```
  8%|          | 786432/9912422 [00:00<00:01, 77100%|          | 9912422/9912422 [00:00<00:00, 52483849.57it/s]
100%|          | 28881/28881 [00:00<00:00, 1583473.12it/s]
 48%|          | 786432/1648877 [00:00<00:00, 77100%|          | 1648877/1648877 [00:00<00:00, 13476094.75it/s]
100%|          | 4542/4542 [00:00<00:00, 26532769.87it/s]
Epochs:    0%|          | 0/10 [00:00<?,[20:03:53.248] [poptorch:cpp] [warning] [DISPATCHER] Type coerced from Long to Int for tensor id 10

Graph c2024-11-15T20:03:53.740456Z PL:POPLIN    2693623.2693623 W: poplin::preplanConvolution() is deprecated! Use poplin::preplan() instead

       2024-11-15T20:03:57.222619Z PL:POPLIN    2693623.2693623 W: poplin::preplanMatMuls() is deprecated! Use poplin::preplan() instead


Graph compilation:    7%|          | 7/100 [00:05
Graph compilation:   20%|          | 20/100 [00:0
Graph compilation:   21%|          | 21/100 [00:0
Graph compilation:   22%|          | 22/100 [00:0
Graph compilation:   23%|          | 23/100 [00:0
Graph compilation:   24%|          | 24/100 [00:0
Graph compilation:   25%|          | 25/100 [00:0
Graph compilation:   26%|          | 26/100 [00:0
Graph compilation:   27%|          | 27/100 [00:0
Graph compilation:   28%|          | 28/100 [00:1
Graph compilation:   29%|          | 29/100 [00:1
Graph compilation:   30%|          | 30/100 [00:1
Graph compilation:   32%|          | 32/100 [00:1
Graph compilation:   33%|          | 33/100 [00:1
Graph compilation:   34%|          | 34/100 [00:1
Graph compilation:   41%|          | 41/100 [00:1
Graph compilation:   49%|          | 49/100 [00:1
Graph compilation:   52%|          | 52/100 [00:1
Graph compilation:   55%|          | 55/100 [00:1
Graph compilation:   61%|          | 61/100 [00:1
Graph compilation:   65%|          | 65/100 [00:1
Graph compilation:   75%|          | 75/100 [00:1
Graph compilation:   79%|          | 79/100 [00:1
Graph compilation:  100%|          | 100/100 [00:20<00:00]2024-11-15T20:04:14.688384Z popart:session 2693623.2693623 W: Rng state buffer was not serialized.You did not load poplar Engine.Remember that if you would like to run the model using the model runtime then you have to create your own buffer and callback in your model runtime application for rngStateTensor.0:00]

Epochs:   40%|          | 4/10 [00:55<01:36, 16.08s/it]
Loss: 1.4965 | Accuracy: 96.50% :   39%|          | 58/150 [00:03<00:05, 17.10it/s]
```

GRAPHCORE

```
1
5<00:02]
```

```
Failed to download (trying next):
HTTP Error 403: Forbidden

Downloading https://ossci-datasets.s3.amazonaws.com/mnist/train-labels-idx1-ubyte.gz
Downloading https://ossci-datasets.s3.amazonaws.com/mnist/train-labels-idx1-ubyte.gz to /home/andrea-richard/.torch/datasets/MNIST/raw/train-labels-idx1-ubyte.gz
Extracting /home/andrea-richard/.torch/datasets/MNIST/raw/train-labels-idx1-ubyte.gz to /home/andrea-richard/.torch/datasets/MNIST/raw

Downloading http://yann.lecun.com/exdb/mnist/t10k-images-idx3-ubyte.gz
Failed to download (trying next):
HTTP Error 403: Forbidden

Downloading https://ossci-datasets.s3.amazonaws.com/mnist/t10k-images-idx3-ubyte.gz
Downloading https://ossci-datasets.s3.amazonaws.com/mnist/t10k-images-idx3-ubyte.gz to /home/andrea-richard/.torch/datasets/MNIST/raw/t10k-images-idx3-ubyte.gz
Extracting /home/andrea-richard/.torch/datasets/MNIST/raw/t10k-images-idx3-ubyte.gz to /home/andrea-richard/.torch/datasets/MNIST/raw

Downloading http://yann.lecun.com/exdb/mnist/t10k-labels-idx1-ubyte.gz
Failed to download (trying next):
HTTP Error 403: Forbidden

Downloading https://ossci-datasets.s3.amazonaws.com/mnist/t10k-labels-idx1-ubyte.gz
Downloading https://ossci-datasets.s3.amazonaws.com/mnist/t10k-labels-idx1-ubyte.gz to /home/andrea-richard/.torch/datasets/MNIST/raw/t10k-labels-idx1-ubyte.gz
Extracting /home/andrea-richard/.torch/datasets/MNIST/raw/t10k-labels-idx1-ubyte.gz to /home/andrea-richard/.torch/datasets/MNIST/raw

TrainingModelWithLoss(
  (model): Network(
    (layer1): Block(
      (conv): Conv2d(1, 32, kernel_size=(3, 3), stride=(1, 1))
      (pool): MaxPool2d(kernel_size=2, stride=2, padding=0, dilation=1, ceil_mode=False)
      (relu): ReLU()
    )
    (layer2): Block(
      (conv): Conv2d(32, 64, kernel_size=(3, 3), stride=(1, 1))
      (pool): MaxPool2d(kernel_size=2, stride=2, padding=0, dilation=1, ceil_mode=False)
      (relu): ReLU()
    )
    (layer3): Linear(in_features=1600, out_features=128, bias=True)
    (layer3_act): ReLU()
    (layer3_dropout): Dropout(p=0.5, inplace=False)
    (layer4): Linear(in_features=128, out_features=10, bias=True)
    (softmax): Softmax(dim=1)
  )
  (loss): CrossEntropyLoss()
)
Accuracy on test set: 98.44%
(poptorch33_env) (base) andrea-richard@gc-poplar-02:~/graphcore/examples/tutorials/simple_applications/pytorch/mnist$
```

GRAPHCORE