# RdbSchema

## Represents a database schema

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# 1. Overview

**RdbSchema**: *Represents a database schema*

## 1.1. Intent

The RdbSchema object is a deployment representing a database schema which is typically a dependency of an Rdb (database service) object. Schemas are modeled so that there are the following tiers:

- AppServer such as a JBossServer object depending on:
- Database Server such an Rdb object depending on:
- RdbSchema objects

Typically these objects are accessible from the application server in order to generate its datasource configuration.

# 2. Design

### Super Type
Service

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |
| Notification | **false** |
| Template Directory | |
| Data View | Children, proximity: **1** |
| Logger Name | |

# 3. Constraints

## 3.1. Allowed Child Dependencies

- RdbDataSourceName 1
- RdbInstallRoot1
- RdbMaxPoolSize 1
- RdbMaxWait 1
- RdbMinPoolSize 1
- RdbSchemaName 1

- RdbSchemaParam
- RdbSchemaPassword 1
- RdbSchemaType 1
- RdbSchemaUserName 1

1: These types have a *Singleton* constraint. Only one instance may be added as a resource.

### 3.2. Allowed Parent Dependencies

- Node
- Rdb

Limit this object to be referred to by Node and Rdb objects only.

## 4. Attributes

### 4.1. Defaults for Imported Attributes

| Name | Default | Description |
|---|---|---|
| `rdbDataSourceName` | DefaultDS | default jndi datasource name |
| `rdbMaxPoolSize` | 20 | default maximum pool size |
| `rdbMaxWait` | 5000 | default maximum wait for databasae connection in milliseconds |
| `rdbMinPoolSize` | 5 | default minimum pool size |
| `rdbSchemaPassword` | | default schema password |
| `rdbSchemaUserName` | sa | default schema username |

## 5. Commands

**Note:**
Commandline options displayed in square brackets "[]" are optional. If an option expects arguments, then angle brackets are shown after the option "<>". Any default value is shown within the brackets.

### 5.1. export

*Exports the schema*

exports the database schema as a versioned package subject to import into the controltier package repository.

**Usage**

```
export -buildstamp <> [-instance
<${Rdb.entity.attribute.rdbInstance}>] [-password
<${entity.attribute.rdbSchemaPassword}>] [-rdb_home <>]
[-schema <${entity.attribute.rdbSchemaName}>] [-username
<${entity.attribute.rdbSchemaUserName}>]
```

**Options**

| Option | Description |
|---|---|
| `buildstamp` | *build stamp* |
| `instance` | *Database server instance name*<br>Identifies the database instance name, by default this instance name is derived from the referring database server object. |
| `password` | *Schema user's password*<br>password to access database schema, defaults to the rdbSchemaPassword attribute. |
| `rdb_home` | *path to database install* |
| `schema` | *Database schema name*<br>name of the database schema, defaults to the rdbSchemaName attribute. |
| `username` | *Schema user name*<br>username to access database schema, defaults to the rdbSchemaUserName attribute. |

## 5.2. import

*Imports the schema*

concrete import implementation of the schema import.

**Usage**

```
import [-dmp_file
<${entity.attribute.rdbSchemaType}-${opts.buildstamp}.dmp>]
[-failonwarnings <>] [-from_user <>] [-instance
```

```
<${Rdb.entity.attribute.rdbInstanceName}>] [-password
<${entity.attribute.rdbSchemaPassword}>] [-rdb_home <>]
[-schema <${entity.attribute.rdbSchemaName}>] [-username
<${entity.attribute.rdbSchemaUserName}>]
```

**Options**

| Option | Description |
|---|---|
| `dmp_file` | *dump file to import* |
| `failonwarnings` | *if arg true, fail if there are import warnings* |
| `from_user` | *from user* |
| `instance` | *Database server instance name*<br>Identifies the database instance name, by default this instance name is derived from the referring database server object. |
| `password` | *Schema user's password*<br>password to access database schema, defaults to the rdbSchemaPassword attribute. |
| `rdb_home` | *path to database install* |
| `schema` | *Database schema name*<br>name of the database schema, defaults to the rdbSchemaName attribute. |
| `username` | *Schema user name*<br>username to access database schema, defaults to the rdbSchemaUserName attribute. |

