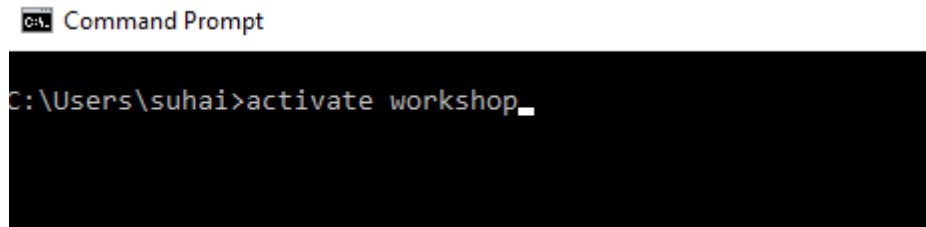


**Tensorflow-Keras
Installation in
Anaconda-Windows
(no-gpu)**

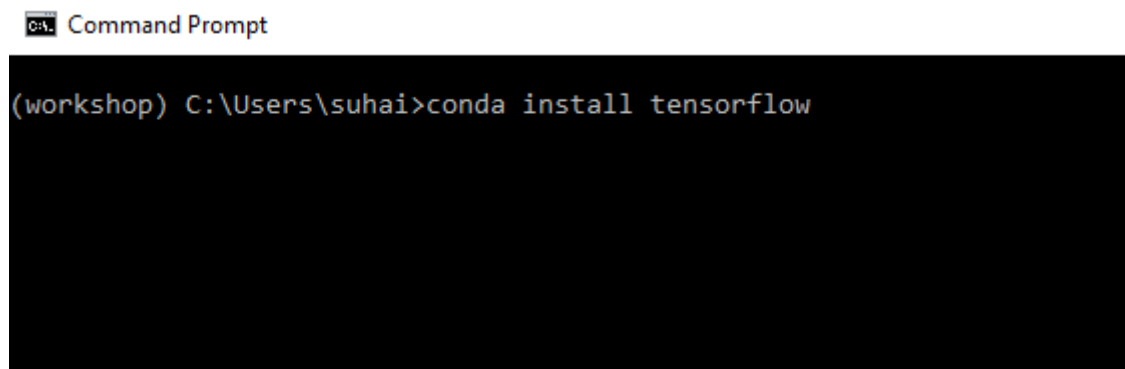
১। প্রথমে cmd তে গিয়ে আপনার এনভায়রনমেন্ট টি একটিভ করে নিন। এক্ষেত্রে আমরা **activate workshop** কমান্ড টি লিখে 'workshop' নামের এনভায়রনমেন্ট টি একটিভ করছি।



```
C:\Users\suhai>activate workshop_
```

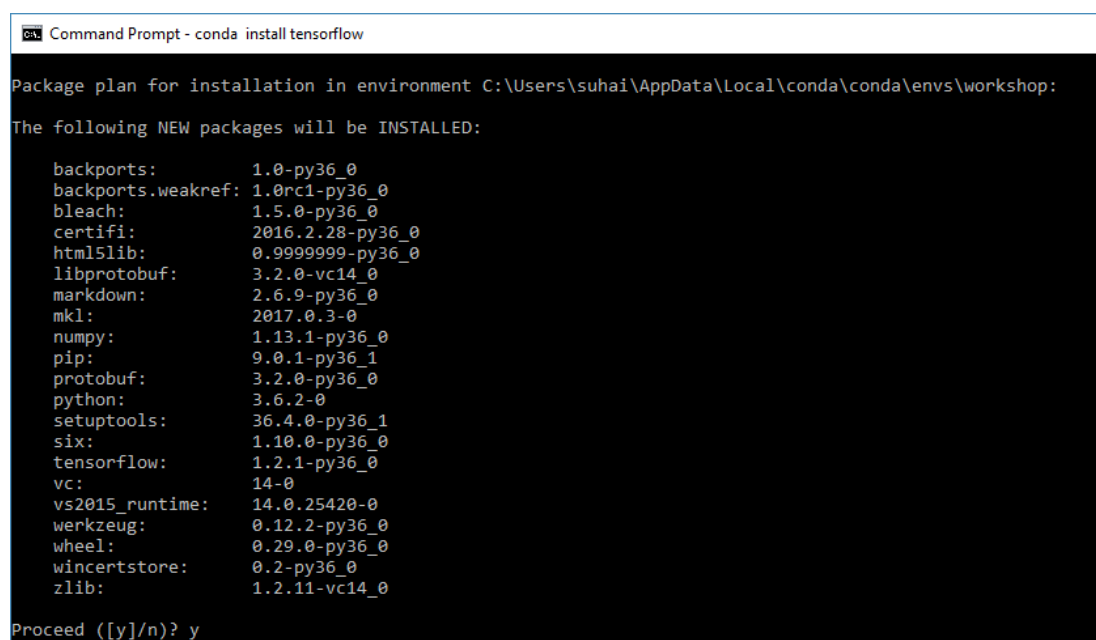
২। Tensorflow ইন্সটল করার জন্য নীচের কমান্ড টি টাইপ করুনঃ

conda install tensorflow



```
(workshop) C:\Users\suhai>conda install tensorflow
```

