

ELASTICSEARCH TIPS AND TRICKS

psadmin.io

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Agenda

Demonstrate tips to:

- Simplify Elasticsearch management
- Monitor Elasticsearch
- Debug Elasticsearch issues
- Understand Elasticsearch security

Not a walk-through on setting up ES

ACM

- Automated Configuration Management
- Database Configuration
- Leverages SQL and PeopleCode
- Search Framework Plugins
- Configure and Deploy Search Indexes

ACM Demo

1. Configure ES Cluster
2. Clear previous ES Deployment Data
3. Redeploy ALL indexes

Elasticsearch Management

- Elasticsearch is API-based
- "Interact" link in Search Framework
- Cerebro and ElasticHQ offer GUI management (open source)

Cerebro Demo

1. Show shard allocation
2. View replica status
3. Update index settings
4. Yellow/Green/Red status

Replicas

- Copies of Elasticsearch data
- Required for High Availability in a cluster
- 2x storage for 1 replica
- Configured globally and per-index

Replicas Demo

1. Use Cerebro to set replicas
2. Set replicas per-index
3. Set replicas globally

Shard Movement

- Shards are like database partitions
- Elasticsearch manages the placement of shards in a cluster
- Replica shards are used for failover/HA

Shard Movement Demo

1. Watch Elasticsearch balance shards during an HA event

Capture Search Requests

- No delivered HTTP log of search
 - Paid feature to log HTTP requests with X-Pack
 - X-Pack not supported with PS Elasticsearch
- Capture a single user's requests
- Use a proxy (like `mitmproxy`) to capture requests
- Capture "slow" searches
 - Configured per-index

Capture Search Requests Demo

1. Track Searches for a single user
2. Start `mitmproxy` to view requests
3. Introduce the Kibana Dev Console

Understanding Callback Security

- Elasticsearch query finds all rows
- Need to filter data based on PeopleSoft security
- PeopleSoft provides a filter attribute
- Elasticsearch calls back to PS for filter attribute
- Each document in Elasticsearch has filter values
- Elasticsearch filters documents before returning results

Filter Values

- `ptportalregistry`

```
"PORTAL_SECTYPE_ORCL_ES_ACL" : [  
  "1:PTDMO",  
  "P:PTPT1200",  
  "S:Admin"  
]
```

Callback URL

- IB RESTListener URL/getsecurityvalues.v1
 - ?type=Search Definition
 - ?user=User ID
 - ?attribute=Filter Attribute

Callback Security Demo

1. View documents in Elasticsearch
2. Test Callback Response

Cached Security

- Callback process is expensive
- Cache user security in Elasticsearch
- Default is 120 minutes
- Configurable in Search Options

Cached Security Demo

1. Query the `orcl_es_acl` index

Full Build Tuning

- Connected Query SQL tuning
- Use Direct Transfer
- Elasticsearch Replicas
- Elasticsearch Refresh Interval

Full Build Tuning Demo

1. Verify Direct Transfer is enabled
2. Change Refresh Interval setting
3. Reduce Replicas

Limiting Search Data

- Control non-production datasets
- Not all indexes need all data
- Only affects the initial full build

Limiting Search Data Demo

1. Adjust "Last X Days" for a Search Definition

Community

- Slack
- Wiki
- GitHub

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