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**Documentation:**

<http://eaas.uni-freiburg.de/docs/>

**Definitions:***Emulation as a Service*

An emulation framework that simplifies the use of emulators and virtualization tools in a wide range of contexts by abstracting all of the emulator configuration (and its associated issues) away from the end-user. As well as simplifying use of emulators it also simplifies access to emulated environments by providing the ability to access and interact with emulated environments from within your web browser.

*Object Archive*

The filestore that contains all of the items that you upload for use and access in an emulated environment.

*Object*

An object can be an:

- iso/ This folder should contain CDRom disk images.
- disk/ This folder should contain hard disk images.

**“EaaS Demo”**

- floppy/ This folder should contain floppy disk images.
- file/ This folder may contain arbitrary files (including subfolder). These files will be wrapped as ISO/CDROM image by default. Note: the folder will not be checked for updated files, i.e. the contents of this folder will not be “repackaged” automatically. To force, repackaging, delete the \_\_imported.iso file in the iso/ folder of the current object.

*Base Environment*

A base environment is a clean operating system environment.

*Derivative Environment*

A derivative environment can be created anytime you add software or change configuration settings within a base environment or configured environments. Derivative environments are never stored redundantly - in the EaaS framework, a new layer is created that contains the results of the diff between the original and the derivative.

**Demo Instructions**

Step 1) Upload objects.

Everything starts with objects. Upload the file that contains your OS image as an object. Note the following settings.

Software Preservation Network

Object Upload

Object ID

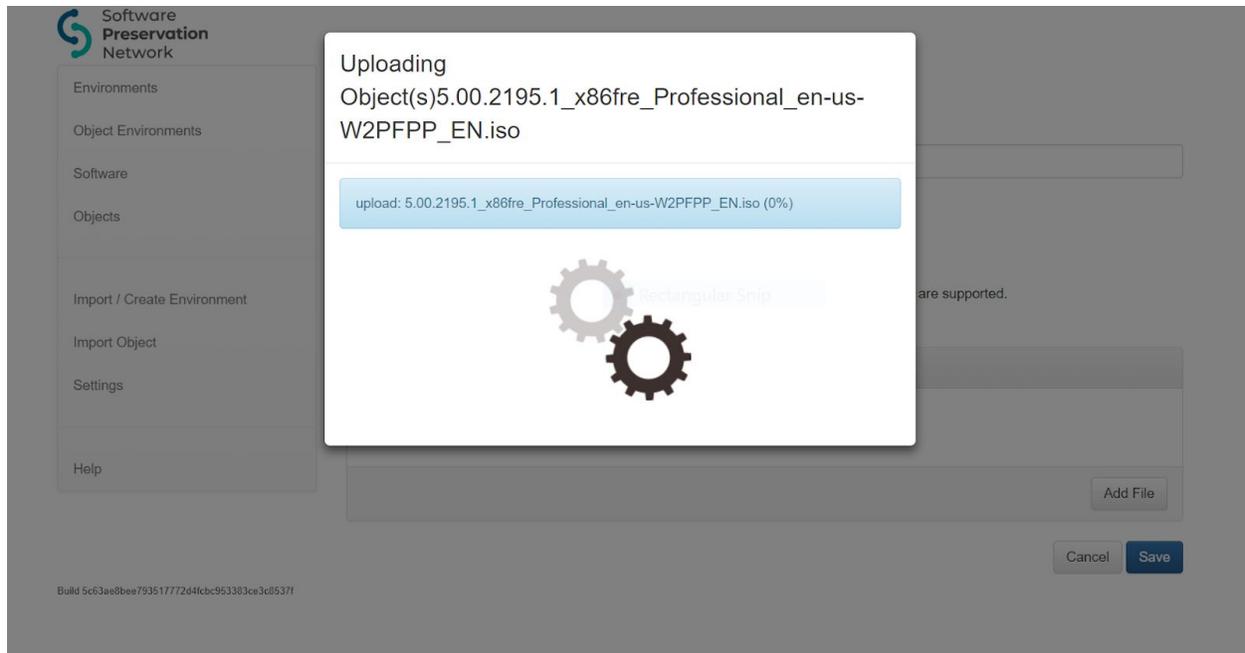
Note: Please do not use spaces or any special character for the ObjectID

Media type

Note: Without a proper object repository only uniform objects (single media type for all items) are supported.

Files

Please fill out all fields.



Once you upload an object, check to make sure it is listed on the main Object page.

**METADATA ALERT:**

- Files that you upload as objects cannot have spaces or special characters in the names - consider what your naming convention will be for different types of objects.
- Assigning object IDs should be considered in relation to ways in which the object is described in your existing systems.



