

# **ACEP Data Catalog User Guides**

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# Welcome

This documentation provides some helpful tutorials for working with the ACEP Data Catalog.

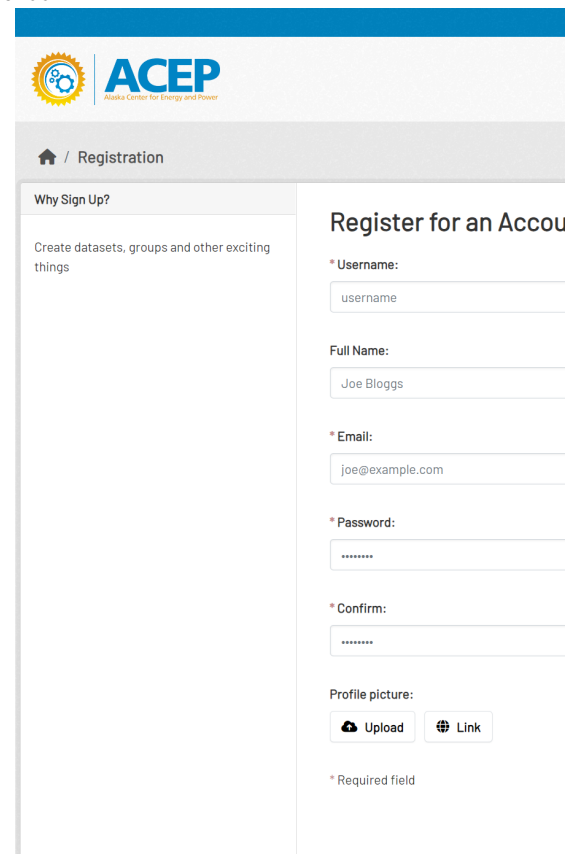


# 1 Getting Started

Here are some instructions for how to navigate the data catalog.

## Making an Account

1. Click the **Register** button in the upper right corner of the screen.



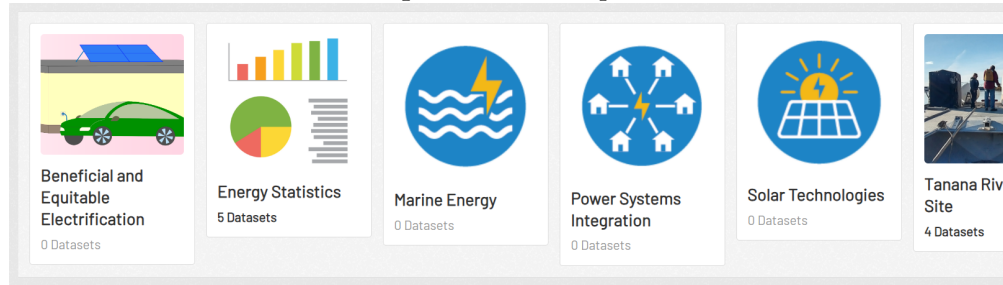
The screenshot shows the ACEP (Alaska Center for Energy and Power) Registration page. The header includes the ACEP logo and the text "Alaska Center for Energy and Power". Below the header, there is a navigation bar with a home icon and the text "/ Registration". The main content area is divided into two columns. The left column is titled "Why Sign Up?" and contains the text "Create datasets, groups and other exciting things". The right column is titled "Register for an Account" and contains a registration form. The form includes fields for Username, Full Name, Email, Password, and Confirm, each with a red asterisk indicating it is a required field. Below these fields is a "Profile picture:" section with "Upload" and "Link" buttons. At the bottom right of the form, there is a note: "\* Required field".

2. Fill out your information, using your UA email if you have one.
3. In order to see the Internal Use datasets or post datasets, you will need permissions granted to your account. If you are an ACEP employee, contact Liz or another admin.

## Searching for Datasets

There are multiple ways to search for datasets

- Search Bar  
Use key words to find datasets, just like Google.
- Groups  
Browse through the groups that can be found at the **Groups** tab at the top of the screen



or listed on the home page.

