APPLIEDSTREETVIEW

Creator 3

for

PC

Google Cloud

Amazon EC2

Microsoft Azure Cloud

Creator 3.2.2

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About this Document

This document is for the new Google Cloud Compute and Amazon EC2 capability of **Creator 3** only.
See the Creator manual for all other info.

CUDA 10

Starting with Creator 3.2.0 CUDA 10 is needed instead of CUDA 8.
Download CUDA 10 and install it.

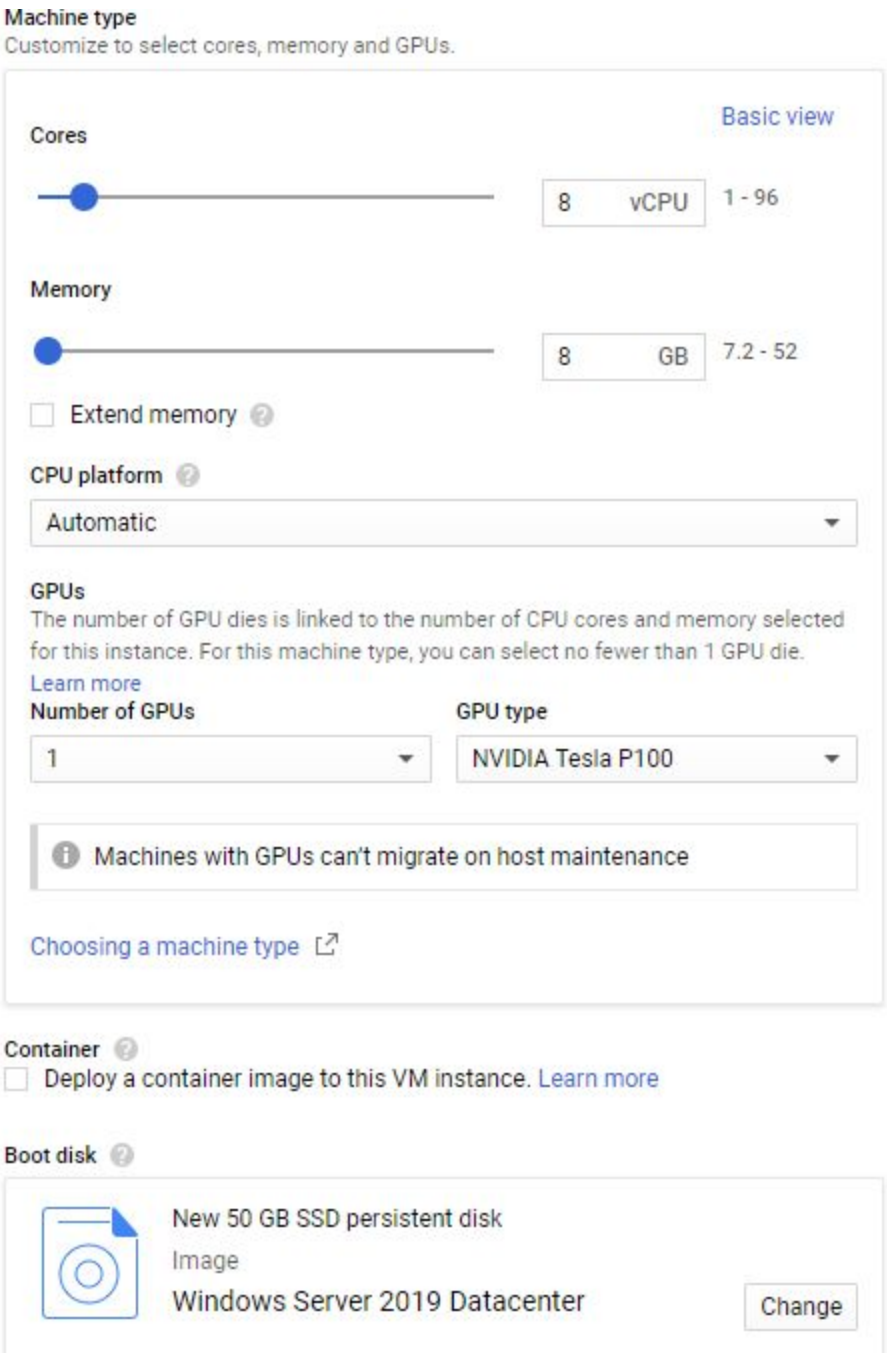
The following NVIDIA graphic cards have been tested in the cloud:
M60, P100, V100.

The following NVIDIA graphic cards have been tested for a local PC:
GTX 970, GTX 1080, RTX2060

Google Cloud

Set Up

1. Go to https://console.cloud.google.com/compute/instances
2. Click on **CREATE INSTANCE**
3. In **Machine type** click **customize**
4. Set **Cores** to 8 and **Memory** to 8 GB
5. In the **GPUs** section set **Number of GPUs** to 1 and **GPU type** to NVIDIA Tesla P100 or V100. V100 is about 80% faster for creating streetview tiles.
6. Click on **Boot disk** and select Windows Server 2019 Datacenter. Then set **Boot disk type** to SSD persistent disk.
7. Click **Create**



After connecting to the instance:

1. Download and install CUDA 10
2. Download and install Creator 3.x.x
3. Exclude the **in** and **out** Creator 3 folders from Windows Security. https://support.microsoft.com/en-us/help/4028485/windows-10-add-an-exclusion-to-windows-security

Performance & Cost

For 24 hours:
8 Cores, 8 GB Memory, 1 GPU NVIDIA Tesla P100:

Performance	
Streetviews:	864,000
Streetviews + tiles:	393,000

Cost	
Instance:	53.58 USD
1 Streetview + tiles:	0.00014 USD

8 Cores, 8 GB Memory, 1 GPU NVIDIA Tesla V100:

Performance	
Streetviews:	1,234,000
Streetviews + Streetview tiles:	480,000

Cost	
Instance:	76.38 USD
1 Streetview + tiles:	0.00015 USD

DATA handling

In order to run **Creator 3** cost effectively in a Google Virtual Machine you should set up separate instances for data-transfer and processing.