- Environments
- Object Environments
- Software
- Objects

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- Import / Create Environment
- Import Object
- Settings

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- Help

## Objects



[adobe-illustrator-9-no...](#)  
adobe-illustrator-9-no-  
spaces



[testIsoForDOS](#)  
testIsoForDOS

Build 5c63ae8bee793517772d4fbc953383ce3c8537f

### Step 2) Register Objects as Software.

Objects that are software images need to be described as software for the system to use them as software.

The screenshot shows the 'Software Ingest' form in the Software Preservation Network interface. On the left is a navigation menu with options: Environments, Object Environments, Software, Objects, Import / Create Environment, Import Object, Settings, and Help. The main form area is titled 'Software Ingest' and contains the following fields and controls:

- Choose Object:** A dropdown menu with the placeholder text 'Search or choose an object...'.
- License information:** A large text input field with the placeholder text 'Enter license information...'. A blue 'Rectangular Snip' watermark is visible over this field.
- Allowed number of instances (for unlimited choose -1):** A text input field containing the value '-1'.
- QID:** An empty text input field.
- Is an operation system:** A checkbox that is currently unchecked.
- Operating system preset:** A dropdown menu with the placeholder text 'Search and choose an operating system preset...'.
- Rendering Capabilities:** A section with a header 'Native FMTs' and the text 'No Native FMTs added yet.' Below this is a text input field for 'Native PUID...' and a blue 'Add native PUID' button.

At the bottom right of the form are 'Cancel' and 'Save' buttons. At the bottom left, there is a small footer text: 'Build: Ee633e8ba70351772d4f6be9f3383e3e8537f'.

#### METADATA ALERT:

- QIDs refer to Wikidata IDs – you can look up Wikidata IDs and begin to add them in anticipation that a future release will automatically pull any existing metadata from the wikidata record into the EaaS system.
- Currently licensing information is just a free text box. You could have a license key, you could describe the license – however, ultimately, one way to mediate scalable more automated access would be to enforce structure data on the license field.
- If it is an operating system, you need to inform the system by checking the box – this is only way that the item will be made available via dropdown when you switch over to the "Create Environment tab

Once you apply the appropriate metadata and Save, check to make sure your software object is listed on the main Software page.



- Environments
- Object Environments
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- Import Object
- Settings
- Help

## Software

+ Add new software

Search...

- MSDOS [edit]
- adobe-illustrator-9 [edit] Rectangular Snip
- adobe-illustrator-9-nospaces [edit]
- macos-7-install-1 [edit]

1 2

Build 5c63ae8bee793517772d4fcb953383ce3c8537f

### Step 3) Create a base environment by installing an OS (a software object).



- Environments
- Object Environments
- Software
- Objects
- Import / Create Environment
- Import Object
- Settings
- Help

## Create Base Environment

Choose System

Search or choose a system...

