

MSEARCH-120 Filters by item fields

Implemented approach is to store all item fields in one string in format like:

```
{status}|{effectiveLocationId}|{materialTypeId}|{discoverySuppress}|{tags}

In process|53a7e309-e2fe-46da-8982-565809b297e8|81b08cf9-f103-42e2-873f-8383f355452d|true|resource|data|belief|sample|sea|version|implementation
Checked out|2c9717e7-110a-4c10-a20f-a5853bde3128|4949d136-b377-4f37-bb24-3de3ed05125d|true|belief|item|life
```

Elasticsearch index mappings for this field

```
{
  ...
  "keyword": {
    "mapping": {
      "type": "keyword"
    }
  },
  ...
}
```

Elasticsearch queries were run locally against index with 2,5 millions of instances with 3-15 linked items with all fields. Index size - 13 Gb.

Name	Query	Response time, ms
Status	In process*	~370
	In process *	~200
	Available*	~190
	Available *	~190
Location	*e5d7f6f6-204f-4a55-b4e2-ce90db75c534*	2500-3900
Location /material	*e5d7f6f6-204f-4a55-b4e2-ce90db75c534 0f89c322-5e94-44b3-a54c-aecfa767babc*	~2600
Tag	*data*	3200-4700
Status/tag	In process*life*	~370
	In process *life*	~200
Status /location	In process e5d7f6f6-204f-4a55-b4e2-ce90db75c534*	35-60
	Available e5d7f6f6-204f-4a55-b4e2-ce90db75c534*	50-70
Status /location/tag	In process 5393b92a-5c67-4659-9d7a-41e685b385d6 *life*	~30
	Withdrawn 14ab6fa9-523e-40a2-a06a-5304a97393a3*hula-hu	~80
Status /material/tag	In process *81b08cf9-f103-42e2-873f-8383f355452d *life*	~185
	Available *81b08cf9-f103-42e2-873f-8383f355452d *life*	~200
Material/tag	*81b08cf9-f103-42e2-873f-8383f355452d*data*	2500-2800

Location/tag	*e5d7f6f6-204f-4a55-b4e2-ce90db75c534*text	1300-1400
Full query	Withdrawn 14ab6fa9-523e-40a2-a06a-5304a97393a3 0f89c322-5e94-44b3-a54c-aecfa767babc false sample item	10-20