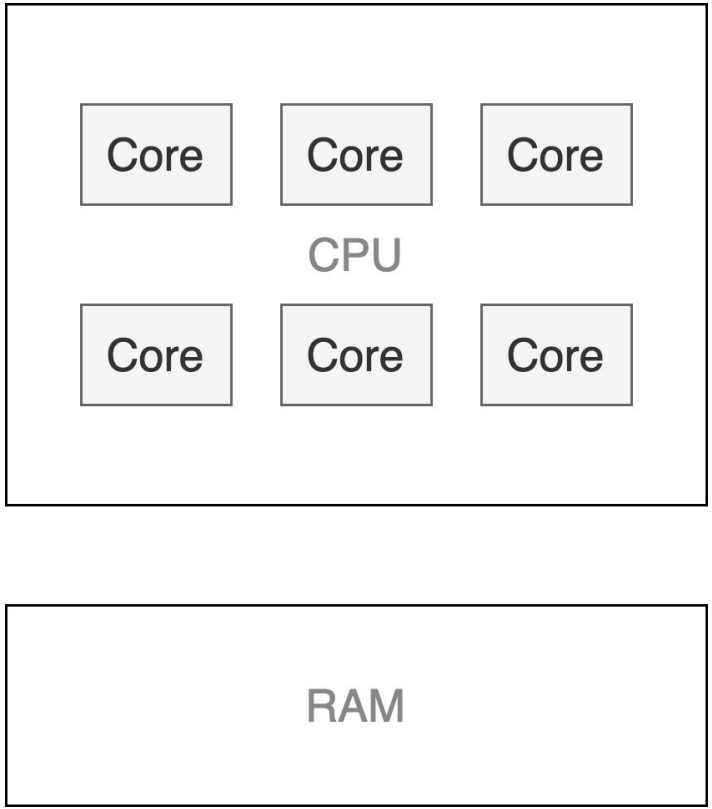
# AWS Setup

Cloud Resources

# Performance: Hardware

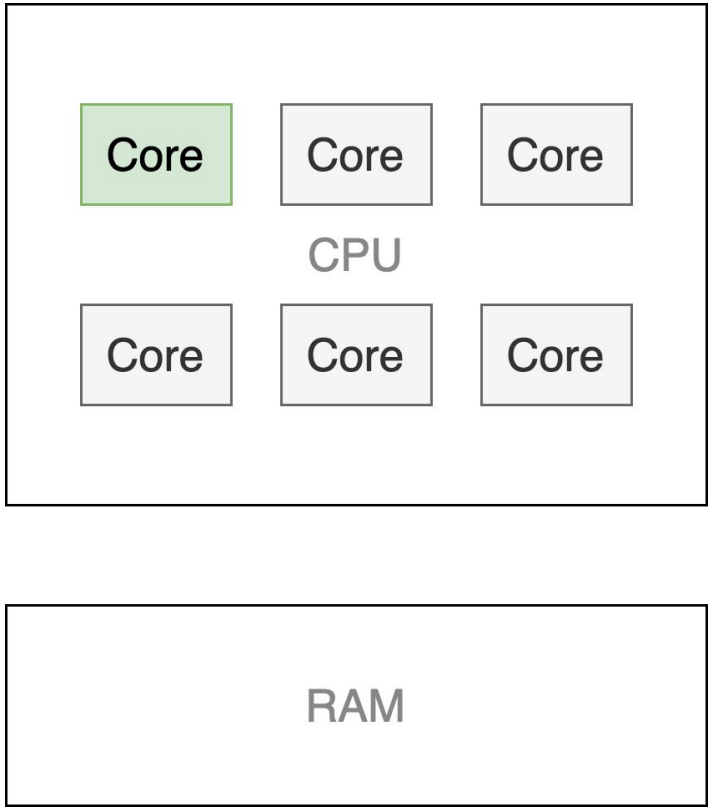
- Desktop CPUs
  - Frequency = 2-4 GHz
  - Cores = 1-12
  - RAM = 8-64GB
- Server CPUs
  - Frequency = 2-4 GHz
  - Cores = 1-96
  - RAM = 1-1024GB



