

# HDF Server Setup

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## 1 Introduction

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HDF Server is a Python-based web service that can be used to send and receive HDF5 data using an HTTP-based REST interface.

## 2 Setup the HDF server

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### 2.1 Local Installation

Python packages required: \* NumPy 1.10.4 or later \* h5py 2.5 or later \* tornado 4.0.2 or later \* watchdog 0.8.3 or later \* requests 2.3 or later (for client tests)

a.) Install Anaconda

```
conda create -n h5serv python=2.7 h5py tornado requests pytz
activate h5serv
pip install watchdog
```

b.) Clone the hdf5-json project:

```
git clone https://github.com/HDFGroup/hdf5-json.git
cd hdf5-json/
python setup.py install
```

c.) Clone the h5serv project:

```
git clone https://github.com/HDFGroup/h5serv.git
cd h5serv/server/
python app.py
```

The server would start running. This would be indicated by the output - Starting event loop on port: 5000

## 2.2 AWS Instance

- a.) Launch an AWS Instance
- b.) Perform the above mentioned steps to install the HDF server in the instance.
- c.) Run the server

```
cd h5serv/server
python app.py
```

The server would start running. This would be indicated by the output - Starting event loop on port: 5000

## 2.3 Verification

To verify that the h5serv was installed correctly:

1. Open a new terminal[for local installation] / Launch the AWS instance again [for installation on AWS instance]
2. Run Anaconda command prompt

```
source activate h5serv
cd h5serv/test
python testall.py
```

This would run a number of tests to verify the installation.

## 3 Working with the HDF Server on an AWS Instance

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Currently, the HDF server has been installed and is running on : AWS Public AMI id: ami-4e77ac58

- a.)With this AMI, launch an AWS instance. ( ssh -i /path/to/keyfile.pem ec2-user@publicipoftheinstance )

```
source activate h5serv
cd hdf5-json/h5serv/server/
python app.py
```

- b.)Launch the instance again in a separate terminal.

```
cd scripts
python tall_test.py
```

### 3.1 Get data on the server

For example, if we want to get the assays.h5 file (for geuFPKM data) from our local machine onto the server running on an instance:

```
scp -i/path/keyfile.pem /path/assays.h5 ec2-user@publicipoftheinstance:/hdf5-json/h5serv/data/
```

The file placed in the /data folder gets picked up by the server and it generates a domain name. e.g: for the assays.h5 file, domain name : assays.hdfgroup.org.