## 5.3. ImportDmp

*Imports the dmp file*

Workflow wrapping the schema import process

**Usage**

```
ImportDmp
```

### 5.3.1. Workflow

1. import

## 5.4. Status

*Gets the status of the service*

Checks if the configured schema is available

**Usage**
```
Status
```

### 5.4.1. Workflow

1. upSchema

## 5.5. ExportDmp

*exports and uploads a dump*

Workflow wrapping the schema export and package registration process

**Usage**
```
ExportDmp -buildstamp <>
```

### 5.5.1. Workflow

1. export
2. registerDmp

### 5.5.2. Error Handler

| | |
|---|---|
| Notify | **Email**<br>`${framework.admin.email}`<br>**Subject**<br>**File** |

**Options**

| Option | Description |
|---|---|
| `buildstamp` | *buildstamp*<br>Identifies the buildstamp to be assiged as the version of the data package. |

## 5.6. registerDmp

*registers the dump file as an object*

registers an exported schema as a package in the ControlTier package repository.

**Usage**

```
registerDmp [-buildstamp <>] [-dmp_file <>] [-packagetype
<RdbData>] [-release <>] [-tstampformat <yyyymmddhhmm>]
[-version <>]
```

**Options**

| Option | Description |
|---|---|
| `buildstamp` | *package build timestamp*<br>Identifies the buildstamp to be assiged as the version of the data package. |
| `dmp_file` | *dumpfile*<br>Identifies the dmp file to be created when schema is exported. |
| `packagetype` | *type name*<br>Idenifies which data package type the package will be registered as, defaults to RdbData. |
| `release` | *version release* |
| `tstampformat` | *build timestamp format* |
| `version` | *package version* |

## 5.7. upSchema

*Checks schema is available in the designated instance*

Checks if the configured schema is available

**Usage**

```
upSchema [-instance <${Rdb.entity.attribute.rdbInstance}>]
[-password <${entity.attribute.rdbSchemaPassword}>] [-schema
<${entity.attribute.rdbSchemaName}>] [-username
<${entity.attribute.rdbSchemaUserName}>]
```

**Options**

| Option | Description |
|---|---|
| `instance` | *Database server instance name*<br>Identifies the database instance name, by default this |

| | |
|---|---|
| | instance name is derived from the referring database server object. |
| `password` | *Schema user's password*<br>password to access database schema, defaults to the rdbSchemaPassword attribute. |
| `schema` | *Database schema name*<br>name of the database schema, defaults to the rdbSchemaName attribute. |
| `username` | *Schema user name*<br>username to access database schema, defaults to the rdbSchemaUserName attribute. |

# 6. Related Types

The following types are defined for use with RdbSchema.

## 6.1. RdbSchemaSetting

### 6.1.1. Overview

**RdbSchemaSetting**: *an RdbSchema setting*

#### 6.1.1.1. Intent

Supertype to encapsulate related subtypes to support RdbSchema deployments.

### 6.1.2. Design

**Super Type**
Setting

| | |
|---|---|
| Role | **Abstract**. (Objects cannot be created.) |
| Instance Names | **Unique** |

### 6.1.3. Constraints

#### 6.1.3.1. Allowed Parent Dependencies

- RdbSchema

RdbSchema settings shall only be referred to by RdbSchema objects.