# Performance: Single-Process

Process 1: Python

- Thread 1: Interpreter
  - Running your Python code

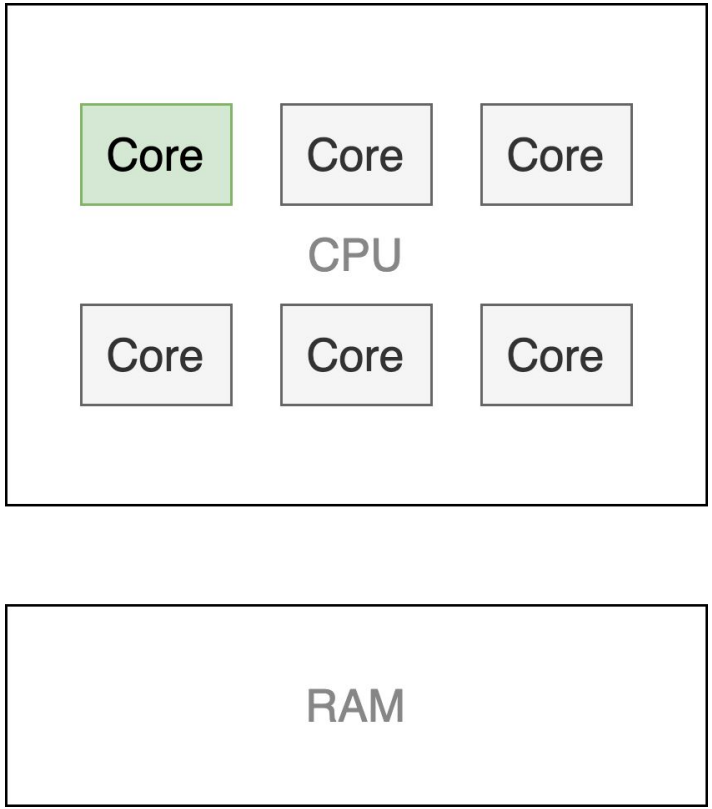


# Performance: Single-Process

Process 1: Python

- Thread 1: Interpreter
  - Running your Python code

- Thread 2: NumPy/Tensorflow - C code
- Thread 3: NumPy/Tensorflow - C code
- Thread 4: NumPy/Tensorflow - C code
- Thread 5: NumPy/Tensorflow - C code
- Thread 6: NumPy/Tensorflow - C code
- Thread 7: NumPy/Tensorflow - C code



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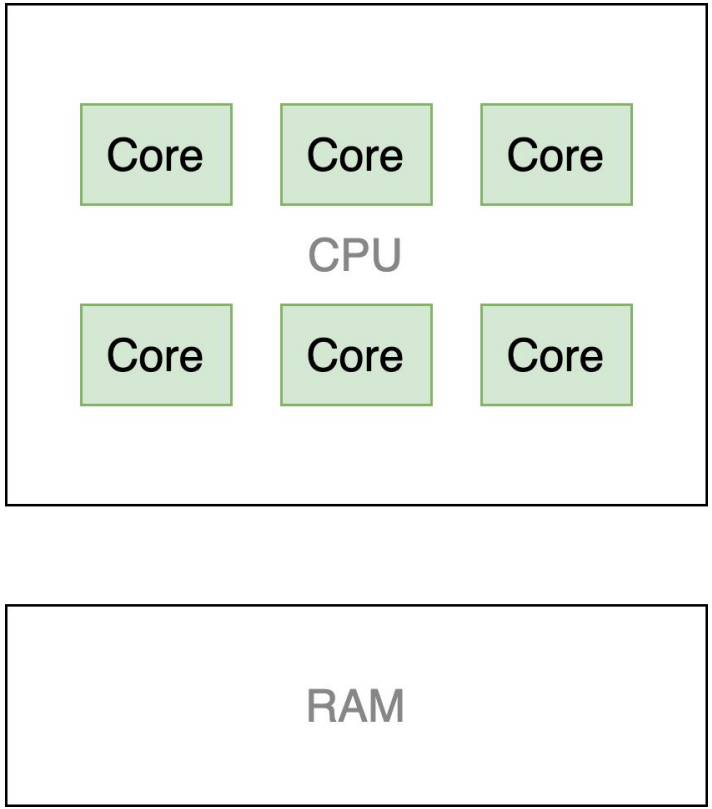


# Performance: Multi-Process

Process 1:

