

VODance

VO DAL services creation made easy

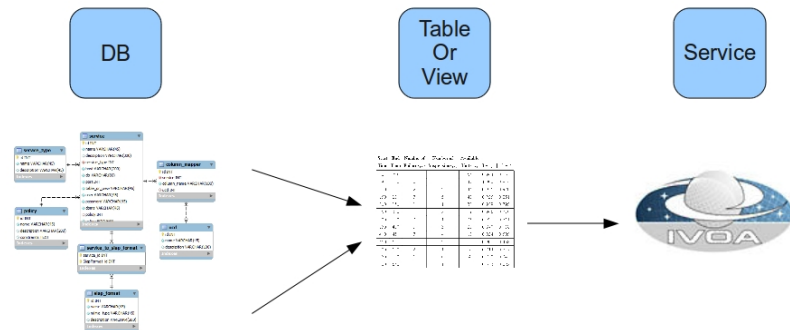
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IA2 – Italian Astronomical Archive center

Nara – December, 7th 2010



VODance allows our data center to create VO compliant DAL services (Cone Search and SIAP have been tested so far) out of a database table or view, either on a local or a remote database, on the fly.



VODance is designed to be simple and effective. No fancy features: it just allows service creation in a matter of minutes.

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After some brooding over the matter, we decided to develop VODance (but didn't put much effort on choosing the name, you see).
(And we are happy about CDS Saada latest version's support for TAP, by the way).

- Make sure you can access the table or view to be exported;
- create a new service:
 - define general parameters;
 - define a data access policy, if necessary;
 - fill in database connection parameters;
 - define column metadata;
- save the newly created service.

The new service is created when you save the configuration. You only need to publish the new service to a VO Resource Registry.

General parameters

General Information

General information about the Service.

For Simple Image Access services please choose one or more file formats.

The Siap Format Field is ignored if the service is not SIAP.

The Policy field can be left empty.

Name: **Description:** Active

Service type: **Policy:**

Siap format:

Hold down "Control", or "Command" on a Mac, to select more than one.

Database Connection

Database connection parameters.

Host: **Port:**

Dbms:

Db:

Table or view:

User: **Password:**

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- filter them out by creating a new view to the DB;
- add a policy to the specific service.

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- add a policy to the specific service.

Policies can be created, combined, added and removed at runtime, on the fly, and without touching the DB.

For each service you have to describe columns, i.e. UCD and units.

| | | | | |
|----|--------------------------------|---------------------------|------|-----------------------|
| 32 | PSCALERA, PSCALEDEC = PIXSCALE | degrees per pixel | | BigDecimal to Double |
| 33 | NAXIS1, NAXIS2 = NAXIS | naxis | | BigDecimal to Integer |
| 36 | MJD | observation start time | | BigDecimal to Double |
| 37 | FILESIZE | approx file size in bytes | byte | BigDecimal to Integer |

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Additional features

- You can aggregate two or more columns to form an array by using a specific syntax, e.g. `naxis1, naxis2 = naxis`;
- you can define custom dynamic type casting to be applied at run-time. This was particularly useful when dealing with oracle DBs, since all the `NUMBER` columns were translated to `BigDecimal` by the JDBC driver, and STIL didn't serialize them.

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Services

- Cone Search (Candidate Quasars, Photometric Redshifts for quasars and galaxies);
- SIAP (TNG-OIG images);
- We will publish Planck data as soon as they are available.

VODance hasn't been designed to be user friendly, but admin friendly:

- you need access to server's logs in order to understand which columns STIL can't serialize and solve the problem with a TypeCast;
- the management of entities is centralized. There is room for user management with the current implementation, but it is not as effective as a dedicated webapp.

VODance has been designed to be useful for us (Italian Astronomical Archives, IA2@INAF), not for the public.

VODance is deployed in a complex architecture:

- a number of glassfish instances host the actual services;
- software load balancing via Linux Virtual Server;
- administrative web based UI uses Django and Apache.
- a MySQL internal DB hosts the data (in our case it is an HA cluster).

If we decide to distribute it, it will be in the form of a downloadable virtual appliance (or a set of them), with all the application stack already installed and configured, and few customization options (basically the network information).

- user/admin uploaded files;
- more administration tasks (e.g. create a new service out of an old one);
- users management (?);
- service self-registration (?);
- SIAP/SSAP file server integration (?);

If you are interested in trying VODance, please let us know:
ia2@inaf.oats.it

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Thank you!