৩। অনুমতি চাইলে **y** প্রেস করুন।



```
Command Prompt - conda install tensorflow

Package plan for installation in environment C:\Users\suhai\AppData\Local\conda\conda\envs\workshop:

The following NEW packages will be INSTALLED:

  backports: 1.0-py36_0
  backports.weakref: 1.0rc1-py36_0
  bleach: 1.5.0-py36_0
  certifi: 2016.2.28-py36_0
  html5lib: 0.9999999-py36_0
  libprotobuf: 3.2.0-vc14_0
  markdown: 2.6.9-py36_0
  mkl: 2017.0.3-0
  numpy: 1.13.1-py36_0
  pip: 9.0.1-py36_1
  protobuf: 3.2.0-py36_0
  python: 3.6.2-0
  setuptools: 36.4.0-py36_1
  six: 1.10.0-py36_0
  tensorflow: 1.2.1-py36_0
  vc: 14-0
  vs2015_runtime: 14.0.25420-0
  werkzeug: 0.12.2-py36_0
  wheel: 0.29.0-py36_0
  wincertstore: 0.2-py36_0
  zlib: 1.2.11-vc14_0

Proceed ([y]/n)? y
```

৪। এরপরে প্রয়োজনীয় ফাইল সহ tensorflow ইন্সটল হয়ে যাবে।

Git Command Prompt - conda install tensorflow

```
markdown:      2.6.9-py36_0
mkl:           2017.0.3-0
numpy:         1.13.1-py36_0
pip:           9.0.1-py36_1
protobuf:      3.2.0-py36_0
python:        3.6.2-0
setuptools:    36.4.0-py36_1
six:           1.10.0-py36_0
tensorflow:    1.2.1-py36_0
vc:            14-0
vs2015_runtime: 14.0.25420-0
werkzeug:      0.12.2-py36_0
wheel:         0.29.0-py36_0
wincertstore:  0.2-py36_0
zlib:          1.2.11-vc14_0

Proceed ([y]/n)? y

python-3.6.2-0 100% |#####| Time: 0:01:14 446.55 kB/s
certifi-2016.2 100% |#####| Time: 0:00:00 244.61 kB/s
markdown-2.6.9 100% |#####| Time: 0:00:00 296.16 kB/s
numpy-1.13.1-p 100% |#####| Time: 0:00:09 390.14 kB/s
werkzeug-0.12. 100% |#####| Time: 0:00:00 674.50 kB/s
wincertstore-0 100% |#####| Time: 0:00:00 2.41 MB/s
backports.weak 100% |#####| Time: 0:00:00 1.19 MB/s
html5lib-0.999 100% |#####| Time: 0:00:00 652.60 kB/s
protobuf-3.2.0 100% |#####| Time: 0:00:02 173.43 kB/s
setuptools-36. 100% |#####| Time: 0:00:04 134.75 kB/s
bleach-1.5.0-p 100% |#####| Time: 0:00:00 287.48 kB/s
tensorflow-1.2 5% |#| Time: 0:00:05 218.54 kB/s
```

৫। tensorflow ইন্সটল হয়েছে কিনা চেক করার জন্য python লিখে পাইথন শেলে প্রবেশ করুন। এরপরে নীচের কমান্ড দুটি পরপর টাইপ করে এন্টার দিন।

```
tensorflow-1.2 100% |#####| Time: 0:00:00 384.02 kB/s

(workshop) C:\Users\suhai>python
Python 3.6.2 |Continuum Analytics, Inc.| (default, Jul 20 2017, 12:30:02) [MSC v.1000 64-bit AMD64]
Type "help", "copyright", "credits" or "license()" for more
>>> S
```