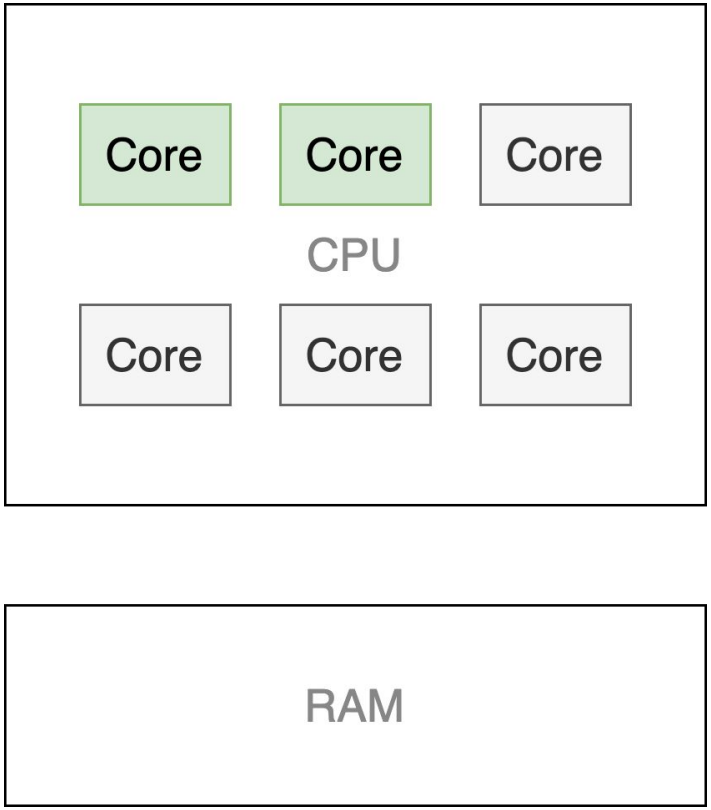
- Thread 1: Python Interpreter

Process 2:

- Thread 1: Python Interpreter

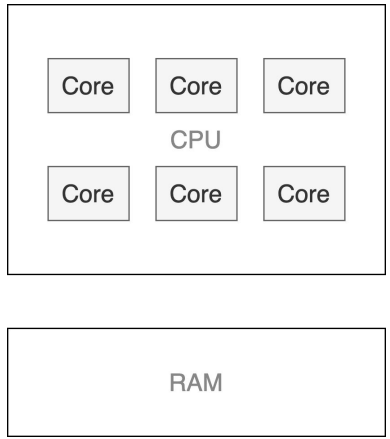
Examples:

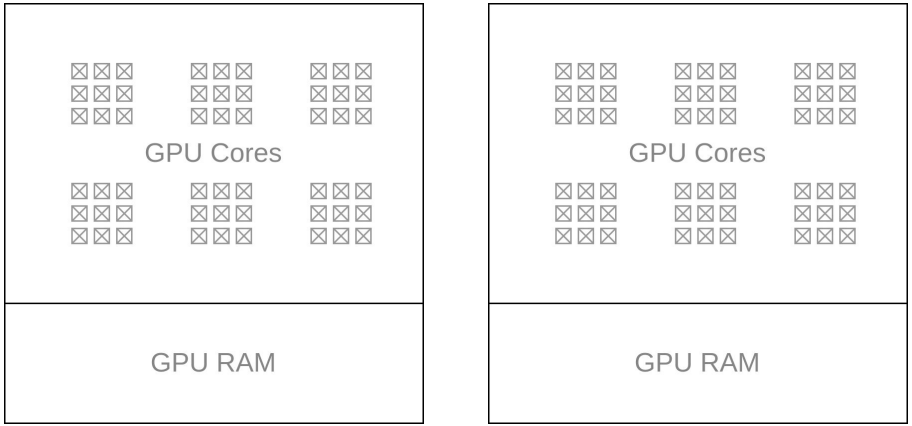
- Jupyter notebooks / kernels
- Scikit-Learn (via Joblib)
- Tsfresh
- Dask



# Performance: GPU

- Desktop GPUs
  - Frequency = 1-2 GHz
  - Cores = 1000 - 2000
  - RAM = 6-24GB
  - Support for multiple GPUs
- Server GPUs
  - Frequency = 1-2 GHz
  - Cores = 3000 - 5000
  - RAM = 12-16GB
  - Support for multiple GPUs



