemplateTypeSpec⟩	::=	⟨ArrayType⟩
		⟨StringType⟩
		⟨CollectionType⟩
⟨ArrayType⟩	::=	array ⟨LEFT⟩ ⟨SimpleTypeSpec⟩ ⟨COMMA⟩
		⟨IntegerLiteral⟩ ⟨RIGHT⟩
⟨\$\$1⟩	::=	
⟨ArrayType⟩	::=	array ⟨LEFT⟩ ⟨SimpleTypeSpec⟩ ⟨RIGHT⟩ ⟨\$\$1⟩
		sequence ⟨LEFT⟩ ⟨SimpleTypeSpec⟩ ⟨COMMA⟩
		⟨IntegerLiteral⟩ ⟨RIGHT⟩
⟨StringType⟩	::=	string ⟨LEFT⟩ ⟨IntegerLiteral⟩ ⟨RIGHT⟩
		string
⟨CollectionType⟩	::=	⟨AttrCollectionSpecifier⟩ ⟨LEFT⟩ ⟨SimpleTypeSpec⟩
		⟨RIGHT⟩
⟨AttrCollectionSpecifier⟩	::=	set
		list
		bag
⟨ConstrTypeSpec⟩	::=	⟨StructType⟩
		⟨UnionType⟩
		⟨EnumType⟩

⟨StructType⟩	::=	struct ⟨Identifier⟩ ⟨LPAR⟩ ⟨MemberList⟩ ⟨RPAR⟩
⟨MemberList⟩	::=	⟨Member⟩ ⟨MemberList⟩ ⟨Member⟩
⟨Member⟩	::=	⟨TypeSpec⟩ ⟨Declarators⟩ ⟨SEMI⟩
⟨UnionType⟩	::=	union ⟨Identifier⟩ switch ⟨LRPAR⟩ ⟨SwitchTypeSpec⟩ ⟨RRPAR⟩ ⟨LPAR⟩ ⟨SwitchBody⟩ ⟨RPAR⟩
⟨SwitchTypeSpec⟩	::=	⟨IntegerType⟩ ⟨CharType⟩ ⟨BooleanType⟩ ⟨EnumType⟩ ⟨ScopedName⟩ ⟨RangeType⟩
⟨SwitchBody⟩	::=	⟨Case⟩ ⟨Case⟩ ⟨SwitchBody⟩
⟨Case⟩	::=	⟨CaseLabelList⟩ ⟨ElementSpec⟩ ⟨SEMI⟩
⟨CaseLabelList⟩	::=	⟨CaseLabel⟩ ⟨CaseLabel⟩ ⟨CaseLabelList⟩
⟨CaseLabel⟩	::=	case ⟨ConstExp⟩ ⟨COLON⟩ default ⟨COLON⟩
⟨ElementSpec⟩	::=	⟨TypeSpec⟩ ⟨Declarator⟩
⟨EnumType⟩	::=	enum ⟨Identifier⟩ ⟨LPAR⟩ ⟨EnumeratorList⟩ ⟨RPAR⟩
⟨EnumeratorList⟩	::=	⟨Enumerator⟩ ⟨EnumeratorList⟩ ⟨COMMA⟩ ⟨Enumerator⟩
⟨Enumerator⟩	::=	⟨Identifier⟩
⟨ConstExp⟩	::=	⟨OrExpr⟩
⟨OrExpr⟩	::=	⟨XOrExpr⟩ ⟨OrExpr⟩ ⟨VERT⟩ ⟨XOrExpr⟩
⟨XOrExpr⟩	::=	⟨AndExpr⟩ ⟨XOrExpr⟩ ⟨HAT⟩ ⟨AndExpr⟩
⟨AndExpr⟩	::=	⟨ShiftExpr⟩ ⟨AndExpr⟩ ⟨AMPER⟩ ⟨ShiftExpr⟩
⟨ShiftExpr⟩	::=	⟨AddExpr⟩ ⟨ShiftExpr⟩ ⟨DOUBLE_RIGHT⟩ ⟨AddExpr⟩ ⟨ShiftExpr⟩ ⟨DOUBLE_LEFT⟩ ⟨AddExpr⟩
⟨AddExpr⟩	::=	⟨MultExpr⟩ ⟨AddExpr⟩ ⟨PLUS⟩ ⟨MultExpr⟩ ⟨AddExpr⟩ ⟨MINUS⟩ ⟨MultExpr⟩

⟨MultExpr⟩	::=	⟨UnaryExpr⟩ ⟨MultExpr⟩ ⟨TIMES⟩ ⟨UnaryExpr⟩ ⟨MultExpr⟩ ⟨SLASH⟩ ⟨UnaryExpr⟩ ⟨MultExpr⟩ ⟨PERCENT⟩ ⟨UnaryExpr⟩