- Organizations

## Submitting a Comment/Complaint

If you find a problem with a dataset or have a comment or suggestion for the data catalog, please contact the ACEP data team at [uaf-acep-dcm-support@alaska.edu](mailto:uaf-acep-dcm-support@alaska.edu).

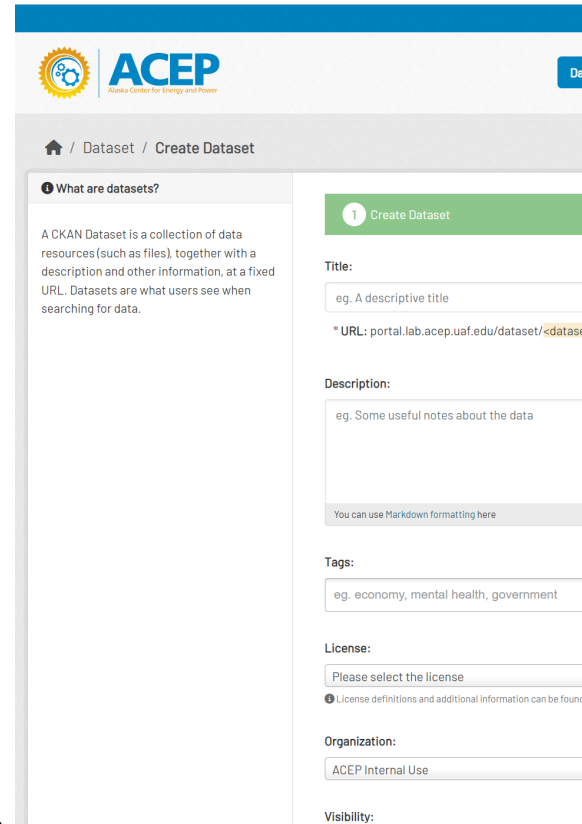
## 2 Researcher

This is some things researcher's posting stuff should know

### Posting a Dataset

There are two ways to access the **Add Dataset** button:

- Click on the **Datasets** tab at the top of the screen
  - Click on the **Organizations** tab at the top of the screen and select the organization you want to add a dataset to:
    - Choose **ACEP Open Data** if you are posting your own data or data that ACEP owns.
    - Choose **ACEP Internal Use** if you are posting a useful dataset that ACEP does not own.
1. Click on the **Add Dataset** button above the search bar.



**ACEP**  
Alaska Center for Energy and Power

Dataset / Create Dataset

**What are datasets?**

A CKAN Dataset is a collection of data resources (such as files), together with a description and other information, at a fixed URL. Datasets are what users see when searching for data.

**1 Create Dataset**

**Title:**  
eg. A descriptive title  
\* URL: portal.lab.acep.uaf.edu/dataset/<dataset-id>

**Description:**  
eg. Some useful notes about the data  
You can use Markdown formatting here

**Tags:**  
eg. economy, mental health, government

**License:**  
Please select the license  
License definitions and additional information can be found here

**Organization:**  
ACEP Internal Use

**Visibility:**

2. On the first page, fill out the metadata fields for your dataset.
  - Double check the organization field.
    - Choose **ACEP Open Data** if you are posting your own data or data that ACEP owns.
    - Choose **ACEP Internal Use** if you are posting a useful dataset that ACEP does not own.
  - If you are a researcher, your dataset's visibility will automatically be set to private. An admin will review your dataset and make it public.
3. Once you have completed the metadata fields, click the **Next: Add Data** button at the bottom of the form.

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Organizations / ACEP Internal Use / Fairbanks Energy Generation 2023 / Edit

**What's a resource?**  
A resource can be any file or link to a file containing useful data.

**1 Create Dataset**

**Data:**  
Upload Link

**Name:**  
eg. January 2011 Gold Prices

**Description:**  
Some useful notes about the data  
You can use Markdown formatting here

**Format:**  
eg. CSV, XML or JSON  
This will be guessed automatically. Leave blank if you wish

4. On the next page, add the data resources to your dataset.

- Small datasets (<2MB) can be uploaded directly to the catalog
- Alternatively, enter a link to where the data is stored, such as a GitHub repository or Google Drive.

