

2 clients:

```
WARNING flwr 2024-03-23 10:33:32,069 | logger.py:118 |  
DEPRECATED FEATURE: `FedXgbNnAvg` strategy
```

This is a deprecated feature. It will be removed
entirely in future versions of Flower.

```
WARNING flwr 2024-03-23 10:33:32,072 | app.py:211 | Both server and strategy  
were provided, ignoring strategy  
INFO flwr 2024-03-23 10:33:32,073 | app.py:178 | Starting Flower simulation, config:  
ServerConfig(num_rounds=5, round_timeout=None)  
Data partitioned across 2 clients and 0.0 of local dataset reserved for validation.  
FL experiment configured for 5 rounds with 2 client in the pool.  
FL round will proceed with 100.0% of clients sampled, at least 1.  
2024-03-23 10:33:34,615 INFO worker.py:1621 -- Started a local Ray instance.  
INFO flwr 2024-03-23 10:33:36,188 | app.py:213 | Flower VCE: Ray initialized with  
resources: {'GPU': 1.0, 'CPU': 40.0, 'memory': 59369631744.0, 'node:10.10.1.148':  
1.0, 'node:__internal_head__': 1.0, 'object_store_memory': 29684815872.0}  
INFO flwr 2024-03-23 10:33:36,190 | app.py:219 | Optimize your simulation with  
Flower VCE: https://flower.dev/docs/framework/how-to-run-simulations.html  
INFO flwr 2024-03-23 10:33:36,191 | app.py:242 | Flower VCE: Resources for each  
Virtual Client: {'num_cpus': 1}  
INFO flwr 2024-03-23 10:33:36,230 | app.py:288 | Flower VCE: Creating  
VirtualClientEngineActorPool with 40 actors  
INFO flwr 2024-03-23 10:33:36,232 | 2437557820.py:20 | Initializing global  
parameters  
INFO flwr 2024-03-23 10:33:36,233 | 2437557820.py:226 | Requesting initial  
parameters from one random client  
[2m[36m(DefaultActor pid=730196)[0m /home/user/.local/lib/python3.10/site-  
packages/torch/cuda/__init__.py:141: UserWarning: CUDA initialization: Unexpected  
error from cudaGetDeviceCount(). Did you run some cuda functions before calling  
NumCudaDevices() that might have already set an error? Error 803: system has  
unsupported display driver / cuda driver combination (Triggered internally at ../c10/  
cuda/CUDAFunctions.cpp:108.)  
[2m[36m(DefaultActor pid=730196)[0m return torch._C._cuda_getDeviceCount() >  
0  
[2m[36m(DefaultActor pid=730196)[0m /home/user/.local/lib/python3.10/site-  
packages/torch/utils/data/_utils/collate.py:183: UserWarning: The given NumPy array  
is not writable, and PyTorch does not support non-writable tensors. This means  
writing to this tensor will result in undefined behavior. You may want to copy the array  
to protect its data or make it writable before converting it to a tensor. This type of  
warning will be suppressed for the rest of this program. (Triggered internally at ../  
torch/csrc/utils/tensor_numpy.cpp:206.)  
[2m[36m(DefaultActor pid=730196)[0m return collate([torch.as_tensor(b) for b in  
batch], collate_fn_map=collate_fn_map)  
INFO flwr 2024-03-23 10:34:10,925 | 2437557820.py:231 | Received initial  
parameters from one random client  
INFO flwr 2024-03-23 10:34:10,931 | 2437557820.py:23 | Evaluating initial  
parameters
```

```
/home/user/.local/lib/python3.10/site-packages/torch/cuda/__init__.py:141:
UserWarning: CUDA initialization: Unexpected error from cudaGetDeviceCount().
Did you run some cuda functions before calling NumCudaDevices() that might have
already set an error? Error 803: system has unsupported display driver / cuda driver
combination (Triggered internally at ../c10/cuda/CUDAFunctions.cpp:108.)
  return torch._C._cuda_getDeviceCount() > 0
f off
INFO flwr 2024-03-23 10:35:18,561 | 2437557820.py:26 | initial parameters (loss,
other metrics): 0.02415742685514534, {'accuracy': tensor(0.0013)}
INFO flwr 2024-03-23 10:35:18,564 | 2437557820.py:36 | FL starting
DEBUG flwr 2024-03-23 10:35:18,565 | 2437557820.py:165 | fit_round 1: strategy
sampled 2 clients (out of 2)
Evaluation on the server: test_loss=0.0242, test_accuracy=0.0013
Configuring round 1
[2m[36m(DefaultActor pid=730195)[0m /home/user/.local/lib/python3.10/site-
packages/torch/cuda/__init__.py:141: UserWarning: CUDA initialization: Unexpected
error from cudaGetDeviceCount(). Did you run some cuda functions before calling
NumCudaDevices() that might have already set an error? Error 803: system has
unsupported display driver / cuda driver combination (Triggered internally at ../c10/
cuda/CUDAFunctions.cpp:108.)
[2m[36m(DefaultActor pid=730195)[0m  return torch._C._cuda_getDeviceCount() >
0
[2m[36m(DefaultActor pid=730195)[0m /home/user/.local/lib/python3.10/site-
packages/torch/utils/data/_utils/collate.py:183: UserWarning: The given NumPy array
is not writable, and PyTorch does not support non-writable tensors. This means
writing to this tensor will result in undefined behavior. You may want to copy the array
to protect its data or make it writable before converting it to a tensor. This type of
warning will be suppressed for the rest of this program. (Triggered internally at ../
torch/csrc/utils/tensor_numpy.cpp:206.)
[2m[36m(DefaultActor pid=730195)[0m  return collate([torch.as_tensor(b) for b in
batch], collate_fn_map=collate_fn_map)
[2m[36m(DefaultActor pid=730196)[0m Client 0: only had its own tree
[2m[36m(DefaultActor pid=730195)[0m Client 1: only had its own tree
[2m[36m(DefaultActor pid=730196)[0m Client 0: training for 50 iterations/updates
[2m[36m(DefaultActor pid=730196)[0m Client 0: training round complete, 3200
examples processed
[2m[36m(DefaultActor pid=730195)[0m Client 1: training for 50 iterations/updates
DEBUG flwr 2024-03-23 10:36:48,541 | 2437557820.py:180 | fit_round 1 received 2
results and 0 failures
WARNING flwr 2024-03-23 10:36:48,544 | fedxgb_nn_avg.py:102 | No
fit_metrics_aggregation_fn provided
Server side aggregated 2 trees.
f off
[2m[36m(DefaultActor pid=730195)[0m Client 1: training round complete, 3200
examples processed
INFO flwr 2024-03-23 10:38:20,493 | 2437557820.py:51 | fit progress: (1,
0.012563684447596462, {'accuracy': tensor(0.0012)}, 181.9285990930075)
INFO flwr 2024-03-23 10:38:20,495 | 2437557820.py:98 | evaluate_round 1: no
clients selected, cancel
DEBUG flwr 2024-03-23 10:38:20,496 | 2437557820.py:165 | fit_round 2: strategy
```