⟨UnaryExpr⟩	::=	⟨Signes⟩ ⟨PrimaryExpr⟩ ⟨PrimaryExpr⟩
⟨PrimaryExpr⟩	::=	⟨Identifier⟩ ⟨IntegerLiteral⟩ ⟨FloatingPtLiteral⟩ ⟨LRPAR⟩ ⟨OrExpr⟩ ⟨RRPAR⟩ ⟨LRPAR⟩ ⟨error⟩ ⟨RRPAR⟩
⟨ConstDcl⟩	::=	const ⟨StringType⟩ ⟨Identifier⟩ ⟨EQUAL⟩ ⟨StringLiteral⟩ const ⟨CharType⟩ ⟨Identifier⟩ ⟨EQUAL⟩ ⟨CharacterLiteral⟩ const ⟨IntegerType⟩ ⟨Identifier⟩ ⟨EQUAL⟩ ⟨ConstExp⟩ const ⟨FloatingPtType⟩ ⟨Identifier⟩ ⟨EQUAL⟩ ⟨ConstExp⟩
⟨SignedIntegerLiteral⟩	::=	⟨IntegerLiteral⟩ ⟨Signes⟩ ⟨IntegerLiteral⟩
⟨SignedFloatingPtLiteral⟩	::=	⟨Signes⟩ ⟨FloatingPtLiteral⟩ ⟨FloatingPtLiteral⟩
⟨Signes⟩	::=	⟨MINUS⟩ ⟨PLUS⟩
⟨ExceptDcl⟩	::=	exception ⟨Identifier⟩ ⟨LPAR⟩ ⟨OptMemberList⟩ ⟨RPAR⟩
⟨OptMemberList⟩	::=	⟨MemberList⟩
⟨ScopedName⟩	::=	⟨Identifier⟩ ⟨DOUBLE_COLON⟩ ⟨Identifier⟩ ⟨ScopedName⟩ ⟨DOUBLE_COLON⟩ ⟨Identifier⟩
⟨Interface⟩	::=	⟨InterfaceDcl⟩
⟨IntView⟩	::=	interface view

⟨InterfaceDcl⟩	::=	⟨IntView⟩ ⟨Identifier⟩ ⟨COLON⟩ ⟨InheritanceSpec⟩ ⟨OptTypePropertyList⟩ ⟨OptPersistenceDcl⟩ ⟨SingleInterfaceBody⟩ ⟨IntView⟩ ⟨Identifier⟩ ⟨COLON⟩ ⟨InheritanceSpec⟩ ⟨OptTypePropertyList⟩ ⟨OptPersistenceDcl⟩ ⟨SingleInterfaceBody⟩ ⟨InterfaceBodyUnionList⟩ ⟨IntView⟩ ⟨Identifier⟩ ⟨OptTypePropertyList⟩ ⟨OptPersistenceDcl⟩ ⟨SingleInterfaceBody⟩ ⟨IntView⟩ ⟨Identifier⟩ ⟨OptTypePropertyList⟩ ⟨OptPersistenceDcl⟩ ⟨SingleInterfaceBody⟩ ⟨InterfaceBodyUnionList⟩
⟨InheritanceSpec⟩	::=	⟨Identifier⟩ ⟨InheritanceSpec⟩ ⟨COMMA⟩ ⟨Identifier⟩
⟨OptTypePropertyList⟩	::=	 ⟨LRPAR⟩ ⟨OptSourceSpec⟩ ⟨OptExtentSpec⟩ ⟨OptKeySpec⟩ ⟨OptCandKeySpec⟩ ⟨OptForKeySpec⟩ ⟨RRPAR⟩
⟨OptSourceSpec⟩	::=	 source ⟨SourceType⟩ ⟨Identifier⟩
⟨SourceType⟩	::=	relational nfrelational object file semistructured
⟨OptExtentSpec⟩	::=	 extent ⟨ListExtent⟩
⟨ListExtent⟩	::=	⟨Identifier⟩ ⟨ListExtent⟩ ⟨COMMA⟩ ⟨Identifier⟩
