

# torch

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 3)**

Unknown directive type "automodule".

```
.. automodule:: torch
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 4)**

Unknown directive type "currentmodule".

```
.. currentmodule:: torch
```

## Tensors

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 8)**

Unknown directive type "autosummary".

```
.. autosummary::
    :toctree: generated
    :nosignatures:

    is_tensor
    is_storage
    is_complex
    is_conj
    is_floating_point
    is_nonzero
    set_default_dtype
    get_default_dtype
    set_default_tensor_type
    numel
    set_printoptions
    set_flush_denormal
```

## Creation Ops

### Note

Random sampling creation ops are listed under [:ref:`random-sampling`](#) and include: [:func:`torch.rand`](#) [:func:`torch.rand\\_like`](#) [:func:`torch.randn`](#) [:func:`torch.randn\\_like`](#) [:func:`torch.randint`](#) [:func:`torch.randint\\_like`](#) [:func:`torch.randperm`](#). You may also use [:func:`torch.empty`](#) with the [:ref:`inplace-random-sampling`](#) methods to create [:class:`torch.Tensor`](#) s with values sampled from a broader range of distributions.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)**

Unknown interpreted text role "ref".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "ref".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 31); [backlink](#)

Unknown interpreted text role "class".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 44)

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   tensor
   sparse_coo_tensor
   asarray
   as_tensor
   as_strided
   from_numpy
```

```
from_dlpack
frombuffer
zeros
zeros_like
ones
ones_like
arange
range
linspace
logspace
eye
empty
empty_like
empty_strided
full
full_like
quantize_per_tensor
quantize_per_channel
dequantize
complex
polar
heaviside
```

## Indexing, Slicing, Joining, Mutating Ops

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 81)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:
```

```
adjoint
argwhere
cat
concat
conj
chunk
dsplit
column_stack
dstack
gather
hsplit
hstack
index_add
index_copy
index_select
masked_select
movedim
moveaxis
narrow
nonzero
permute
reshape
row_stack
select
scatter
diagonal_scatter
select_scatter
slice_scatter
scatter_add
scatter_reduce
split
squeeze
stack
swapaxes
swapdims
t
take
take_along_dim
tensor_split
tile
transpose
unbind
unsqueeze
vsplit
vstack
```

where

## Generators

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 136)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:
```

Generator

## Random sampling

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 146)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:
```

seed  
manual\_seed  
initial\_seed  
get\_rng\_state  
set\_rng\_state

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 156)**

Unknown directive type "autoattribute".

```
.. autoattribute:: torch.default_generator
   :annotation: Returns the default CPU torch.Generator
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 165)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:
```

bernoulli  
multinomial  
normal  
poisson  
rand  
rand\_like  
randint  
randint\_like  
randn  
randn\_like  
randperm

## In-place random sampling

There are a few more in-place random sampling functions defined on Tensors as well. Click through to refer to their documentation:

- `:func:`torch.Tensor.bernoulli_`` - in-place version of `:func:`torch.bernoulli``

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-**

resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 188); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 188); [backlink](#)

Unknown interpreted text role "func".

- :func:`torch.Tensor.cauchy\_` - numbers drawn from the Cauchy distribution

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 189); [backlink](#)

Unknown interpreted text role "func".

- :func:`torch.Tensor.exponential\_` - numbers drawn from the exponential distribution

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 190); [backlink](#)

Unknown interpreted text role "func".

- :func:`torch.Tensor.geometric\_` - elements drawn from the geometric distribution

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 191); [backlink](#)

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- :func:`torch.Tensor.log\_normal\_` - samples from the log-normal distribution

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 192); [backlink](#)

Unknown interpreted text role "func".

- :func:`torch.Tensor.normal\_` - in-place version of :func:`torch.normal`

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 193); [backlink](#)

Unknown interpreted text role "func".

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 193); [backlink](#)

Unknown interpreted text role "func".

- :func:`torch.Tensor.random\_` - numbers sampled from the discrete uniform distribution

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 194); [backlink](#)

Unknown interpreted text role "func".

- :func:`torch.Tensor.uniform\_` - numbers sampled from the continuous uniform distribution

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 195); [backlink](#)**

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## Quasi-random sampling

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 199)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:
   :template: sobolengine.rst

   quasirandom.SobolEngine
```

## Serialization

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 208)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   save
   load
```

## Parallelism

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 217)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   get_num_threads
   set_num_threads
   get_num_interop_threads
   set_num_interop_threads
```

## Locally disabling gradient computation

The context managers `:func:`torch.no_grad``, `:func:`torch.enable_grad``, and `:func:`torch.set_grad_enabled`` are helpful for locally disabling and enabling gradient computation. See [ref:locally-disable-grad](#) for more details on their usage. These context managers are thread local, so they won't work if you send work to another thread using the `threading` module, etc.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 228); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 228); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 228); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 228); [backlink](#)**

Unknown interpreted text role "ref".