## 6.2. RdbSchemaType

### 6.2.1. Overview

**RdbSchemaType**: *A schema name*

### 6.2.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

### 6.2.3. Attributes

#### 6.2.3.1. Exported Attributes

| Name | Property |
|---|---|
| `rdbSchemaType` | settingValue |

## 6.3. RdbSchemaParam

### 6.3.1. Overview

**RdbSchemaParam**: *A schema parameter*

### 6.3.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

## 6.4. RdbSchemaName

### 6.4.1. Overview

**RdbSchemaName**: *A schema name*

#### 6.4.1.1. Intent

Specifies the name of the database schema. Typically accessed by a referring application server for datasource generation.

### 6.4.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

### 6.4.3. Attributes

#### 6.4.3.1. Exported Attributes

| Name | Property | Description |
|---|---|---|
| `rdbSchemaName` | settingValue | attribute setting representing a database schema name. |

## 6.5. RdbDataSourceName

### 6.5.1. Overview

**RdbDataSourceName**: *JNDI data source name for connecting to the schema*

#### 6.5.1.1. Intent

The jndi datasource name that the application uses to reference this schema. Typically accessed by a referring application server for datasource generation.

### 6.5.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

### 6.5.3. Attributes

#### 6.5.3.1. Exported Attributes

| Name | Property | Description |
|---|---|---|
| `rdbDataSourceName` | settingValue | attribute setting representing the jndi datasource name. |

## 6.6. RdbSchemaUserName

### 6.6.1. Overview

**RdbSchemaUserName**: *A user for a schema*

#### 6.6.1.1. Intent

The username used to access the database schema. Typically accessed by a referring application server for datasource generation.

### 6.6.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

### 6.6.3. Attributes

#### 6.6.3.1. Exported Attributes

| Name | Property | Description |
|---|---|---|
| `rdbSchemaUserName` | settingValue | attribute setting containing the username required for database schema access |
| `schemaFromUser` | settingType | |

## 6.7. RdbSchemaPassword

### 6.7.1. Overview

**RdbSchemaPassword**: *A schema user's password*

#### 6.7.1.1. Intent

The password used to access the database schema. Typically accessed by a referring application server for datasource generation.

### 6.7.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

### 6.7.3. Constraints

### 6.7.4. Attributes

#### 6.7.4.1. Exported Attributes

| Name | Property | Description |
|---|---|---|
| `rdbSchema` | settingType | |
| `rdbSchemaPassword` | settingValue | attribute setting containing the password required for database schema access Typically accessed by a referring application server for datasource generation. |

## 6.8. RdbMinPoolSize

### 6.8.1. Overview

**RdbMinPoolSize**: *DataSource minimum connections*

#### 6.8.1.1. Intent

The specified minimum pool size for referring entities that connect to this schema. Typically

accessed by a referring application server for datasource generation.

#### 6.8.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

#### 6.8.3. Constraints

#### 6.8.4. Attributes

##### 6.8.4.1. Exported Attributes

| Name | Property | Description |
|---|---|---|
| `rdbMinPoolSize` | settingValue | attribute setting containing the minimum pool size |

### 6.9. RdbMaxPoolSize

#### 6.9.1. Overview

**RdbMaxPoolSize**: *DataSource maximum connections*

##### 6.9.1.1. Intent

The specified maximum pool size for referring entities that connect to this schema. Typically accessed by a referring application server for datasource generation.

#### 6.9.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

#### 6.9.3. Constraints

### 6.9.4. Attributes

#### 6.9.4.1. Exported Attributes

| Name | Property | Description |
|---|---|---|
| `rdbMaxPoolSize` | settingValue | attribute setting containing the maximum pool size |

## 6.10. RdbMaxWait

### 6.10.1. Overview

**RdbMaxWait**: *DataSource maxwait parameter*

### 6.10.2. Design

**Super Type**
RdbSchemaSetting

| | |
|---|---|
| Role | **Concrete**. (Objects can be created.) |
| Instance Names | **Unique** |

### 6.10.3. Constraints

### 6.10.4. Attributes

#### 6.10.4.1. Exported Attributes

| Name | Property |
|---|---|
| `rdbMaxWait` | settingValue |