⟨OptKeySpec⟩	::=	 key ⟨Key⟩
⟨OptCandKeySpec⟩	::=	 ⟨CandKeySpecList⟩
⟨CandKeySpecList⟩	::=	⟨CandKeySpec⟩ ⟨CandKeySpecList⟩ ⟨CandKeySpec⟩
⟨CandKeySpec⟩	::=	candidate_key ⟨Identifier⟩ ⟨Key⟩
⟨OptForKeySpec⟩	::=	 ⟨ForKeySpecList⟩
⟨ForKeySpecList⟩	::=	⟨ForKeySpec⟩ ⟨ForKeySpecList⟩ ⟨ForKeySpec⟩

⟨ForKeySpec⟩	::=	foreign_key ⟨LRPAR⟩ ⟨ForeignKeyList⟩ ⟨RRPAR⟩ references ⟨Identifier⟩ ⟨OptRefKeyList⟩
⟨OptRefKeyList⟩	::=	⟨LRPAR⟩ ⟨ForeignKeyList⟩ ⟨RRPAR⟩
⟨ForeignKeyList⟩	::=	⟨Identifier⟩ ⟨ForeignKeyList⟩ ⟨COMMA⟩ ⟨Identifier⟩
⟨Key⟩	::=	⟨LRPAR⟩ ⟨PropertyList⟩ ⟨RRPAR⟩
⟨PropertyList⟩	::=	⟨PropertyName⟩ ⟨PropertyList⟩ ⟨COMMA⟩ ⟨PropertyName⟩
⟨PropertyName⟩	::=	⟨Identifier⟩
⟨OptPersistenceDcl⟩	::=	persistent transient
⟨InterfaceBodyUnionList⟩	::=	⟨InterfaceBodyUnion⟩ ⟨InterfaceBodyUnionList⟩ ⟨InterfaceBodyUnion⟩
⟨InterfaceBodyUnion⟩	::=	union ⟨Identifier⟩ ⟨SingleInterfaceBody⟩
⟨SingleInterfaceBody⟩	::=	⟨LPAR⟩ ⟨InterfaceBody⟩ ⟨RPAR⟩
⟨InterfaceBody⟩	::=	⟨Export⟩ ⟨SEMI⟩ ⟨Export⟩ ⟨SEMI⟩ ⟨InterfaceBody⟩
⟨Export⟩	::=	⟨TypeDcl⟩ ⟨ConstDcl⟩ ⟨ExceptDcl⟩ ⟨AttrDcl⟩ ⟨RelDcl⟩ ⟨OpDcl⟩
⟨AttrDcl⟩	::=	⟨OptReadonly⟩ attribute ⟨DomainType⟩ ⟨AttributeName⟩ ⟨OptFixedSize⟩ ⟨OptMappingRuleDcl⟩
⟨OptReadonly⟩	::=	readonly
⟨AttributeName⟩	::=	⟨Identifier⟩ ⟨Identifier⟩ ⟨QUESTION⟩
⟨DomainType⟩	::=	⟨SimpleTypeSpec⟩ ⟨StructType⟩ ⟨EnumType⟩
⟨OptFixedSize⟩	::=	⟨FixedSize⟩
⟨FixedSize⟩	::=	⟨LEPAR⟩ ⟨IntegerLiteral⟩ ⟨REPAR⟩

⟨OptMappingRuleDcl⟩	::=	⟨MappingRuleDcl⟩
⟨MappingRuleDcl⟩	::=	mapping rule ⟨MapRuleList⟩
⟨MapRuleList⟩	::=	⟨MapRule⟩
		⟨MapRuleList⟩ ⟨COMMA⟩ ⟨MapRule⟩
⟨MapRule⟩	::=	⟨LocalAttributeName⟩
		⟨DefaultValue⟩
		⟨MapAndExpression⟩
		⟨MapUnionExpression⟩
⟨LocalAttributeName⟩	::=	⟨LocalClassName⟩ ⟨DOT⟩ ⟨Identifier⟩
⟨LocalClassName⟩	::=	⟨Identifier⟩ ⟨DOT⟩ ⟨Identifier⟩