5. If you have more resources to add, click the **Save & add another** button at the bottom of the form. Otherwise click **Finish** to post your dataset.

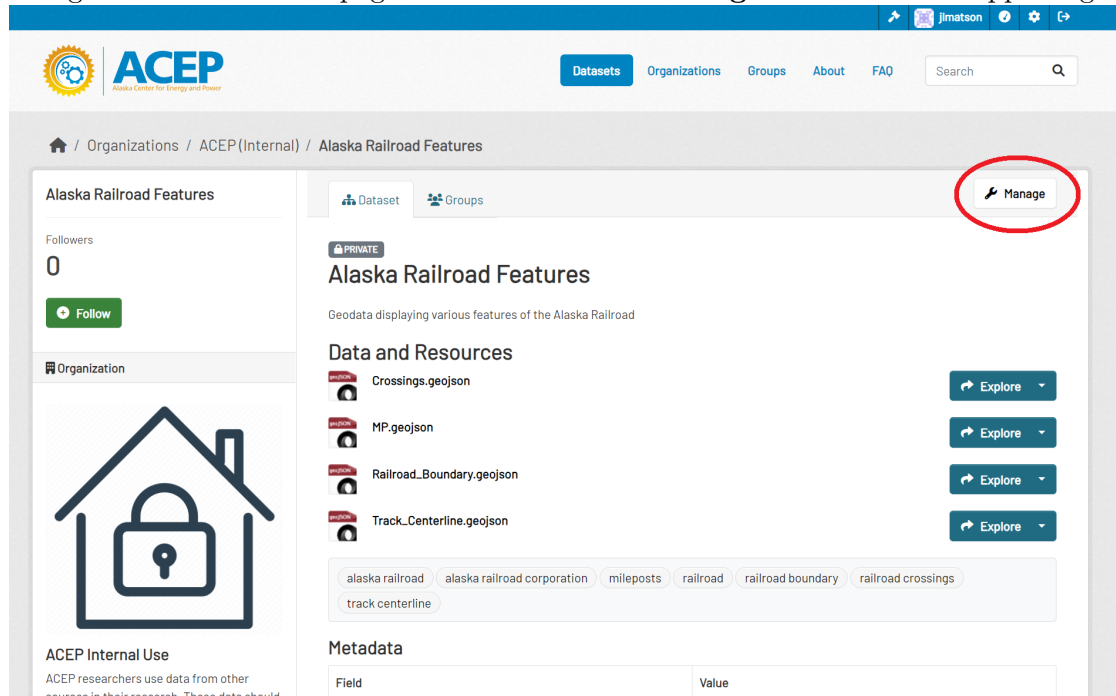
## Tagging a Dataset

TBD



## Editing/Deleting a Dataset

1. Navigate to the dataset page and click on the **Manage** button in the upper right.

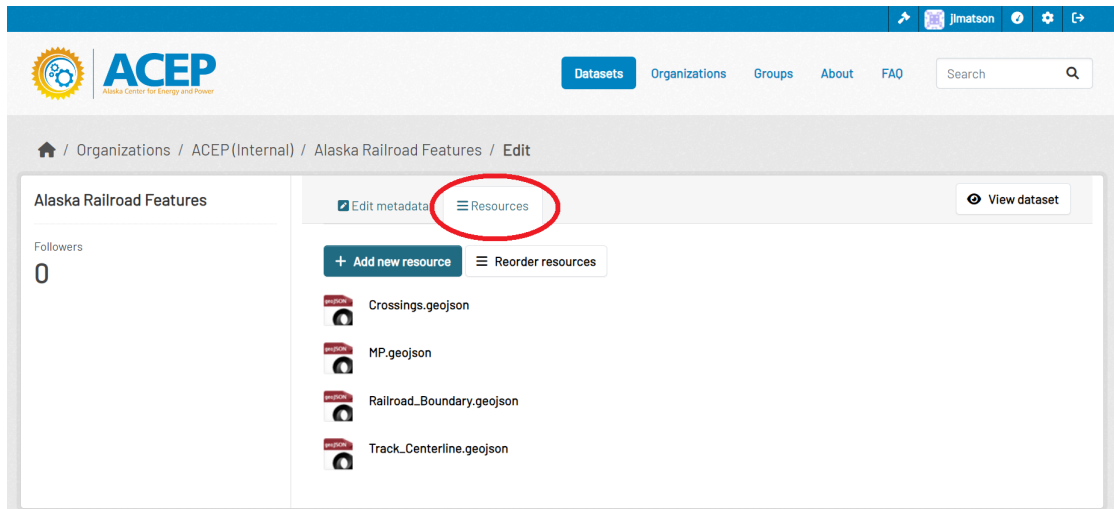


2. This displays the **Edit metadata** page where you can change the metadata of the dataset. After making changes, click the **Update Dataset** button at the bottom of the form.

