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Chapter 1.
NVIDIA VOLTA DEEP LEARNING AMI OVERVIEW

NVIDIA makes available on the Amazon Web Service (AWS) platform a customized Amazon Machine Instance (AMI) optimized for the NVIDIA Volta™ GPU, called the Amazon EC2 P3 Instance. Running NVIDIA® GPU Cloud containers on this instance provides optimum performance for deep learning jobs.

See the NGC AWS Setup Guide for instructions on setting up and using the AMI, including instructions on using the following features:

- Automated login to the NGC container registry.
- Elastic Block Storage (EBS) mounting.
Chapter 2.
VERSION 19.02.0

Image Name
NVIDIA Volta Deep Learning AMI 19.02.0

Contents of the NVIDIA Volta Deep Learning AMI
- Ubuntu Server: 18.04 LTS
- NVIDIA Driver: 410.104
- Docker CE: 18.09.1-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes
- Updated the NVIDIA Driver to 410.104
- Updated Docker to 18.09.1-ce

Known Issues
There are no known issues in this release.
Chapter 3.  
VERSION 19.01.0

Image Name
NVIDIA Volta Deep Learning AMI 19.01.0

Contents of the NVIDIA Volta Deep Learning AMI
- Ubuntu Server: 18.04 LTS
- NVIDIA Driver: 410.79
- Docker CE: 18.06.1
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes
- Updated the Ubuntu Server to 18.04 LTS.

Known Issues
There are no known issues in this release.
Chapter 4.
VERSION 18.11.1

Image Name
NVIDIA Volta Deep Learning AMI 18.11.1

Contents of the NVIDIA Volta Deep Learning AMI
› Ubuntu Server: 16.04 LTS
› NVIDIA Driver: 410.79
› Docker CE: 18.06.1
› NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes
› Updated the NVIDIA driver to 410.79.

Known Issues
There are no known issues in this release.
Image Name
NVIDIA Volta Deep Learning AMI 18.09.1

Contents of the NVIDIA Volta Deep Learning AMI
- Ubuntu Server: 16.04 LTS
- NVIDIA Driver: 410.48
- Docker CE: 18.06.1
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes
- Updated the NVIDIA driver to 410.48.
- Updated Docker CE to 18.06.1

Known Issues
There are no known issues in this release.
Chapter 6.
VERSION 18.08.0

Image Name
NVIDIA Volta Deep Learning AMI 18.08.0

Contents of the NVIDIA Volta Deep Learning AMI
- Ubuntu Server: 16.04 LTS
- NVIDIA Driver: 396.44
- Docker CE: 18.06-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes
- Updated the NVIDIA driver to 396.44.
- Updated Docker CE to 18.06

Known Issues
There are no known issues in this release.
Chapter 7.  
VERSION 18.07.0

Image Name
NVIDIA Volta Deep Learning AMI 18.07.0

Contents of the NVIDIA Volta Deep Learning AMI
- Ubuntu Server: 16.04 LTS
- NVIDIA Driver: 396.37
- Docker CE: 18.03.1-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes
- Updated the NVIDIA driver to 396.37.

Known Issues
There are no known issues in this release.
Chapter 8.
VERSION 18.06.0

Image Name
NVIDIA Volta Deep Learning AMI 18.06.0

Contents of the NVIDIA Volta Deep Learning AMI

- Ubuntu Server: 16.04 LTS
- NVIDIA Driver: 396.26
- Docker CE: 18.03.1-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes

- Updated the NVIDIA driver to 396.26.

Known Issues

There are no known issues in this release.
Chapter 9.
VERSION 18.05.0

Contents of the NVIDIA Volta Deep Learning AMI

- Ubuntu Server: 16.04 LTS
- NVIDIA Driver: 384.125
- Docker CE: 18.03.1-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes

- Includes Ubuntu 16.04 security updates
- Updated Docker CE to version 18.03.1-ce

Known Issues

There are no known issues in this release.
Contents of the NVIDIA Volta Deep Learning AMI

- Ubuntu: 16.04 LTS
- NVIDIA Driver: 384.125
- Docker CE: 18.03.0-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Changes

- Updated the NVIDIA Driver to version 384.125
- Updated Docker CE to version 18.03.0-ce

Known Issues

There are no known issues in this release.
Chapter 11. 
VERSION 18.03.0

Contents of the NVIDIA Volta Deep Learning AMI

- Ubuntu: 16.04 LTS
- NVIDIA Driver: 384.111
- Docker CE: 17.12.1-ce
- NVIDIA Container Runtime for Docker: (nvidia-docker2) v2.0.3

Key Features and Enhancements

- Installs available Ubuntu updates at boot.
- Updated the NVIDIA Driver to version 384.111
- Updated Docker CE to version 17.12.0-ce
- Updated the NVIDIA Container Runtime for Docker (nvidia-docker2) to v2.0.3

Known Issues

There are no known issues in this release.
Chapter 12.
VERSION 18.01.0

Contents of the NVIDIA Volta Deep Learning AMI

NVIDIA is providing updates to help mitigate the Intel CPU security issues and maintain compatibility with recent Linux updates for these security issues.

- Ubuntu: 16.04 LTS
- NVIDIA Driver: 384.111
- Docker CE: 17.12.0-ce
- NVIDIA Container Runtime for Docker (nvidia-docker v2.0)

For details on the vulnerability, refer to Security Bulletin 4611 for more information. To see NVIDIA security bulletins, subscribe to security bulletin notifications, or learn more about NVIDIA’s product security management process, go to NVIDIA Product Security.

Key Features and Enhancements

- Installs available Ubuntu updates at boot.
- Updated the NVIDIA Driver to version 384.111
- Updated Docker CE to version 17.12.0-ce
- Updated to the NVIDIA Container Runtime for Docker (nvidia-docker2 v2.0)

Known Issues

There are no known issues in this release.
Chapter 13.
VERSION 17.10.1

Contents of the NVIDIA Volta Deep Learning AMI

- Ubuntu: 16.04.3
- NVIDIA Driver: 384.81
- Docker CE: 17.09.0-ce
- Docker Engine Utility for NVIDIA GPUs: 1.0.1

Key Features and Enhancements

- Installs available Ubuntu updates at boot.
- Provided a new MNIST example script with correct container image tags.
  - Removed the `mnist_tensorflow.sh` and `mnist_pytorch.sh` scripts.
  - Added the `mnist_example.sh` script.

Known Issues

There are no known issues in this release.
Chapter 14.
VERSION 17.10.0

Contents of the NVIDIA Volta Deep Learning AMI

- Ubuntu : 16.04.3
- NVIDIA Driver : 384.81
- Docker CE : 17.09.0-ce
- Docker Engine Utility for NVIDIA GPUs : 1.0.1

Key Features and Enhancements

- Installs available Ubuntu updates at boot.

Known Issues

- Container Tags in Example Scripts are Incorrect
  
  **Description**

  Two example scripts are provided as part of the AMI to show how to run NGC Deep Learning containers. These scripts are in the Ubuntu home directory, named mnist_pytorch.sh and mnist_tensorflow.sh. These scripts reference container tags 17.09 instead of 17.10.

  **Workaround**

  Edit 17.09 to 17.10 in both scripts before running them. This issue will be fixed at the next release of the NVIDIA Volta Deep Learning AMI.
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