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## Sturwild: a web app to record sturgeons by-catch

Presentation

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Ok ! Do you have a picture ? How is it ? Where are you ?

I've by-catch a sturgeon !



I send you pictures. It was alive, but I released it weak. I was in ICES zone 27.3.d.28.2

Thanks you ! Your declaration is now completed. I'm sending you a gift !



I confirm ! It's a sturio !



# Sturwild : What for ?

- what's going on ?
  - ▶ Sturgeons are accidentally caught by recreational or professional fishers, or spotted by walkers
  - ▶ Pictures or videos may be recorded, and measurements (size, weight) taken
  - ▶ By-catches are declared, with variable geographical positioning : GPS point, name of river, ICES zone, etc., as well as the condition of the fish and its fate
  - ▶ Declarations are validated by a scientist, using pictures to confirm the species
- Sturwild allows you to :
  - ▶ record declarations, with pictures and videos
  - ▶ exchange information between the various partners to validate the information entered
  - ▶ export information in CSV format, view by-catch locations, etc.



# Exchanges between partners

- each partner can log to the application
- when a declaration is recorded and its status is "validated", an email is sent to others partners to inform them
- after analysis by a scientific, the status of the declaration is changed to "confirmed"
- it is possible to create different events, for example when it is necessary to obtain additional information

# Security

- each user is attached to one or multiple groups
- the rights are attributed to the groups
- managed rights :
  - ▶ consult : you can show data, but not change it
  - ▶ manage : you can modify data
  - ▶ param : you can add parameters or import data
  - ▶ admin : you can manage users and specify global parameters
    - ★ by default, a user with only the *admin* right can't consult declarations
    - ★ but he can change its own rights...
- double identification required to access to the admin modules
  - ▶ use TOTP (*Time based One Time Password*) protocol
  - ▶ you must have a smartphone to store the secret key



**Technical**

# Technical

- application written with PHP 8.3
- database Postgresql 13 with Postgis to geographic capabilities
  - ▶ the documents (pictures, videos, etc.) are recorded into the database
- source code : <https://github.com/inrae/sturwild>, license : AGPL
- run on a Linux server :
  - ▶ web server : Apache2
  - ▶ script to install on Ubuntu or Debian
  - ▶ an email server (*Postfix* relay or other) must be installed to send emails
- application rewritten in summer 2024 with the framework CodeIgniter (<https://codeigniter.com/>)



# Installation

- install Linux Ubuntu or Debian
- load the installation script, and run it :

```
sudo -s
wget https://github.com/inrae/sturwild/raw/main/install/
  deploy_new_instance.sh
chmod +x deploy_new_instance.sh
./deploy_new_instance.sh
```

- The script will :
  - ▶ install the Apache2 Web server, the PHP modules and the Postgresql server
  - ▶ download the application from github in /var/www/sturwildApp/sturwild
  - ▶ create the database and populate parameter tables
  - ▶ create the *vhost* for Apache2 (web access configuration)
- you will need to :
  - ▶ finish configuring the *vhost* (DNS address, encryption certificate)
  - ▶ install and configure the email relay for sending emails
  - ▶ configure the identification mode (file *.env* at the root of the app)

# Setting up the instance – identification modes

- Edit the *.env* file
- choose the identification mode
  - ▶ BDD : the accounts are managed in the database
  - ▶ LDAP : the accounts are managed by the LDAP directory of the institute
  - ▶ LDAP-BDD : at the time of identification, the search is made first with the accounts present in the LDAP directory, then with the internal database of accounts.
    - ★ allows users external to the institute to be managed
  - ▶ CAS : identification with a CAS (Common Access Service) server
  - ▶ CAS-BDD : the connection screen proposes the two identification modes
    - ★ can also be used to manage external accounts to the institute
  - ▶ OIDC : use OpenID Connect protocol
  - ▶ OIDC-BDD : the connection screen proposes the two identification modes
  - ▶ HEADER : identification is carried out by the Apache2 WEB server
    - ★ used to identify from an identity federation



# Define general parameters

- while connected in *BDD* mode (login : admin, password : password) :
  - ▶ Administration > Settings

Setting	Value	Description
APPLI_code	<input type="text" value="EABX"/>	Code of the institute. This code is used to exchange data
APPLI_title	<input type="text" value="STURWILD"/>	Instance name, displayed in the interface
mapDefaultX	<input type="text" value="-0.70"/>	Default positioning longitude for maps
mapDefaultY	<input type="text" value="44.77"/>	Default positioning latitude for maps
mapDefaultZoom	<input type="text" value="7"/>	Default zoom level in maps
otp_issuer	<input type="text" value="sturwild.eabx.inrae.fr"/>	Name displayed in applications generating unique codes for two-factor identification

- the most important :  
APPLI\_code, to  
identify your institute !

# Translations of labels

- Sturwild is written in French
- English is available for all labels (but there may be a few omissions...)
- It's possible to add a new language :
  - ▶ download the file  
<https://github.com/inrae/sturwild/raw/main/app/Language/locales/lang.po>
  - ▶ rename it as *de.po* for example
  - ▶ edit it with **poedit** (<https://poedit.net/download>)
    - ★ replace all English translations
  - ▶ create an issue and upload your file :  
<https://github.com/inrae/sturwild/issues/new/choose>
- The next release will contains yours translations



# Translations in parameter tables

- each table of parameters has this structure :
  - ▶ *table\_id* : automatic identifier
  - ▶ column *table\_name* : common wording, by default, in English
  - ▶ column *table\_exchange* : wording in English, to exchange data between institutes
  - ▶ column *table\_order* : sort order
- you can manually change each *table\_name* (don't change *exchange* field)
- or update each common wording from a spreadsheet (ODS) :
  - ▶ download the template (*Settings -> Import parameters*)
  - ▶ add or edit the wording
  - ▶ import the modified file (ODS format)

# Exchange between organisms

- each parameter table contains a field "\_exchange", in English, which should be the same in each database
- the declarations and the associated fishes can be exported in :
  - ▶ CSV : 2 files, one for declarations, the other for fishes
  - ▶ JSON : 1 file with all data
  - ▶ pictures and videos currently not exchangeable automatically
    - ★ you can send it by download manually each file
    - ★ Do you are interested to automatise it ?
- if you want to send declarations to another instance of Sturwild, the JSON format is preferable

# Import a file

- 3 entries in the menu *Declaration*, for each type of file
- when import a file, the missing parameters are created
- declarations and fishes are identified by an unique identifier : UUID (example : 62506c77-0419-4c81-84ff-8f00e57afd38)
- you can reimport data to modify informations
  - ▶ not double creation with the UUID identifier
  - ▶ usable to modify multiple declarations with LibreOffice (preferred at Excel for CSV export)

**Questions ?**