- To delete the dataset, click the **Delete** button at the bottom of the form.

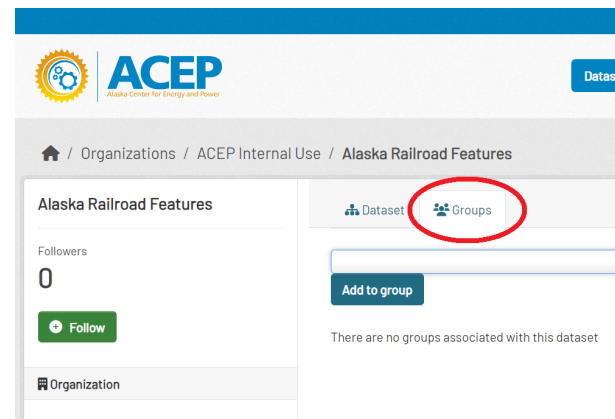
NOTE: Deleting a dataset does not remove it completely from the database. The url of the deleted dataset will not be able to be reused until it has been purged by a sysadmin.

3. To edit the resources or add more resources, click on the **Resources** tab.



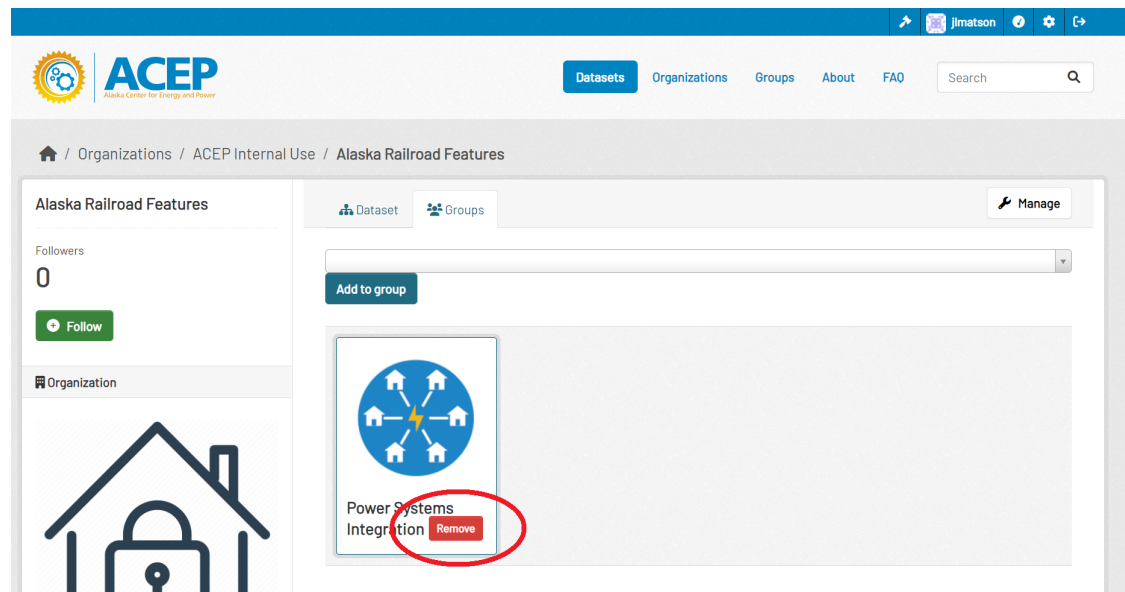
- To delete a resource, select it from the list and then click the **Delete** button at the bottom of the page.

