

## tf.sparse\_reshape

```
sparse_reshape(  
    sp_input,  
    shape,  
    name=None  
)
```

Defined in [tensorflow/python/ops/sparse\\_ops.py](#).

See the guide: [Sparse Tensors > Manipulation](#)

Reshapes a **SparseTensor** to represent values in a new dense shape.

This operation has the same semantics as **reshape** on the represented dense tensor. The indices of non-empty values in **sp\_input** are recomputed based on the new dense shape, and a new **SparseTensor** is returned containing the new indices and new shape. The order of non-empty values in **sp\_input** is unchanged.

If one component of **shape** is the special value -1, the size of that dimension is computed so that the total dense size remains constant. At most one component of **shape** can be -1. The number of dense elements implied by **shape** must be the same as the number of dense elements originally represented by **sp\_input**.

For example, if **sp\_input** has shape **[2, 3, 6]** and **indices / values**:

```
[0, 0, 0]: a  
[0, 0, 1]: b  
[0, 1, 0]: c  
[1, 0, 0]: d  
[1, 2, 3]: e
```

and **shape** is **[9, -1]**, then the output will be a **SparseTensor** of shape **[9, 4]** and **indices / values**:

```
[0, 0]: a  
[0, 1]: b  
[1, 2]: c  
[4, 2]: d  
[8, 1]: e
```

## Args:

- **sp\_input**: The input **SparseTensor**.
- **shape**: A 1-D (vector) int64 **Tensor** specifying the new dense shape of the represented **SparseTensor**.
- **name**: A name prefix for the returned tensors (optional)

## Returns:

A **SparseTensor** with the same non-empty values but with indices calculated by the new dense shape.

## Raises:

- `TypeError` : If `sp_input` is not a `SparseTensor` .
- `ValueError` : If argument `shape` requests a `SparseTensor` with a different number of elements than `sp_input` .

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