sampled 2 clients (out of 2)
Evaluation on the server: test_loss=0.0126, test_accuracy=0.0012
Configuring round 2
[2m[36m(DefaultActor pid=730196)[0m Client 0: recieved 2 trees
[2m[36m(DefaultActor pid=730196)[0m Client 0: training for 50 iterations/updates
[2m[36m(DefaultActor pid=730195)[0m Client 1: recieved 2 trees
[2m[36m(DefaultActor pid=730196)[0m Client 0: training round complete, 3200
examples processed
[2m[36m(DefaultActor pid=730195)[0m Client 1: training for 50 iterations/updates
DEBUG flwr 2024-03-23 10:39:55,191 | 2437557820.py:180 | fit_round 2 received 2
results and 0 failures
[2m[36m(DefaultActor pid=730195)[0m Client 1: training round complete, 3200
examples processed
Server side aggregated 2 trees.
f off
INFO flwr 2024-03-23 10:43:21,997 | 2437557820.py:51 | fit progress: (2,
0.005793044116447457, {'accuracy': tensor(0.9987)}), 483.43251467599475)
INFO flwr 2024-03-23 10:43:21,999 | 2437557820.py:98 | evaluate_round 2: no
clients selected, cancel
DEBUG flwr 2024-03-23 10:43:22,000 | 2437557820.py:165 | fit_round 3: strategy
sampled 2 clients (out of 2)
Evaluation on the server: test_loss=0.0058, test_accuracy=0.9987
Configuring round 3
[2m[36m(DefaultActor pid=730196)[0m Client 1: recieved 2 trees
[2m[36m(DefaultActor pid=730196)[0m Client 1: training for 50 iterations/updates
[2m[36m(DefaultActor pid=730195)[0m Client 0: recieved 2 trees
[2m[36m(DefaultActor pid=730196)[0m Client 1: training round complete, 3200
examples processed
DEBUG flwr 2024-03-23 10:44:39,841 | 2437557820.py:180 | fit_round 3 received 2
results and 0 failures
Server side aggregated 2 trees.
f off
INFO flwr 2024-03-23 10:45:47,952 | 2437557820.py:51 | fit progress: (3,
0.0024998024860191734, {'accuracy': tensor(0.9987)}), 629.3878981250018)
INFO flwr 2024-03-23 10:45:47,955 | 2437557820.py:98 | evaluate_round 3: no
clients selected, cancel
DEBUG flwr 2024-03-23 10:45:47,956 | 2437557820.py:165 | fit_round 4: strategy
sampled 2 clients (out of 2)
Evaluation on the server: test_loss=0.0025, test_accuracy=0.9987
Configuring round 4
[2m[36m(DefaultActor pid=730195)[0m Client 1: recieved 2 trees
[2m[36m(DefaultActor pid=730195)[0m Client 0: training for 50 iterations/updates
[2m[36m(DefaultActor pid=730195)[0m Client 0: training round complete, 3200
examples processed
[2m[36m(DefaultActor pid=730195)[0m Client 1: training for 50 iterations/updates
[2m[36m(DefaultActor pid=730196)[0m Client 0: recieved 2 trees
[2m[36m(DefaultActor pid=730195)[0m Client 1: training round complete, 3200
examples processed
DEBUG flwr 2024-03-23 10:47:04,524 | 2437557820.py:180 | fit_round 4 received 2
results and 0 failures