⟨DefaultValue⟩	::=	⟨Identifier⟩ ⟨DOT⟩ ⟨Identifier⟩ ⟨EQUAL⟩ ⟨StringLiteral⟩
⟨MapAndExpression⟩	::=	⟨LRPAR⟩ ⟨MapAndList⟩ and ⟨LocalAttributeName⟩
		⟨RRPAR⟩
⟨MapAndList⟩	::=	⟨LocalAttributeName⟩
		⟨MapAndList⟩ and ⟨LocalAttributeName⟩
⟨MapUnionExpression⟩	::=	⟨LRPAR⟩ ⟨MapUnionList⟩ union ⟨LocalAttributeName⟩ on
		⟨Identifier⟩ ⟨RRPAR⟩
⟨MapUnionList⟩	::=	⟨LocalAttributeName⟩
		⟨MapUnionList⟩ union ⟨LocalAttributeName⟩
⟨RelDcl⟩	::=	relationship ⟨TargetOfPath⟩ ⟨Identifier⟩ inverse
		⟨InverseTraversalPath⟩ ⟨OptOrderBy⟩
⟨TargetOfPath⟩	::=	⟨Identifier⟩
		⟨RelCollectionType⟩ ⟨LEFT⟩ ⟨Identifier⟩ ⟨RIGHT⟩
⟨RelCollectionType⟩	::=	set
		list
⟨InverseTraversalPath⟩	::=	⟨Identifier⟩ ⟨DOUBLE_COLON⟩ ⟨Identifier⟩
⟨OptOrderBy⟩	::=	⟨LPAR⟩ order by ⟨ScopedNameList⟩ ⟨RPAR⟩
⟨ScopedNameList⟩	::=	⟨ScopedName⟩
		⟨ScopedNameList⟩ ⟨COMMA⟩ ⟨ScopedName⟩
⟨OpDcl⟩	::=	⟨OptOneway⟩ ⟨OperTypeSpec⟩ ⟨Identifier⟩ ⟨ParameterDcls⟩
		⟨OptRaisesExpr⟩ ⟨OptContextExpr⟩
⟨OptOneway⟩	::=	oneway
⟨OperTypeSpec⟩	::=	⟨SimpleTypeSpec⟩
		void

⟨ParameterDcls⟩	::=	⟨LRPAR⟩ ⟨ParamDclList⟩ ⟨RRPAR⟩ ⟨LRPAR⟩ ⟨RRPAR⟩
⟨ParamDclList⟩	::=	⟨ParamDcl⟩ ⟨ParamDclList⟩ ⟨COMMA⟩ ⟨ParamDcl⟩
⟨ParamDcl⟩	::=	⟨ParamAttribute⟩ ⟨SimpleTypeSpec⟩ ⟨Declarator⟩
⟨ParamAttribute⟩	::=	in out inout
⟨OptRaisesExpr⟩	::=	raises ⟨LRPAR⟩ ⟨ScopedNameList⟩ ⟨RRPAR⟩
⟨OptContextExpr⟩	::=	context ⟨LRPAR⟩ ⟨StringLiteralList⟩ ⟨RRPAR⟩
⟨StringLiteralList⟩	::=	⟨StringLiteral⟩ ⟨StringLiteralList⟩ ⟨COMMA⟩ ⟨StringLiteral⟩
⟨ExtRuleDcl⟩	::=	extrule ⟨Identifier⟩ ⟨ExtRuleSpec⟩
⟨ExtRuleSpec⟩	::=	⟨ForAll⟩ ⟨Identifier⟩ in ⟨ExtRuleType⟩
⟨ExtRuleType⟩	::=	⟨ExtRuleIsa⟩ ⟨ExtRuleBottom⟩
⟨ExtRuleBottom⟩	::=	⟨LRPAR⟩ ⟨LocalClassName⟩ and ⟨LocalClassName⟩ ⟨RRPAR⟩ then ⟨Identifier⟩ in bottom
⟨ExtRuleIsa⟩	::=	⟨LocalClassName⟩ then ⟨Identifier⟩ in ⟨LocalClassName⟩