## Adding a Dataset to a Group



1. Navigate to the dataset page and click on the **Groups** tab.
2. Select a group from the dropdown menu and click the **Add to group** button.
3. To remove the dataset from a group, hover your cursor over the group and click the **Re-**

move button.



## Creating a New Group

Groups are a good way to group together datasets that are connected. You may want to create groups for common research themes, funding organizations, or projects. 1. Click on the **Groups** tab at the top of the screen. 2. Click the **Add Group** button.

The screenshot shows the 'Create a Group' page on the ACEP CKAN portal. The header includes the ACEP logo, navigation links for Datasets, Organizations, Groups (active), About, and FAQ, and a search bar. The breadcrumb trail is 'Home / Groups / Create a Group'. A sidebar on the left titled 'What are Groups?' explains that CKAN Groups are used to create and manage collections of datasets. The main form area is titled 'Create a Group' and contains the following fields and controls:

- Name:** A text input field containing 'My Group'.
- URL:** A text input field containing 'portal.lab.acep.uaf.edu/group/<group>' with an 'Edit' button next to it.
- Description:** A large text area containing 'A little information about my group...'. Below the text area is a note: 'You can use Markdown formatting here'.
- Image:** Two buttons labeled 'Upload' and 'Link'.
- Required field:** A small asterisk icon with the text '\* Required field'.
- Create Group:** A blue button at the bottom right of the form.

3. Enter the information for the group. Find a logo or simple image to upload to represent the group.
4. Once you have entered the information, click the **Create Group** button at the bottom of the form.

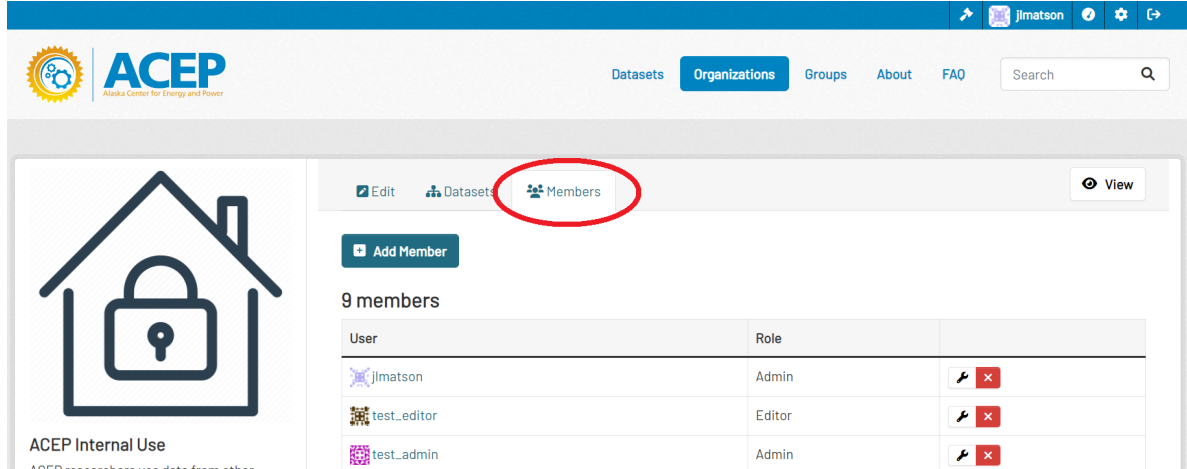
## 3 Admin

Here is some stuff admins should know how to do.

### Giving User Permissions

Users have roles in each organization that give them different permissions.

The roles are: - Member: can see private datasets in the organization - Editor: can add private datasets to the organization and delete datasets from the organization - Admin: can change users' roles in an organization and publish datasets from private to public  
To give a user a role in an organization: 1. Click on the **Organizations** tab at the top of the screen and click on the organization you want to add the user to. 2. Click on the **Manage** button in the upper right. 3. Click on the **Members** tab at the top.



