

Ontology Model	Namespace	Vocabulary	Type	Description†
Behavior	bh	Event	Ontology Class	represents a runtime behavior; the superclass of all concrete events
Time	t	<i>startsAt</i>	Datatype Property	links an Event to the timepoint it starts
		<i>endsAt</i>	Datatype Property	links an Event to the timepoint it ends
StaticBehavior	sbh	Event	Ontology Class	represents a behavior; the superclass of all concrete events
		<i>eventContext</i>	Object Property	links an Event to the context where the event occurs
Pattern	ptn	DesignPattern	Ontology Class	the superclass of all concrete design patterns
		DPElement	Ontology Class	the elements, i.e. roles and operations, that compose a design pattern
		<i>containsOper</i>	Object Property	links a DesignPattern to its operation
		<i>containsRole</i>	Object Property	links a DesignPattern to its role
		<i>hasRole</i>	Annotation Property	links a concrete DesignPattern ontology class to a concrete DPElement ontology class that represents its key role
Java	java	Array	Ontology Class	array type, e.g. String[]
		Class	Ontology Class	Java class
		AbstractClass	Ontology Class	abstract class
		NormalClass	Ontology Class	non-abstract class
		Enum	Ontology Class	enumeration type
		Expression	Ontology Class	expression
		Field	Ontology Class	class field
		Interface	Ontology Class	interface
		Method	Ontology Class	method
		AbstractMethod	Ontology Class	abstract method
		NormalMethod	Ontology Class	non-abstract method
		Missing	Ontology Class	unsolved types
		Package	Ontology Class	package
		LocalPackage	Ontology Class	the package created by the project
		RemotePackage	Ontology Class	the package in imported libraries
		Param	Ontology Class	the parameter of a method
		Primitive	Ontology Class	primitive types, e.g. char, boolean
		Statement	Ontology Class	statement
		Type	Ontology Class	the concept of Java type
		TypeParam	Ontology Class	type parameter, e.g. the <E> of ArrayList<E>
		Variable	Ontology Class	variable
		<i>acquaints</i>	Object Property	acquaintance relationships
		<i>aggregates</i>	Object Property	links a Class/Interface to the one it aggregates
		<i>arrayOf</i>	Object Property	links an Array to its type
		<i>containsVar</i>	Object Property	links a Method to the Variable it contains
		<i>variableContainedIn</i>	Object Property	inverse of <i>containsVar</i>
		<i>containsVarType</i>	Object Property	links a Method to the type of the Variable declared in its body
		<i>declaredIn</i>	Object Property	inverse of <i>containsVarType</i>
		<i>dependsOn</i>	Object Property	dependency relationships of compilation units
		<i>extends</i>	Object Property	a Class/Interface extends another Class/Interface
		<i>fieldTypes</i>	Object Property	links a Field to its type
		<i>hasDimension</i>	Object Property	links an Array to its dimension
		<i>hasField</i>	Object Property	links a Class/Interface to a Field of it
		<i>fieldIn</i>	Object Property	inverse of <i>hasField</i>
		<i>hasFieldType</i>	Object Property	links a Class/Interface to the type of its Field
		<i>hasInnerClass</i>	Object Property	links a Class to its inner Class
		<i>outerClass</i>	Object Property	inverse of <i>hasInnerClass</i>
		<i>hasInnerInterface</i>	Object Property	links an Interface to its inner Interface
		<i>hasMethod</i>	Object Property	links a Class/Interface to a Method of it
		<i>methodIn</i>	Object Property	inverse of <i>hasMethod</i>
		<i>hasParam</i>	Object Property	links a Method to a Parameter of it
		<i>paramIn</i>	Object Property	inverse of <i>hasParam</i>
		<i>hasParamType</i>	Object Property	links a Method to the type of its Parameter
		<i>hasTypeArg</i>	Object Property	links a Field to its type argument
		<i>hasTypeBound</i>	Object Property	links a TypeParam to its type bound (e.g. the Type in the type parameter <E extends Type>)
		<i>hasTypeParam</i>	Object Property	links a Class/Interface to its TypeParam
		<i>implements</i>	Object Property	a Class implements an Interface
		<i>inherits</i>	Object Property	transitive inheritance relationships of Class/Interface individuals
		<i>inheritsMethod</i>	Object Property	links a Class/Interface to the Method it inherits from its parent
		<i>inPackage</i>	Object Property	links a Class/Interface to its declaring Package
		<i>isA</i>	Object Property	up-casting relationships of Class/Interface individuals
		<i>isEA</i>	Object Property	same as <i>isA</i> except that <i>isEA</i> also links an individual to itself