Disk

New Disk

Disk size Rectangular Snip

1024 MB

Install from Object

Object

Import Image from URL

ROM File

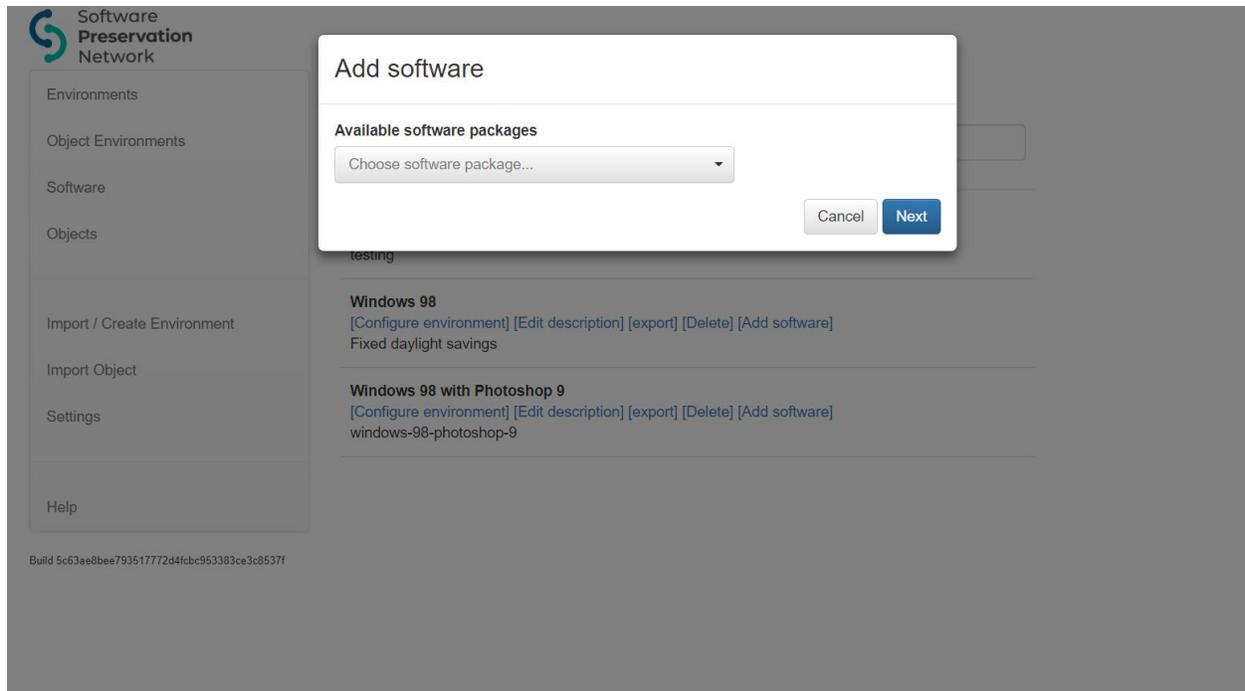
Native Config

Cancel Start

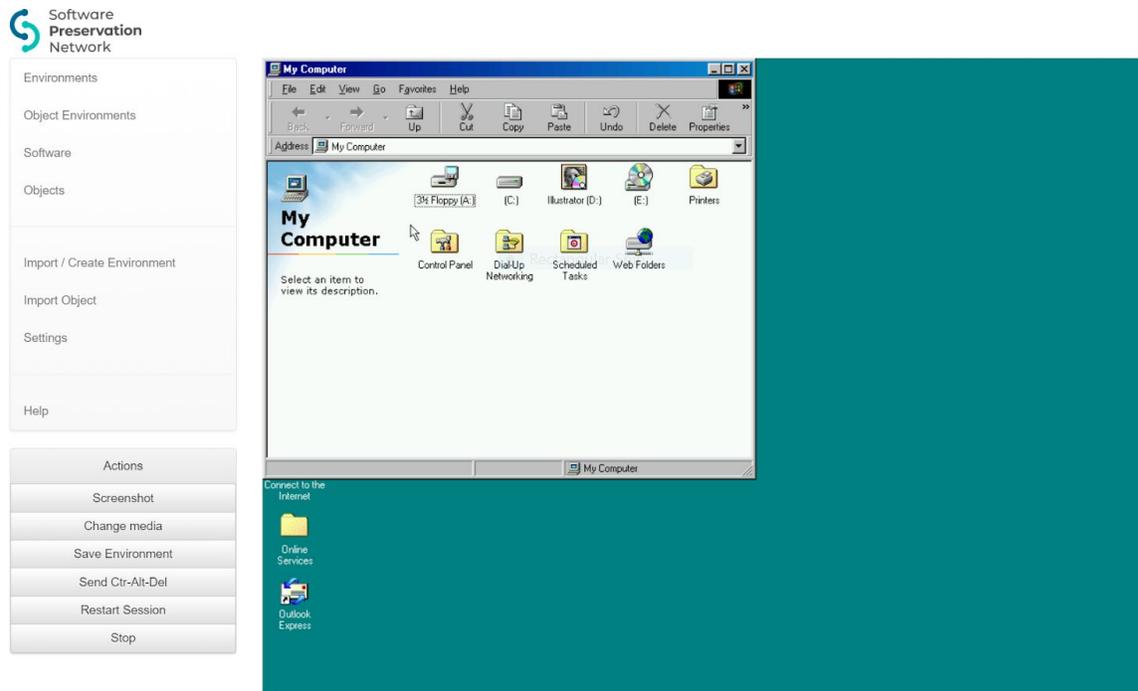
NOTE that you can install an operating system using an existing software object - but only if you have uploaded the object, and it has been characterized as software.

Once an environment is created, you can begin installing additional software/drivers and configuring settings like date, time, background, etc.

#### Step 4) Install software into an existing environment



For the demo, let's install Photoshop 9 into a pre-existing Windows 98 environment - both of which have already been uploaded as Objects and characterized as Software Objects.



Once your environment boots up, if your software characterization was successful, you should see your software in the :D drive. You can see Photoshop above.

Double-click and walk through the guided installation and configuration steps.

## RESOURCES AND NOTES:

- Each of you need to identify some test software:
  - <https://www.macintoshrepository.org/>
  - <https://winworldpc.com/library/operating-systems>
  - <http://home.earthlink.net/~doncox/software/software.html#dtp>
  - [http://www.oldapps.com/os/Windows\\_98](http://www.oldapps.com/os/Windows_98)
  - <http://www.oldversion.com/>
  -
- Software may ask for a serial or a license key in order to install.
  - <http://georgia.forumrama.com/t47-windows-2000-professional-cd-key>
- You will have to make some decisions upfront or iteratively about your naming conventions for files and object ids.
- If you image a computer, this can also be uploaded and accessed as a base environment.