The screenshot shows the ACEP (Alaska Center for Energy and Power) web application interface. The top navigation bar includes tabs for Datasets, Organizations (selected), Groups, About, and FAQ. A search bar is also present. The main content area is divided into two sections. On the left, there is a large icon of a house with a padlock, labeled "ACEP Internal Use" and "ACEP researchers use data from other". On the right, there is a sub-navigation bar with "Edit", "Dataset", and "Members" (circled in red). Below this, there is an "Add Member" button and a section titled "9 members". A table lists the members with their usernames, roles, and action buttons (edit and delete).



User	Role	
jimatson	Admin	
test_editor	Editor	
test_admin	Admin	

- To add a new member to the organization, click the **Add Member** button. Enter their username, select their new role from the dropdown, and click the **Add Member** button at the bot-

The screenshot shows the ACEP (Alaska Center for Energy and Power) website. The top navigation bar includes links for Datasets, Organizations (selected), Groups, About, and FAQ. A search bar is also present. The main content area is titled 'Add Member' and features a sidebar with a house icon and a lock, labeled 'ACEP Internal Use'. The form includes fields for 'Existing User' (Username), 'New User' (Email address), and 'Role' (Member). A red circle highlights the 'Add Member' button.

tom of the form.

-To change an existing member's role, click the wrench next to their user name.

 test_editor	Editor	
---	--------	---

- Select their new role from the dropdown menu and click **Update Member** - To remove the

The screenshot shows the ACEP website with the 'Edit Member' form. The sidebar is the same as in the previous screenshot. The form includes a 'Back to all members' button, a search bar for the member's name (test\_editor), and a 'Role' dropdown menu (Editor). A red circle highlights the 'Edit Member' button.

user from the organization completely, click the **Delete** button.

## Reviewing a Dataset

## Deleting Datasets/Groups/Organizations

## Restoring a Deleted User

When a user is deleted from the website, their information remains in the database with the `state` field set to `deleted`. To reactivate the user, you must set this field to `active` in the database.

1. Enter the `acep-db-cont` docker container

- `> docker exec -it acep-db-cont /bin/bash`

2. Access the postgres database

- `> psql -U postgres`

3. List all the databases and connect to the `ckandb` database.

- `> \l`
- `> \c ckandb`

4. List all the tables and list the columns of the `user` table.

- `> \d`
- `> \d user`

5. List all the users in the `user` table.

- `> SELECT * FROM public.user`

6. Find the deleted user with the username `[username]`.

- `> SELECT id, name, email, state FROM public.user WHERE name = '[username]'`

7. Update the user's `state` field.

- `> UPDATE public.user SET state = 'active' WHERE name = '[username]'`

8. Find the user again and ensure that the `state` field is set to `active`.

- `> SELECT id, name, email, state FROM public.user WHERE name = '[username]'`

# For Developers

Documentation of the development of the ACEP Data Catalog.

For more information and guides, visit the official [CKAN Documentation](#)

## Developing the Data Catalog

The ACEP Data Catalog is run on a VM hosted by RCS. Extensions can be updated by pushing to the aceportal-ckan GitHub repository. After pushing, changes take ~30 min to update on the main site.

### Basic Docker Commands

**List all running containers:**

`docker ps -a` There are 5 containers that run the data catalog

- ``acep-ckan-cont``
- ``acep-db-cont``
- ``acep-redis-cont``
- ``acep-solr-cont``
- ``acep-datapusher-cont``

**Rebuild and spin up containers:**

`docker compose up -d --build`

**Go into container:**

`docker exec -it [container_name] /bin/bash`

Or if bash is not installed in the container:

`docker exec -it [container_name] /bin/sh`

Or if in a bash terminal:

`docker exec -it [container_name] bash`

**Restart a container:**

`docker restart [container_name]`



## Creating a Local Instance

Creating a local version of the data catalog is a useful tool for developing and testing new features.