Import tensorflow as tf

Command Prompt - python

```
setuptools: 36.4.0-py36_1
six: 1.10.0-py36_0
tensorflow: 1.2.1-py36_0
vc: 14-0
vs2015_runtime: 14.0.25420-0
werkzeug: 0.12.2-py36_0
wheel: 0.29.0-py36_0
wincertstore: 0.2-py36_0
zlib: 1.2.11-vc14_0

Proceed ([y]/n)? y

python-3.6.2-0 100% |#####| Time: 0:01:14 446.55 kB/s
certifi-2016.2 100% |#####| Time: 0:00:00 244.61 kB/s
markdown-2.6.9 100% |#####| Time: 0:00:00 296.16 kB/s
numpy-1.13.1-p 100% |#####| Time: 0:00:09 390.14 kB/s
werkzeug-0.12. 100% |#####| Time: 0:00:00 674.50 kB/s
wincertstore-0 100% |#####| Time: 0:00:00 2.41 MB/s
backports.weak 100% |#####| Time: 0:00:00 1.19 MB/s
html5lib-0.999 100% |#####| Time: 0:00:00 652.60 kB/s
protobuf-3.2.0 100% |#####| Time: 0:00:02 173.43 kB/s
setuptools-36. 100% |#####| Time: 0:00:04 134.75 kB/s
bleach-1.5.0-p 100% |#####| Time: 0:00:00 287.48 kB/s
tensorflow-1.2 100% |#####| Time: 0:00:57 384.02 kB/s

(workshop) C:\Users\suhai>python
Python 3.6.2 |Continuum Analytics, Inc.| (default, Jul 20 2017, 12:30:02) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import tensorflow as tf
>>>
```

tf.Session()

Command Prompt - python

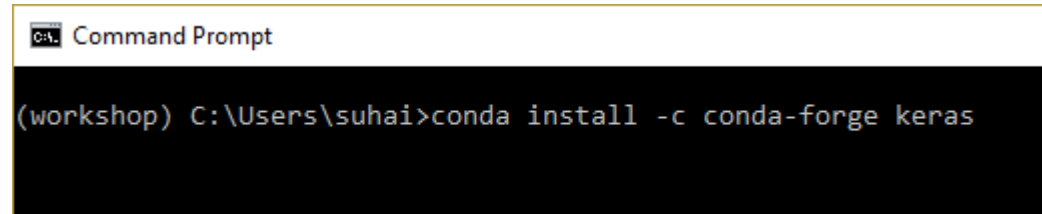
```
Python 3.6.2 |Continuum Analytics, Inc.| (default, Jul 20 2017, 12:30:02) [MSC v.1900 64 bit (AMD64)]
Type "help", "copyright", "credits" or "license" for more information.
>>> import tensorflow as tf
>>> tf.Session()
2017-12-01 19:18:08.905824: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use SSE instructions, but these are available o
could speed up CPU computations.
2017-12-01 19:18:08.905974: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use SSE2 instructions, but these are available
could speed up CPU computations.
2017-12-01 19:18:08.906087: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use SSE3 instructions, but these are available
could speed up CPU computations.
2017-12-01 19:18:08.906212: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use SSE4.1 instructions, but these are availabl
nd could speed up CPU computations.
2017-12-01 19:18:08.906336: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use SSE4.2 instructions, but these are availabl
nd could speed up CPU computations.
2017-12-01 19:18:08.906440: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use AVX instructions, but these are available o
could speed up CPU computations.
2017-12-01 19:18:08.906538: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use AVX2 instructions, but these are available
could speed up CPU computations.
2017-12-01 19:18:08.906658: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\pla
uard.cc:45] The TensorFlow library wasn't compiled to use FMA instructions, but these are available o
could speed up CPU computations.
<tensorflow.python.client.session.Session object at 0x0000027421830080>
>>>
```

যদি কোন এরর শো না করে অথবা কেবলমাত্র এ ধরনের ওয়ার্নিং শো করে তাহলে টেনসরফ্লো সঠিকভাবে ইন্সটল হয়েছে।

