

# Common variables

Given

|                           |      |
|---------------------------|------|
| Redundancy                | 3    |
| Disk size (TB)            | 1,80 |
| Disks/node                | 2    |
| Max disk usage            | 80%  |
| Master nodes              | 3    |
| Max shard size (GB)       | 50   |
| Ideal max shard size (GB) | 25   |
| Ideal min shard size (GB) | 20   |
| Min shard size (GB)       | 10   |
| Heap memory (GB)          | 26   |
| Shards/GB of heap         | 50   |

Derived

|                             |      |
|-----------------------------|------|
| Replicas                    | 2    |
| Storage/node (TB)           | 3,6  |
| Effective storage/node (TB) | 2,88 |
| Primary storage/node (TB)   | 0,96 |
| Secondary storage/node (TB) | 1,92 |
| Max shards/node             | 1300 |

50 nodes

Variables

| Total nodes          | 50 |
|----------------------|----|
| Master nodes         | 3  |
| Sniffer nodes        | 1  |
| Data nodes           | 46 |
| Primary storage (TB) | 20 |
| Replica storage (TB) | 40 |

Primary shards

| Index       | Size (TB) | Shards |           |        |           |      | Size/shard (GB) | Percentage |
|-------------|-----------|--------|-----------|--------|-----------|------|-----------------|------------|
|             |           | Min    | Ideal min | Chosen | Ideal max | Max  |                 |            |
| Files       | 16,647    | 341    | 682       | 512    | 853       | 1705 | 33,3            | 83,24%     |
| Directories | 3,319     | 68     | 136       | 256    | 170       | 340  | 13,3            | 16,60%     |
| Invalids    | 0,021     | 1      | 1         | 4      | 2         | 3    | 5,4             | 0,10%      |
| Partials    | 0,013     | 1      | 1         | 4      | 1         | 2    | 3,2             | 0,06%      |
| Total       | 20,000    | 411    | 820       | 776    | 1026      | 2050 |                 |            |

Per node

| Primary shards   | 17 |
|------------------|----|
| Secondary shards | 34 |
| Total            | 51 |

100 nodes

Variables

| Total nodes          | 100    |
|----------------------|--------|
| Master nodes         | 3      |
| Sniffer nodes        | 1      |
| Data nodes           | 96     |
| Primary storage (TB) | 92,16  |
| Replica storage (TB) | 184,32 |

Primary shards

| Index       | Size (TB) | Shards |           |        |           |      | Size/shard (GB) | Percentage |
|-------------|-----------|--------|-----------|--------|-----------|------|-----------------|------------|
|             |           | Min    | Ideal min | Chosen | Ideal max | Max  |                 |            |
| Files       | 76,712    | 1572   | 3143      | 1024   | 3928      | 7856 | 76,7            | 83,24%     |
| Directories | 15,294    | 314    | 627       | 512    | 784       | 1567 | 30,6            | 16,60%     |
| Invalids    | 0,096     | 2      | 4         | 4      | 5         | 10   | 24,7            | 0,10%      |
| Partials    | 0,058     | 2      | 3         | 4      | 3         | 6    | 14,8            | 0,06%      |
| Total       | 92,160    | 1890   | 3777      | 1544   | 4720      | 9439 |                 |            |

Per node

| Primary shards   | 16 |
|------------------|----|
| Secondary shards | 32 |
| Total            | 48 |

15 nodes

Variables

| Total nodes          | 15    |
|----------------------|-------|
| Master nodes         | 3     |
| Sniffer nodes        | 1     |
| Data nodes           | 11    |
| Primary storage (TB) | 10,56 |
| Replica storage (TB) | 21,12 |

Primary shards

| Index       | Size (TB) | Shards |           |        |           |      | Size/shard (GB) | Percentage |
|-------------|-----------|--------|-----------|--------|-----------|------|-----------------|------------|
|             |           | Min    | Ideal min | Chosen | Ideal max | Max  |                 |            |
| Files       | 8,790     | 181    | 361       | 1024   | 451       | 901  | 8,8             | 83,24%     |
| Directories | 1,752     | 36     | 72        | 50     | 90        | 180  | 35,9            | 16,60%     |
| Invalids    | 0,011     | 1      | 1         | 4      | 1         | 2    | 2,8             | 0,10%      |
| Partials    | 0,007     | 1      | 1         | 1      | 1         | 1    | 6,8             | 0,06%      |
| Total       | 10,560    | 219    | 435       | 1079   | 543       | 1084 |                 |            |

Per node

| Primary shards   | 98  |
|------------------|-----|
| Secondary shards | 196 |
| Total            | 294 |

5 nodes

Variables

| Total nodes          | 5    |
|----------------------|------|
| Master nodes         | 1    |
| Sniffer nodes        | 1    |
| Data nodes           | 3    |
| Primary storage (TB) | 2,88 |
| Replica storage (TB) | 5,76 |

Primary shards

| Index       | Size (TB) | Shards |           |        |           |     | Size/shard (GB) | Percentage |
|-------------|-----------|--------|-----------|--------|-----------|-----|-----------------|------------|
|             |           | Min    | Ideal min | Chosen | Ideal max | Max |                 |            |
| Files       | 2,397     | 50     | 99        | 20     | 123       | 246 | 122,7           | 83,24%     |
| Directories | 0,478     | 10     | 20        | 10     | 25        | 49  | 48,9            | 16,60%     |
| Invalids    | 0,003     | 1      | 1         | 4      | 1         | 1   | 0,8             | 0,10%      |
| Partials    | 0,002     | 1      | 1         | 1      | 1         | 1   | 1,9             | 0,06%      |
| Total       | 2,880     | 62     | 121       | 35     | 150       | 297 |                 |            |

Per node

| Primary shards   | 12 |
|------------------|----|
| Secondary shards | 23 |
| Total            | 35 |

Baseline

Current

| Index       | Size (TB) | Shards | Size/shard (GB) | Percentage |
|-------------|-----------|--------|-----------------|------------|
| Files       | 15,9      | 1024   | 15,9            | 83,24%     |
| Directories | 3,17      | 10     | 324,6           | 16,60%     |
| Invalids    | 0,02      | 4      | 5,1             | 0,10%      |
| Partials    | 0,012     | 1      | 12,3            | 0,06%      |
| Total       | 19,102    | 1039   |                 |            |