		<i>missingProperty</i>	Object Property	unsolved properties
		<i>overloads</i>	Object Property	links a Method to the one it overloads
		<i>overrides</i>	Object Property	links a Method to the one it overrides
		<i>paramTypes</i>	Object Property	links a Parameter to its type
		<i>realizes</i>	Object Property	transitive realization relationships of Class/Interface individuals
		<i>refers</i>	Object Property	reference relationships of Class/Interface individuals
		<i>returnTypes</i>	Object Property	links a Method to its return type
		<i>variableType</i>	Object Property	links a Variable to its type
		<i>hasModifier</i>	Datatype Property	links to the string modifier
		<i>isConstructor</i>	Datatype Property	links to true/false to identify whether a method is a constructor
		<i>isInLocalPackage</i>	Datatype Property	links to true/false to identify whether a Class/Interface/Enum is in LocalPackage
		<i>isInLoop</i>	Datatype Property	indicates whether an expression is within a for/while block
		<i>isParamInConditionalExp</i>	Datatype Property	links a method to true (false) if one of its parameters appears (does appear) in conditional expressions of "if" and "while" statements
		<i>localNameIs</i>	Datatype Property	links an individual to its local name
		<i>methodSig</i>	Datatype Property	links a Method to its signature
		<i>returnExp</i>	Datatype Property	links a Method to its return expression
Java StaticBehavior	jsbh	Assignment	Ontology Class	assignment event
		ClassInstantiation	Ontology Class	class instantiation event
		FieldInitiation	Ontology Class	field initiation event
		MethodInvocation	Ontology Class	method invocation event
		<i>callsMethod</i>	Object Property	links a Method to the Method it calls
		<i>containsExp</i>	Object Property	links a Method to the expression it contains
		<i>instantiatesClass</i>	Object Property	links a Method to the instantiated Class inside the method's body
		<i>instatedClass</i>	Object Property	links a ClassInstantiation event to the instantiated Class
		<i>methodCalled</i>	Object Property	links a MethodCall event to the Method called
		<i>methodCaller</i>	Object Property	links a MethodCall event to the caller Method
		<i>fieldIniter</i>	Datatype Property	links a Field to its instantiation expression
		<i>hasArg</i>	Datatype Property	links a MethodInvocation to the argument that passes to the method
		<i>invocExp</i>	Datatype Property	links a MethodInvocation to the expression that invokes the method
		<i>leftExp</i>	Datatype Property	links an Assignment to its left expression
		<i>rightExp</i>	Datatype Property	links an Assignment to its right expression
Java Behavior	jbh	FieldAccess	Ontology Class	field access event
		FieldModi	Ontology Class	field modification event
		MethodCall	Ontology Class	method invocation event
		ObjectAlloc	Ontology Class	object allocation event
		ThreadStart	Ontology Class	thread start event
		ThreadEnd	Ontology Class	thread end event
		<i>accessedField</i>	Object Property	links a FieldAccess event to the Field accessed
		<i>fieldAccMethod</i>	Object Property	links a FieldAccess event to the Method in which the event happens
		<i>methodCalled</i>	Object Property	links a MethodCall event to the Method called
		<i>methodCaller</i>	Object Property	links a MethodCall event to the Method caller
		<i>modifiedField</i>	Object Property	links a FieldModi event to the Field modified
		<i>isInit</i>	Datatype Property	links a MethodCall event to true if the method called is a constructor for instance, and non-static field initialization.
		<i>isClinit</i>	Datatype Property	links a MethodCall event to true if the method called is a constructor for the class, and static field initialization.
		<i>objTag</i>	Datatype Property	links to a globally unique tag of an object
		<i>ownerObjTag</i>	Datatype Property	links to a globally unique object tag of a field object
		<i>paramObjTag</i>	Datatype Property	links to a globally unique object tag of a parameter
†In the description, "an Interface" means an individual whose type is Interface or a subclass of Interface, so does similar expressions.				
The other 113 vocabularies are not listed here for brevity, including 23 concrete design patterns (subclasses of DesignPattern) and 90 concrete design pattern elements (subclasses of DPElement).				
Please refer to the ontologies in the "Static Facts" directory.				