

tf.concat

```
concat(  
    values,  
    axis,  
    name='concat'  
)
```

Defined in [tensorflow/python/ops/array_ops.py](#).

See the guide: [Tensor Transformations > Slicing and Joining](#)

Concatenates tensors along one dimension.

Concatenates the list of tensors **values** along dimension **axis**. If **values[i].shape = [D0, D1, ..., Daxis(i), ...Dn]**, the concatenated result has shape

```
[D0, D1, ..., Raxis, ...Dn]
```

where

```
Raxis = sum(Daxis(i))
```

That is, the data from the input tensors is joined along the **axis** dimension.

The number of dimensions of the input tensors must match, and all dimensions except **axis** must be equal.

For example:

```
t1 = [[1, 2, 3], [4, 5, 6]]  
t2 = [[7, 8, 9], [10, 11, 12]]  
tf.concat([t1, t2], 0) # [[1, 2, 3], [4, 5, 6], [7, 8, 9], [10, 11, 12]]  
tf.concat([t1, t2], 1) # [[1, 2, 3, 7, 8, 9], [4, 5, 6, 10, 11, 12]]  
  
# tensor t3 with shape [2, 3]  
# tensor t4 with shape [2, 3]  
tf.shape(tf.concat([t3, t4], 0)) # [4, 3]  
tf.shape(tf.concat([t3, t4], 1)) # [2, 6]
```

★ **Note:** If you are concatenating along a new axis consider using `stack`. E.g.

```
tf.concat([tf.expand_dims(t, axis) for t in tensors], axis)
```

can be rewritten as

```
tf.stack(tensors, axis=axis)
```

Args:

- values**: A list of **Tensor** objects or a single **Tensor**.
- axis**: 0-D **int32 Tensor**. Dimension along which to concatenate. Must be in the range **[-rank(values),**

`rank(values))` .

- `name` : A name for the operation (optional).

Returns:

A **Tensor** resulting from concatenation of the input tensors.

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