#### Examples:

```
>>> x = torch.zeros(1, requires_grad=True)
>>> with torch.no_grad():
...     y = x * 2
>>> y.requires_grad
False

>>> is_train = False
>>> with torch.set_grad_enabled(is_train):
...     y = x * 2
>>> y.requires_grad
False

>>> torch.set_grad_enabled(True) # this can also be used as a function
>>> y = x * 2
>>> y.requires_grad
True

>>> torch.set_grad_enabled(False)
>>> y = x * 2
>>> y.requires_grad
False
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 258)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   no_grad
   enable_grad
   set_grad_enabled
   is_grad_enabled
   inference_mode
   is_inference_mode_enabled
```

## Math operations

### Pointwise Ops

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 275)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   abs
   absolute
   acos
   arccos
   acosh
   arccosh
   add
   addcdiv
   addcmul
   angle
   asin
```

arcsin  
asinh  
arcsinh  
atan  
arctan  
atanh  
arctanh  
atan2  
arctan2  
bitwise\_not  
bitwise\_and  
bitwise\_or  
bitwise\_xor  
bitwise\_left\_shift  
bitwise\_right\_shift  
ceil  
clamp  
clip  
conj\_physical  
copysign  
cos  
cosh  
deg2rad  
div  
divide  
digamma  
erf  
erfc  
erfinv  
exp  
exp2  
expm1  
fake\_quantize\_per\_channel\_affine  
fake\_quantize\_per\_tensor\_affine  
fix  
float\_power  
floor  
floor\_divide  
fmod  
frac  
frexp  
gradient  
imag  
ldexp  
lerp  
lgamma  
log  
log10  
log1p  
log2  
logaddexp  
logaddexp2  
logical\_and  
logical\_not  
logical\_or  
logical\_xor  
logit  
hypot  
i0  
igamma  
igammac  
mul  
multiply  
mvlgamma  
nan\_to\_num  
neg  
negative  
nextafter  
polygamma  
positive  
pow  
quantized\_batch\_norm  
quantized\_max\_pool1d  
quantized\_max\_pool2d  
rad2deg  
real  
reciprocal  
remainder  
round  
rsqrt  
sigmoid



```
sign
sgn
signbit
sin
sinc
sinh
sqrt
square
sub
subtract
tan
tanh
true_divide
trunc
xlogy
```

## Reduction Ops

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\pytorch-master) (docs) (source) torch.rst, line 389)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   argmax
   argmin
   amax
   amin
   aminmax
   all
   any
   max
   min
   dist
   logsumexp
   mean
   nanmean
   median
   nanmedian
   mode
   norm
   nansum
   prod
   quantile
   nanquantile
   std
   std_mean
   sum
   unique
   unique_consecutive
   var
   var_mean
   count_nonzero
```

## Comparison Ops

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\pytorch-master) (docs) (source) torch.rst, line 425)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   allclose
   argsort
   eq
   equal
   ge
   greater_equal
   gt
   greater
```

```
isclose
isfinite
isin
isinf
isposinf
isneginf
isnan
isreal
kthvalue
le
less_equal
lt
less
maximum
minimum
fmax
fmin
ne
not_equal
sort
topk
msort
```

## Spectral Ops

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 463)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   stft
   istft
   bartlett_window
   blackman_window
   hamming_window
   hann_window
   kaiser_window
```

## Other Operations

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 479)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   atleast_1d
   atleast_2d
   atleast_3d
   bincount
   block_diag
   broadcast_tensors
   broadcast_to
   broadcast_shapes
   bucketize
   cartesian_prod
   cdist
   clone
   combinations
   corrcoef
   cov
   cross
   cummax
   cummin
   cumprod
   cumsum
   diag
```

```
diag_embed
diagflat
diagonal
diff
einsum
flatten
flip
fliplr
flipud
kron
rot90
gcd
histc
histogram
histogramdd
meshgrid
lcm
logcumsumexp
ravel
renorm
repeat_interleave
roll
searchsorted
tensordot
trace
tril
tril_indices
triu
triu_indices
vander
view_as_real
view_as_complex
resolve_conj
resolve_neg
```

## BLAS and LAPACK Operations

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\pytorch-master) (docs) (source) torch.rst, line 542)**

Unknown directive type "autosummary".

```
.. autosummary::
   :toctree: generated
   :nosignatures:

   addbmm
   addmm
   addmv
   addr
   baddbmm
   bmm
   chain_matmul
   cholesky
   cholesky_inverse
   cholesky_solve
   dot
   eig
   geqrf
   ger
   inner
   inverse
   det
   logdet
   slogdet
   lstsq
   lu
   lu_solve
   lu_unpack
   matmul
   matrix_power
   matrix_rank
   matrix_exp
   mm
   mv
   orgqr
   ormqr
   outer
```

```
pinverse
qr
solve
svd
svd_lowrank
pca_lowrank
symeig
lobpcg
trapz
trapezoid
cumulative_trapezoid
triangular_solve
vdot
```

## Utilities

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 594)**

Unknown directive type "autosummary".

```
.. autosummary::
    :toctree: generated
    :nosignatures:

    compiled_with_cxx11_abi
    result_type
    can_cast
    promote_types
    use_deterministic_algorithms
    are_deterministic_algorithms_enabled
    is_deterministic_algorithms_warn_only_enabled
    set_deterministic_debug_mode
    get_deterministic_debug_mode
    set_warn_always
    is_warn_always_enabled
    vmap
    _assert
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 614)**

Unknown directive type "py:module".

```
.. py:module:: torch.contrib
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 615)**

Unknown directive type "py:module".

```
.. py:module:: torch.utils.backcompat
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 618)**

Unknown directive type "py:module".

```
.. py:module:: torch.utils
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\ (pytorch-master) (docs) (source) torch.rst, line 621)**

Unknown directive type "py:module".

```
.. py:module:: torch.utils.hipify
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\pytorch-master) (docs) (source) torch.rst, line 625)**

Unknown directive type "py:module".

```
.. py:module:: torch.utils.model_dump
```