PROCESS
Is a GPU instance. It is expensive.
For this you want to spin it up only for the actual data processing. Spin it down when not using it.

DATA
Is a tiny CPU instance. It is very cheap.
With just 1 core, 2 GB RAM and no GPU.
Use it for time-intensive data-transfer like upload and download.

1. Assuming your source images are 1 TB, create a new disk with the size of 2 TB and attach it to the **DATA** instance.
2. Start the **DATA** instance, install a FTP server on it and start the data transfer. The data transfer will needs some time, and you save money by using a cheap instance for this.
3. Stop the **DATA** instance, and detach your 2 TB disk.
4. Attach your 2 TB disk to the **PROCESS** instance.
5. Start the **PROCESS** instance and process with **Creator 3** from and to the 2 TB disk.
6. Stop the **PROCESS** instance, and attach our 2 TB disk back to the **DATA** instance.
7. Either download the streeview-tiles directly via FTP or upload them to Google cloud storage. (Google enables it’s CDN by default).

Amazon EC2

Set Up

1. Go to e.g. https://eu-central-1.console.aws.amazon.com/ec2
2. Click on **Launch Instance**
3. Step 1: Choose an Amazon Machine Image (AMI): Choose **Microsoft Windows Server 2019 Base**
4. Step 2: Choose an Instance Type: Choose **p3.2xlarge** - 1 x V100 GPU.
5. **Review and Launch**

After connecting to the instance:

1. Download and install CUDA 10
2. Download and install Creator 3.x.x
3. Exclude the **in** and **out** Creator 3 folders from Windows Security. https://support.microsoft.com/en-us/help/4028485/windows-10-add-an-exclusion-to-windows-security

Performance & Cost

For 24 hours:

8 Cores, 8 GB Memory, 1 GPU NVIDIA Tesla V100:

Performance

Streetviews:	1,234,000
Streetviews + Streetview tiles:	480,000

Cost

Instance:	100.584 USD
1 Streetview + tiles:	0.00021 USD

DATA handling

In order to run **Creator 3** cost effectively in a Amazon Virtual Machine you should set up separate instances for data-transfer and processing.

PROCESS
Is a GPU instance. It is expensive.
Instance type: **p2.xlarge** or **p3.2xlarge**.

For this you want to spin it up only for the actual data processing.
Spin it down when not using it.

DATA
Is a tiny CPU instance. It is very cheap.
Instance type: **t2.small**.
Use it for time-intensive data-transfer like upload and download.

1. Assuming your source images are 1 TB, create a new disk with the size of 2 TB and attach it to the **DATA** instance.
2. Start the **DATA** instance, install a FTP server on it and start the data transfer. The data transfer will needs some time, and you save money by using a cheap instance for this.
3. Stop the **DATA** instance, and detach your 2 TB disk.
4. Attach your 2 TB disk to the **PROCESS** instance.
5. Start the **PROCESS** instance and process with **Creator 3** from and to the 2 TB disk.
6. Stop the **PROCESS** instance, and attach our 2 TB disk back to the **DATA** instance.
7. Either download the streeview-tiles directly via FTP or upload them to Amazon S3.

Microsoft Azure Cloud

Set Up

1. Go to e.g. https://portal.azure.com/#blade/HubsExtension/Resources/resourceType/Microsoft.Compute%2FVirtualMachines
2. Click on **Add**
3. Image: **Windows Server 2019 Datacenter**
4. Size: **Standard NV6**
5. **Review + create**

After connecting to the instance:

1. Download and install CUDA 10
2. Download and install Creator 3.x.x
3. Exclude the **in** and **out** Creator 3 folders from Windows Security. https://support.microsoft.com/en-us/help/4028485/windows-10-add-an-exclusion-to-windows-security

Performance & Cost

For 24 hours:

6 Cores, 56 GB Memory, 1 GPU NVIDIA Tesla M60:

Performance

Streetviews:	455,000
Streetviews + Streetview tiles:	176,000

Cost

Instance:	38.4 USD
1 Streetview + tiles:	0.00021 USD

DATA handling

In order to run **Creator 3** cost effectively in an Azure Virtual Machine you should set up separate instances for data-transfer and processing.

PROCESS
Is a GPU instance. It is expensive.
Instance type: **Standard NV6**.

For this you want to spin it up only for the actual data processing.
Spin it down when not using it.

DATA
Is a tiny CPU instance. It is very cheap.
Instance type: **B2s**.
Use it for time-intensive data-transfer like upload and download.

8. Assuming your source images are 1 TB, create a new disk with the size of 2 TB and attach it to the **DATA** instance.
9. Start the **DATA** instance, install a FTP server on it and start the data transfer. The data transfer will needs some time, and you save money by using a cheap instance for this.
10. Stop the **DATA** instance, and detach your 2 TB disk.
11. Attach your 2 TB disk to the **PROCESS** instance.
12. Start the **PROCESS** instance and process with **Creator 3** from and to the 2 TB disk.
13. Stop the **PROCESS** instance, and attach our 2 TB disk back to the **DATA** instance.
14. Either download the streeview-tiles directly via FTP or upload them to the cloud.

Feedback

We are interested in your feedback. Please tell your experience.

Support

Support is available in **English language** only.

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