⟨RuleDcl⟩	::=	rule ⟨Identifier⟩ ⟨RuleSpec⟩
⟨RuleSpec⟩	::=	⟨ForAll⟩ ⟨Identifier⟩ in ⟨Identifier⟩ ⟨COLON⟩ ⟨RuleBodyList⟩ then ⟨RuleBodyList⟩ ⟨LPAR⟩ case of ⟨Identifier⟩ ⟨COLON⟩ ⟨CaseList⟩ ⟨RPAR⟩
⟨ForAll⟩	::=	for all forall
⟨RuleBodyList⟩	::=	⟨LRPAR⟩ ⟨RuleBodyList⟩ ⟨RRPAR⟩ ⟨RuleBody⟩ ⟨RuleBodyList⟩ and ⟨RuleBody⟩
⟨\$\$2⟩	::=	

⟨RuleBody⟩	::=	⟨DottedName⟩ ⟨RuleConstOp⟩ ⟨OptRuleCast⟩ ⟨LiteralValue⟩ ⟨\$\$2⟩ ⟨DottedName⟩ ⟨RuleConstOp⟩ ⟨OptRuleCast⟩ ⟨DottedName⟩ ⟨DottedName⟩ in ⟨DottedName⟩ ⟨ForAll⟩ ⟨Identifier⟩ in ⟨DottedName⟩ ⟨COLON⟩ ⟨RuleBodyList⟩ exists ⟨Identifier⟩ in ⟨DottedName⟩ ⟨COLON⟩ ⟨RuleBodyList⟩ ⟨DottedName⟩ ⟨EQUAL⟩ ⟨SimpleTypeSpec⟩ ⟨Identifier⟩ ⟨LRPAR⟩ ⟨DottedLiteralList⟩ ⟨RRPAR⟩
⟨DottedLiteralList⟩	::=	⟨DottedLiteral⟩ ⟨DottedLiteralList⟩ ⟨COMMA⟩ ⟨DottedLiteral⟩
⟨DottedLiteral⟩	::=	⟨OptSimpleTypeSpec⟩ ⟨DottedName⟩ ⟨OptSimpleTypeSpec⟩ ⟨LiteralValue⟩
⟨OptSimpleTypeSpec⟩	::=	⟨SimpleTypeSpec⟩
⟨RuleConstOp⟩	::=	⟨EQUAL⟩ ⟨GREATEREQUAL⟩ ⟨LESSEQUAL⟩ ⟨LEFT⟩ ⟨RIGHT⟩
⟨LiteralValue⟩	::=	⟨SignedFloatingPtLiteral⟩ ⟨SignedIntegerLiteral⟩ ⟨CharacterLiteral⟩ ⟨StringLiteral⟩
⟨DottedName⟩	::=	⟨Identifier⟩ ⟨DottedName⟩ ⟨DOT⟩ ⟨Identifier⟩
⟨OptRuleCast⟩	::=	⟨LRPAR⟩ ⟨SimpleTypeSpec⟩ ⟨RRPAR⟩
⟨CaseList⟩	::=	⟨CaseSpec⟩ ⟨CaseList⟩ ⟨CaseSpec⟩
⟨CaseSpec⟩	::=	⟨LiteralValue⟩ ⟨COLON⟩ ⟨DottedName⟩
⟨ThesaurusRelation⟩	::=	⟨LocalAttributeName⟩ ⟨ThesRelType⟩ ⟨LocalAttributeName⟩ ⟨LocalClassName⟩ ⟨ThesRelType⟩ ⟨LocalClassName⟩ ⟨LocalClassName⟩ ⟨ThesRelType⟩ ⟨LocalAttributeName⟩ ⟨LocalAttributeName⟩ ⟨ThesRelType⟩ ⟨LocalClassName⟩

$\langle \text{ThesRelType} \rangle$	$::=$	syn
		bt
		nt
		rt
$\langle \text{Module} \rangle$	$::=$	module $\langle \text{Identifier} \rangle$ $\langle \text{LPAR} \rangle$ $\langle \text{OdISpecification} \rangle$ $\langle \text{RPAR} \rangle$