# Detailed Notes: Overview of Kibana

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## What is Kibana?

Definition: Kibana is an open-source user interface **designed to visualize and analyze data stored in Elasticsearch**.

### Key Features:

* **Browser-based Interface**: Accessible via a web browser and includes a built-in web server for easy setup.
* **Integration with Elasticsearch**: Communicates with Elasticsearch clusters to retrieve data and stores its metadata and configurations in Elasticsearch indices.
* **Convenience of Storage**: No separate database management for Kibana’s data so no need for back-ups. In case of server loss, all data remains safe within the Elasticsearch cluster and can be restored easily.

## What Can You Do with Kibana?

### Visualizations:

**Kibana supports a wide variety of visualizations**: Pie charts, Bar charts, Maps, Heat maps, Gauges, Tag clouds.  


* These visualizations leverage Elasticsearch aggregations to display data insights.

### Dashboards:

* Purpose: Combine multiple visualizations to create comprehensive overviews.
* Examples: Monitor hardware utilization of servers, Display application metrics like response times or error rates.
* Interactive Dashboards: Dynamically filter and slice data in real-time. Dashboards can be customized for specific user roles.

### Role-Based Access:

* Create separate spaces for departments or teams (e.g., Sales and System Administration).
* Define roles and permissions to restrict access: Sales managers might only see sales data, System administrators might only view server monitoring data.

## Sharing Data with Kibana

### Export Options:

* Dashboards: Download as PDF for distribution to colleagues, managers, or clients.
* Visualizations: Export as PNG images for use in presentations or reports.

### Link Sharing:

Share direct links to dashboards or embed dashboards in external web pages.

## Alerting in Kibana

We can set up alerting within Kibana.

### What is Alerting?

A mechanism to notify users when certain conditions are met in the data stored in Elasticsearch.

### Example Alerts:

* A sudden spike in internal server errors.
* CPU usage on a server exceeding 85%.

### Configuration of Alerts:

* Define the alert conditions and frequency of checks and frequency of notification.
* Specify notification methods such as Email, Slack, or Webhooks.

## Summary

* Kibana is a powerful tool for visualizing, analyzing, and interacting with data stored in Elasticsearch.
* Key functionalities include:
* Building visualizations and dashboards.
* Customizing user access based on roles and spaces.
* Exporting and sharing data across various formats.
* Setting alerts to monitor and notify users of critical events.
* Kibana enhances data accessibility, collaboration, and decision-making across teams.