৬। এবার `exit()` লিখে পাইথন শেল থেকে বের হয়ে আসুন।

৭। টার্মিনালে নীচের কমান্ড টাইপ করুনঃ

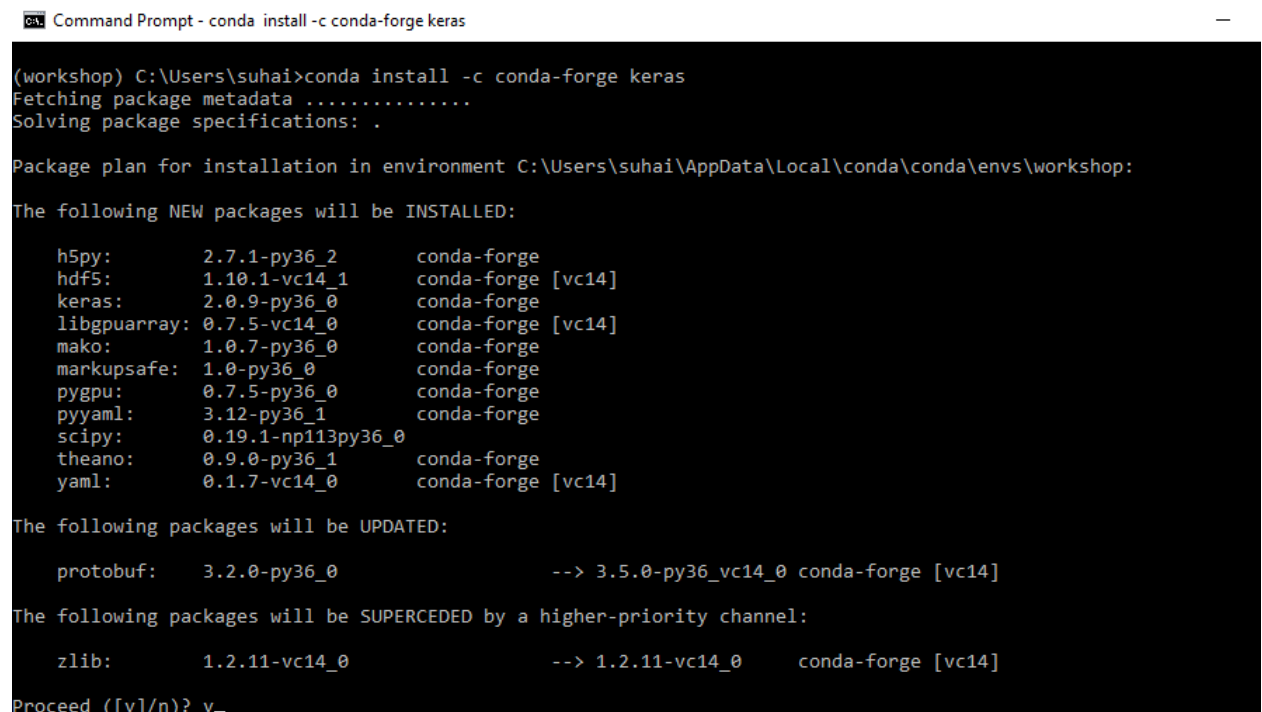
conda install -c conda-forge keras



```
Command Prompt

(workshop) C:\Users\suhai>conda install -c conda-forge keras
```

৮। অনুমতির দরকার হলে **y** চাপুন।



```
Command Prompt - conda install -c conda-forge keras

(workshop) C:\Users\suhai>conda install -c conda-forge keras
Fetching package metadata .....
Solving package specifications: .

Package plan for installation in environment C:\Users\suhai\AppData\Local\conda\conda\envs\workshop:

The following NEW packages will be INSTALLED:

  h5py:                2.7.1-py36_2          conda-forge
  hdf5:                1.10.1-vc14_1         conda-forge [vc14]
  keras:               2.0.9-py36_0          conda-forge
  libgpubarray:        0.7.5-vc14_0          conda-forge [vc14]
  mako:                1.0.7-py36_0          conda-forge
  markupsafe:          1.0-py36_0            conda-forge
  pygpu:               0.7.5-py36_0          conda-forge
  pyyaml:              3.12-py36_1           conda-forge
  scipy:               0.19.1-np113py36_0    conda-forge
  theano:              0.9.0-py36_1          conda-forge
  yaml:                0.1.7-vc14_0          conda-forge [vc14]

The following packages will be UPDATED:

  protobuf:  3.2.0-py36_0 --> 3.5.0-py36_vc14_0 conda-forge [vc14]

The following packages will be SUPERCEDED by a higher-priority channel:

  zlib:  1.2.11-vc14_0 --> 1.2.11-vc14_0 conda-forge [vc14]

Proceed ([y]/n)? y_
```