1. Install Docker: <https://www.docker.com/get-started/>
2. Clone the ACEP CKAN repository from Github: <https://github.com/UAF-RCS/aceportal-ckan.git>
3. Create the `.env` file inside the main `aceportal-ckan` folder. Copy the contents from the `.env.example` file.
4. Specify the location of the source files, storage files, backups, etc. in the `.env` file. You will move those files to these locations in the next steps. For example:

```
# CKAN Mounts Directory
CKAN_EXTENSIONS_MOUNT=./ckan-extension
SRC_EXTENSIONS_PATH=/srv/app/src_extensions
CKAN_SOURCE_MOUNT=./ckan-src/src
CKAN_STORAGE_MOUNT=./ckan-src/storage
CKAN_INI_MOUNT=./ckan-src/ckan.ini
```

5. To create a replica of the current main Data Catalog, copy over the source files, storage files, `ckan.ini` file, and database backups from the VM. These files are located on the VM inside `/opt/ckan/backups`. Use `scp` to copy the files onto your machine. These backups are created everyday: replace `[date]` with the most recent date in the format `yyyymmdd`.

Inside of `aceportal-ckan/ckan-src` run the following

- `scp user@portal.lab.acep.uaf.edu:/opt/ckan/backups/app_[date].tar.bz2 .`
  - `scp user@portal.lab.acep.uaf.edu:/opt/ckan/backups/app_storage_[date].tar.bz2 .`
  - `scp user@portal.lab.acep.uaf.edu:/opt/ckan/aceportal-ckan/ckan-src/ckan.ini`
6. Use `tar` to decompress the source and storage tar files
    - `tar -jxvf app_[date].tar.bz2`
    - `tar -jxvf app_storage_[date].tar.bz2`

This should result in the directory structure specified in `ckan-src/README.txt`

7. Create a backups folder alongside the `aceportal-ckan` repository on your machine. Specify the name in the `BACKUP_TO` setting in the `.env` file.

```
# Backups
BACKUP_TO=../../[backups folder name]
```

8. Run the following commands inside the backups folder to copy over the database and datastore.

- `scp user@portal.lab.acep.uaf.edu:/opt/ckan/backups/ckandb_[date].tar`
- `scp user@portal.lab.acep.uaf.edu:/opt/ckan/backups/datastore_[date].tar`

9. Inside of the `ckan.ini` file, set the `ckan.site_url` setting to the localhost url as so:

```
ckan.site_url = http://127.0.0.1:5000
```

10. Build the containers using,

- `docker compose up`

11. Once the containers are up, use the `import_database.sh` bash script to import the database.

- `bash import_database.sh`

12. Rebuild the CKAN search index.

- `docker exec -it acep-ckan-cont /bin/bash`
- `cd /srv/app`
- `ckan search-index rebuild`

## Create a New Extension

1. Enter the `acep-ckan-cont` Docker container

- `docker exec -it acep-ckan-cont /bin/bash` and run the following command
- `ckan generate extension -o /srv/app/src/ckan-extension` This will create an extension in the `ckan-extension` folder which can be edited outside of the container.

2. Add the extension name to the `CKAN_PLUGINS` list in the `.env` file.
3. Run `docker compose up -d --build ckan`

## Install an Extension

1. Ensure that the extension supports CKAN 2.10.4 and Python 3.10 Clone the extension repository into the `ckan-extension` folder.
2. Ensure that all dependencies for the extension are listed in `requirements.txt` or a similar file.
3. Add the extension name to the `CKAN_PLUGINS` list in the `.env` file.
4. Run `docker compose up -d --build ckan`

## Updating the Main Site

To add a feature from your local instance to the main Data Catalog,

1. Push the files to the `aceportal-ckan` GitHub repository.
2. Wait about 30 min. for the changes to be pulled to VM.
3. If you have added a new extension, ssh into the VM and add the extension name to the `.env` file.
- 4.