Server side aggregated 2 trees.

f off

INFO flwr 2024-03-23 10:48:20,579 | 2437557820.py:51 | fit progress: (4, 0.0010766396440782477, {'accuracy': tensor(0.9987)}), 782.0148347609938)

INFO flwr 2024-03-23 10:48:20,582 | 2437557820.py:98 | evaluate_round 4: no clients selected, cancel

DEBUG flwr 2024-03-23 10:48:20,583 | 2437557820.py:165 | fit_round 5: strategy sampled 2 clients (out of 2)

Evaluation on the server: test_loss=0.0011, test_accuracy=0.9987

Configuring round 5

[2m[36m(DefaultActor pid=730195)[0m Client 0: recieved 2 trees

[2m[36m(DefaultActor pid=730196)[0m Client 0: training for 50 iterations/updates

[2m[36m(DefaultActor pid=730196)[0m Client 0: training round complete, 3200 examples processed

[2m[36m(DefaultActor pid=730195)[0m Client 0: training for 50 iterations/updates

[2m[36m(DefaultActor pid=730196)[0m Client 1: recieved 2 trees

[2m[36m(DefaultActor pid=730195)[0m Client 0: training round complete, 3200 examples processed

DEBUG flwr 2024-03-23 10:49:32,969 | 2437557820.py:180 | fit_round 5 received 2 results and 0 failures

Server side aggregated 2 trees.

f off

INFO flwr 2024-03-23 10:55:41,342 | 2437557820.py:51 | fit progress: (5, 0.0004813092814229723, {'accuracy': tensor(0.9987)}), 1222.7778726319957)

INFO flwr 2024-03-23 10:55:41,344 | 2437557820.py:98 | evaluate_round 5: no clients selected, cancel

INFO flwr 2024-03-23 10:55:41,345 | 2437557820.py:79 | FL finished in 1222.7804863850033

INFO flwr 2024-03-23 10:55:41,346 | app.py:226 | app_fit: losses_distributed []

INFO flwr 2024-03-23 10:55:41,352 | app.py:227 | app_fit: metrics_distributed_fit {}

INFO flwr 2024-03-23 10:55:41,352 | app.py:228 | app_fit: metrics_distributed {}

INFO flwr 2024-03-23 10:55:41,353 | app.py:229 | app_fit: losses_centralized [(0, 0.02415742685514534), (1, 0.012563684447596462), (2, 0.005793044116447457), (3, 0.0024998024860191734), (4, 0.0010766396440782477), (5, 0.0004813092814229723)]

INFO flwr 2024-03-23 10:55:41,355 | app.py:230 | app_fit: metrics_centralized {'accuracy': [(0, tensor(0.0013)), (1, tensor(0.0012)), (2, tensor(0.9987)), (3, tensor(0.9987)), (4, tensor(0.9987)), (5, tensor(0.9987))]}

Evaluation on the server: test_loss=0.0005, test_accuracy=0.9987

History (loss, centralized):

round 0: 0.02415742685514534

round 1: 0.012563684447596462

round 2: 0.005793044116447457

round 3: 0.0024998024860191734

round 4: 0.0010766396440782477

round 5: 0.0004813092814229723

History (metrics, centralized):

{'accuracy': [(0, tensor(0.0013)), (1, tensor(0.0012)), (2, tensor(0.9987)), (3, tensor(0.9987)), (4, tensor(0.9987)), (5, tensor(0.9987))]}