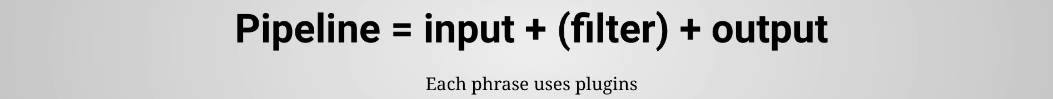
1. A picture containing screenshot, graphics, text, graphic design

   Description automatically generated
2. 
3. **Logstash**:
4. **Logstash** is open source **even processing engine**.
5. The way **Logstash** works is that we can configure a **pipeline** responsible to receiving, processing, and shipping events.
6. We can send data to logstash from many different sources.  
   And **Logstash** can send processed events to many different destinations as well.
7. But Logstash can do much more than just receiving data and sending it to one or more destinations.  
   It contains a lot of functionality that let us manipulate data, whether that involves **cleaning or enriching data**.
8. An example would be to have a Logstash pipeline receive to **Access Logs** from a **Web Server**.  
   We can then extract useful information from each request (which is an unstructured line of text like string).  
   We can filter out the data we don’t need.  
   We can enrich request with the geographical enriching of visitors, for instance.
9. There are so many we can do because Logstash is very **flexible in configuration** and also enables us to write **conditional statements** within the **pipeline configurations**.
10. **Logstash Pipeline** is **essentially an orchestration of plugins.**
11. A plugin can be about three things:
    1. Receiving Data.
    2. Processing Data, or
    3. Shipping Data to a destination.
12. Logstash ships a hundred of plugins. Chances are that you will find that you need.
13. Apart from the built-in plugins, you can install plugins from Community, or we can write our own ones.
14. A pipeline is more than just plugin.  
    So, the earlier definition of pipeline is just simplified explanation.
15. A pipeline consists of 3 phases.
    1. **Input**: It is about **receiving** **events** from various sources.
    2. **Filter:** This is where we can **manipulate** **events** in one way or another.
    3. **Output**: **Ships the results** (**processed event**) to one or more destinations.
16. Each of these phases can make use of one or more plugins for receiving, manipulating, or shipping events respectively.
17. Input and output phases may make use of so-called **codecs** to change the representation of the events.  
    An example could be to pass incoming data as JSON.
18. **Stashes**: The destinations where processed events are sent are referred to as **Stashes**.
    1. The tool originated as one specific to handling log files, hence why was named **Logstash**.
19. Today, Logstash Is not limited to handling log files.  
    Although it remains a common use case.
20. Any type of events can be processed by Logstash.
21. Whether we need to deal with JSON Objects, XML files or CSV, or whether data comes from a file, or over HTTP.
22. Although Logstash is by no means limited to sending data to a specific stash, there is a strong synergy with both Elasticsearch and Kibana.  
    This is natural because these three tools (**E**lasticsearch, **L**ogstash, **K**ibana 🡺 ELK) are very frequently used together.
23. Logstash is very scalable (Horizontally) due to its architecture ( We will talk about it later).
24. Why do we want to use Logstash in the first place?  
    Why not just send events directly to some destination such as Elasticsearch, Slack, or just send an email from web app for instance.
25. **Because by sending** events to Logstash, we decouple things.  
    We effectively move event processing out of the Web Application and into **Logstash**.  
    Meaning if we need to change how the events are processed, we don’t need to deploy a new version of the app.
26. The event processing and its configuration is centralized within Logstash, instead of every place we trigger events.  
    This means that all the web app needs to do is to send the events to the Logstash.  
    The app doesn’t need to know anything about what happens to the events afterwards, and where it ends up.  
    This may seem a small thing but it improves our architecture and lets Logstash do what it does best, process events.
27. All right that is the brief introduction to the Logstash.  
    Don’t worry if you didn’t catch onto everything because we will revisit all of these concepts as we move along and we will see practical examples as well.  
    With that, it is time to get Logstash set up so that we’re ready to start processing some events.