৯। প্রয়োজনীয় সকল ফাইল নামিয়ে কেরাস ইনস্টল হয়ে যাবে।

```
CA: Command Prompt - conda install -c conda-forge keras

Package plan for installation in environment C:\Users\suhai\AppData\Local\conda\conda\envs\works

The following NEW packages will be INSTALLED:

h5py:                2.7.1-py36_2          conda-forge
hdf5:                1.10.1-vc14_1         conda-forge [vc14]
keras:               2.0.9-py36_0          conda-forge
libgpuarray:         0.7.5-vc14_0          conda-forge [vc14]
mako:                1.0.7-py36_0          conda-forge
markupsafe:          1.0-py36_0            conda-forge
pygpu:               0.7.5-py36_0          conda-forge
pyyaml:              3.12-py36_1           conda-forge
scipy:               0.19.1-np113py36_0    conda-forge
theano:              0.9.0-py36_1          conda-forge
yaml:                0.1.7-vc14_0          conda-forge [vc14]

The following packages will be UPDATED:

protobuf:            3.2.0-py36_0          --> 3.5.0-py36_vc14_0 conda-forge [vc14]

The following packages will be SUPERCEDED by a higher-priority channel:

zlib:                1.2.11-vc14_0         --> 1.2.11-vc14_0     conda-forge [vc14]

Proceed ([y]/n)? y

libgpuarray-0. 100% |#####| Time: 0:00:02 132.46 kB/s
```

```
CA: Command Prompt

pyyaml:              3.12-py36_1           conda-forge
scipy:               0.19.1-np113py36_0    conda-forge
theano:              0.9.0-py36_1          conda-forge
yaml:                0.1.7-vc14_0          conda-forge [vc14]

The following packages will be UPDATED:

protobuf:            3.2.0-py36_0          --> 3.5.0-py36_vc14_0 conda-forge [vc14]

The following packages will be SUPERCEDED by a higher-priority channel:

zlib:                1.2.11-vc14_0         --> 1.2.11-vc14_0     conda-forge [vc14]

Proceed ([y]/n)? y

libgpuarray-0. 100% |#####| Time: 0:00:02 132.46 kB/s
yaml-0.1.7-vc1 100% |#####| Time: 0:00:01 55.96 kB/s
zlib-1.2.11-vc 100% |#####| Time: 0:00:01 65.78 kB/s
hdf5-1.10.1-vc 100% |#####| Time: 0:00:43 432.40 kB/s
markupsafe-1.0 100% |#####| Time: 0:00:00 2.69 MB/s
pyyaml-3.12-py 100% |#####| Time: 0:00:01 110.66 kB/s
h5py-2.7.1-py3 100% |#####| Time: 0:00:05 144.41 kB/s
mako-1.0.7-py3 100% |#####| Time: 0:00:01 73.96 kB/s
scipy-0.19.1-n 100% |#####| Time: 0:00:10 1.33 MB/s
protobuf-3.5.0 100% |#####| Time: 0:00:11 1.02 MB/s
pygpu-0.7.5-py 100% |#####| Time: 0:00:00 616.28 kB/s
theano-0.9.0-p 100% |#####| Time: 0:00:21 200.35 kB/s
keras-2.0.9-py 100% |#####| Time: 0:00:02 163.49 kB/s

(workshop) C:\Users\suhai>
```

১০। এরপরে কেরাস ঠিকমত ইনস্টল হয়েছে কিনা চেক করার জন্য python লিখে python শেলে প্রবেশ করে **import keras** টাইপ করুন। যদি কোন এরর শো না করে কিংবা আগের মত using tensorflow backend এর পরে নীচের ওয়ার্নিং গুলি আসে তাহলে আপনার টেনসরফ্লো সঠিকভাবে ইনস্টল হয়েছে।

```
Command Prompt - python
(workshop) C:\Users\suhai>python
Python 3.6.2 |Continuum Analytics, Inc.| (default, Jul 20 2017, 12:30:02) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import keras
Using TensorFlow backend.
2017-12-01 19:26:12.209221: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use SSE instructions, but these are available on your machine and
could speed up CPU computations.
2017-12-01 19:26:12.209375: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use SSE2 instructions, but these are available on your machine and
could speed up CPU computations.
2017-12-01 19:26:12.211000: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use SSE3 instructions, but these are available on your machine and
could speed up CPU computations.
2017-12-01 19:26:12.211581: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use SSE4.1 instructions, but these are available on your machine a
nd could speed up CPU computations.
2017-12-01 19:26:12.212441: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use SSE4.2 instructions, but these are available on your machine a
nd could speed up CPU computations.
2017-12-01 19:26:12.213499: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use AVX instructions, but these are available on your machine and
could speed up CPU computations.
2017-12-01 19:26:12.214586: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use AVX2 instructions, but these are available on your machine and
could speed up CPU computations.
2017-12-01 19:26:12.215108: W c:\l\tensorflow_1501918863922\work\tensorflow-1.2.1\tensorflow\core\platform\cpu_feature_g
uard.cc:45] The TensorFlow library wasn't compiled to use FMA instructions, but these are available on your machine and
could speed up CPU computations.
>>>
```

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24 November, 2017