# AWS Prices

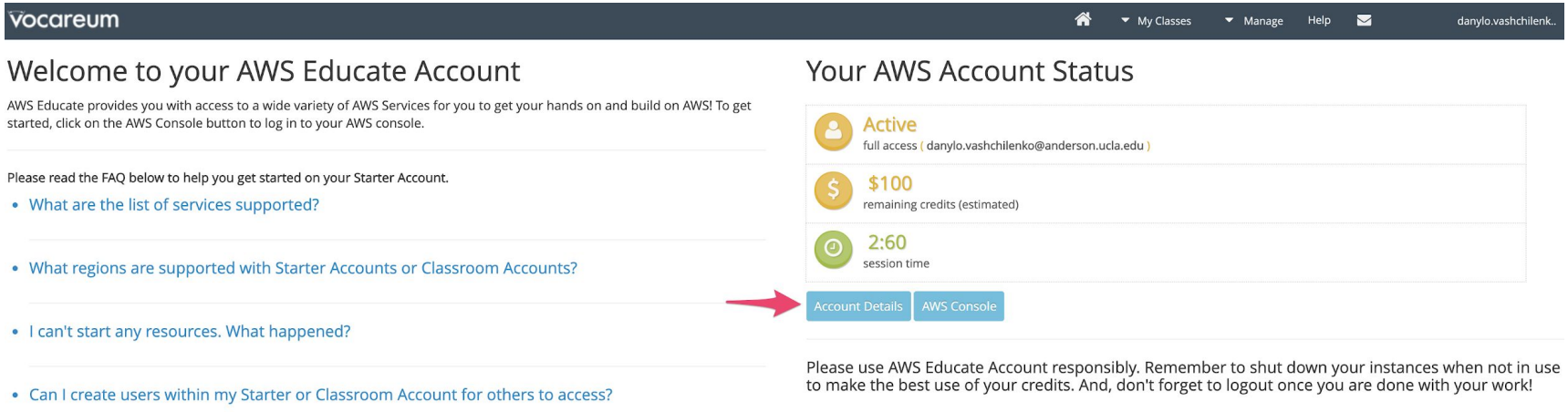
| Instance Type | CPU Cores | CPU RAM | $ / hour | Hours / $100 |
|---|---|---|---|---|
| t2.large | 2 | 8 GiB | $0.0928 | ~1078 |
| t2.xlarge | 4 | 16 GiB | $0.1856 | ~539 |
| t2.2xlarge | 8 | 32 GiB | $0.3712 | ~269 |

| Storage Type | $ / GB / month | Months / 100GB / $100 |
|---|---|---|
| Elastic Block Store | $0.10 | 10 |
| Simple Storage Service | $0.023 | 43.5 |

https://aws.amazon.com/ec2/pricing/

# Open AWS Starter Account

# Copy AWS Credentials from Vocareum



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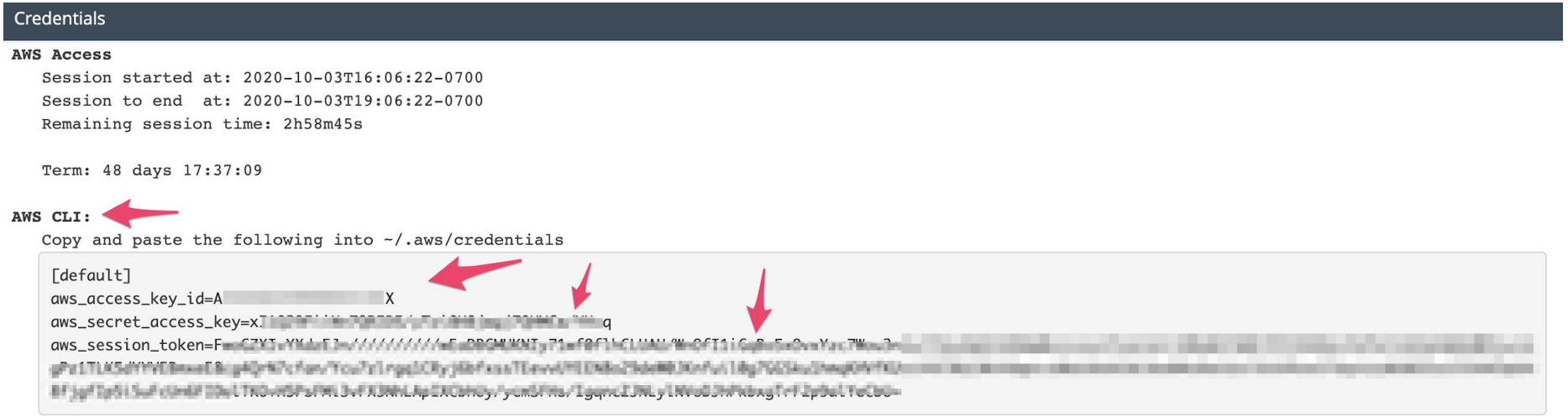


Important: credentials expire every 3 hours.