

```
In [1]: import numpy as np
```

Reorganising arrays using reshape

```
In [2]: before = np.array([[1,2,3,4],[5,6,7,8]])  
before
```

```
Out[2]: array([[1, 2, 3, 4],  
              [5, 6, 7, 8]])
```

```
In [3]: after = before.reshape((2,1,4))  
after
```

```
Out[3]: array([[[1, 2, 3, 4]],  
              [[5, 6, 7, 8]])
```

Stacking arrays vertically and horizontally

```
In [4]: # Vertically stacking vectors  
v1 = np.array([1,2,3,4])  
v2 = np.array([5,6,7,8])  
  
np.vstack([v1,v2,v1,v2])
```

```
Out[4]: array([[1, 2, 3, 4],  
              [5, 6, 7, 8],  
              [1, 2, 3, 4],  
              [5, 6, 7, 8]])
```

```
In [5]: # Horizontal stack  
h1 = np.ones((2,4))  
h2 = np.zeros((2,2))  
  
np.hstack((h1,h2))
```

```
Out[5]: array([[1., 1., 1., 1., 0., 0.],  
              [1., 1., 1., 1., 0., 0.]])
```