## Extensions

### Currently Installed

#### `ckanext-customtheme`

**Author:** Jenae Matson

**Purpose:** Add custom theming and features for the CKAN instance, including

- ACEP logos, colors, and fonts
- Home page layout, images, and featured dataset
- Changed font weight of Register button
- Added tags to search page display
- HTML file for About page text
- Removed social media links from dataset/resources pages
- Added support contact info to dataset sidebar
- Added default blank option to add-to-group dropdown menu

## ckanext-faqpage

**Author:** Jenae Matson

**Purpose:** Create an FAQ page linked in the masthead with collapsible boxes for questions and answers.

## ckanext-restrictpublish

**Author:** Jenae Matson

**Purpose:** Restrict the ability to ochange the visibility of a dataset to admins only. Datasets posted by editors default to private.

## ckanext-geoview

**Link:** <https://github.com/ckan/ckanext-geoview>

**Purpose:** Created resource views for geojson and other geo-data file types. We have implemented the OpenLayers Viewer.

## ckanext-package-group-permissions

**Link:** <https://github.com/salsadigitalauorg/ckanext-package-group-permissions>

**Purpose:** Allows all editors and admins to add datasets to any group, without having to be added as members to each group.

**Modifications:** This extension was created and works with CKAN 2.9. This instance is version 2.10, so the extension requires some small modifications to work. The following changes were made to the original extension:

- In the file `plugin.py`, change the `member_create` function to the following

```
def member_create(self, next_auth, context, data_dict):
    """
    This code is largely borrowed from /src/ckan/ckan/logic/auth/create.py
    With a modification to allow users to add datasets to any group
    :param context:
    :param data_dict:
    :return:
    """
    group = logic_auth.get_group_object(context, data_dict)

    authorized = False
    if not group.is_organization and data_dict.get('object_type') == 'package':
```

```

        authorized = helpers.user_has_admin_access(include_editor_access=True)

    if not authorized:
        # Fallback to the default CKAN behaviour
        return next_auth(context, data_dict)
    else:
        return {'success': True}

```

- In the file `templates/package/group_list.html`, add the line `{ h.csrf_input() }` to the beginning of the two post forms, as follows

```

{% if groups %}
<form class="add-to-group" method="post">
    {{ h.csrf_input() }}
    ...
</form>
{% endif %}

```

```

{% if c.pkg_dict.groups %}
<form method="post">
    {{ h.csrf_input() }}
    ...
{% endif %}

```

## ckanext-scheming

**Link:** <https://github.com/ckan/ckanext-scheming>

**Purpose:** Allows for the creation of alternate metadata templates (schemas) defined by .yaml or .json files.

## Adding Alternate Schemas with ckanext-scheming

1. Create a .yaml or .json file in the folder `ckanext-scheming/ckanext/scheming` to define the metadata schema. See extension documentation for more information and examples.
2. In `kan.ini`, add your schema to the `scheming.dataset_schemas` config option. For example:

```
scheming.dataset_schemas = ckanext.scheming:arctic_dataset.json
                           ckanext.scheming:geo_dataset.json
```

3. The new dataset creation form is located at a url defined by the schema type name. For example, the creation form for datasets of type `arctic-dataset` is located at `/arctic-dataset/new`. You can define a new Add Dataset button using this new url.

## Attempted Extensions

### ckanext-spatial

**Link:** <https://github.com/ckan/ckanext-spatial>

**Purpose:** This extension adds the ability to search for datasets on a map widget, as well as a dataset extent map widget on the dataset page, provided correct geospatial metadata.

**Problems:** This extension is not currently installed due to the following,

- Configuring map tiles for ckanext-spatial caused the map tiles for ckanext-geoview to disappear.
- Datasets with the required spatial metadata were not searchable on the map search widget, although the dataset extent widget worked correctly.

### ckanext-oidc-pkce

**Link:** <https://github.com/DataShades/ckanext-oidc-pkce/tree/master>

**Purpose:** This extension allows for users to be authenticated through an external application when they login.

**Problems:** Ideally users on the ACEP Data Catalog would be able to login using their UA login credentials through Google Authentication. This extension installs correctly, but does not seem to support Google Authentication.