

# 1 Appendix A – Data Model

## 1.1 Schema XACML

All tables used for Authentication / Authorization are stored in the PostgreSQL database.

**Database:** postgres

**Schema:** xacml

### 1.1.1 Table flatpolicies

All XACML policies are generated from information stored in table `flatpolicies` and its dependent table `resources` (see section 1.1.2 Table resources).

Name	Type	Key	Nullable	Description
id	numeric(15, 0)	Primary Key	Not Null	technical ID
policy_id	varchar(255)		Not Null	XACML Policy ID
rule_alg_id	varchar(255)		Not Null	Rule-Combining Algorithm, normally "urn:oasis:names:tc:xacml:1.0:rule-combining-algorithm:ordered-permit-overrides"
description	varchar(255)		Null	Textual description
policy_subject_match_id	varchar(255)		Not Null	Subject-matching function, normally "urn:oasis:names:tc:xacml:1.0:function:string-equal"
policy_subject_designator_type	varchar(255)		Not Null	The type of the expected subject identifier, normally "http://www.w3.org/2001/XMLSchema#string"
policy_subject_designator_id	varchar(255)		Not Null	The ID attribute name of the expected subject, normally "urn:oasis:names:tc:xacml:1.0:subject:subject-id"
policy_subject_value	varchar(255)		Not Null	The expected value of the subject ID attribute
policy_action_match_id	varchar(255)		Not Null	Action-matching function, normally "urn:oasis:names:tc:xacml:1.0:function:string-equal"
policy_action_designator_type	varchar(255)		Not Null	The type of the expected action identifier, normally "http://www.w3.org/2001/XMLSchema#string"

policy_action_designator_id	varchar(255)		Not Null	The ID attribute name of the expected action, normally "urn:oasis:names:tc:xacml:1.0:action:action-id"
policy_action_value	varchar(255)		Not Null	The expected value of the action
rule_id	varchar(255)		Not Null	Textual identifier for the contained rule
condition	text		Null	The condition as XML

### 1.1.2 Table resources

This table is dependent on table `flatpolicies` (see section 1.1.1 Table `flatpolicies`) via its foreign key `policy_id`.

Name	Type	Key	Nullable	Description
id	numeric(15, 0)	Primary Key	Not Null	Technical ID
policy_id	numeric(15,0)	Foreign Key	Not Null	Foreign key to table <code>flatpolicies</code>
resource_match_id	varchar(255)		Not Null	Resource-matching function, normally "urn:oasis:names:tc:xacml:1.0:function:string-equal"
resource_designator_type	varchar(255)		Not Null	The type of the expected resource attribute, normally "http://www.w3.org/2001/XMLSchema#string"
resource_designator_id	varchar(255)		Not Null	The name of the expected resource attribute
resource_value	varchar(255)		Not Null	The value of the expected resource attribute

### 1.1.3 Table method\_mappings

This table and its dependent table `invocation_mappings` (see section 1.1.4 Table `invocation_mappings`) defines how a webservice method maps to a XACML business action and what input parameters should be used in the XACML request.

Name	Type	Key	Nullable	Description
id	numeric(15, 0)	Primary Key	Not Null	Technical ID
method_name	varchar(255)		Not Null	The name of the Webservice method
action	varchar(255)		Not Null	The business action that maps to this method
before	Boolean		Not Null	true = Mapping for checks before method call false = Mapping for checks after method call

### 1.1.4 Table invocation\_mappings

This table is dependent on table `method_mappings` (see section 1.1.3 Table `method_mappings`). A description how the information from this table is used to retrieve request values is provided in the Overview section of this document.

Name	Type	Key	Nullable	Description
id	numeric(15, 0)	Primary Key	Not Null	Technical ID
path	varchar(1000)		Not Null	Path to follow down a JavaBean structure to retrieve a value from a getter.
position	numeric(2,0)		Not Null	Defines, which input parameter is the JavaBean where the value should be retrieved from
attributeType	varchar(255)		Not Null	The XML type that this value should have in the request, e.g. "http://www.w3.org/2001/XMLSchema#string"
mappingType	numeric(1,0)		Not Null	Defines what kind of mapping type this invocation mapping is: 1 = simple attribute mapping 2 = complex attribute mapping 3 = value mapping
value	varchar(255)		Null	The value to use in case mappingType is set to value mapping