**Kubernete**

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| **Kubernete**: open source container orchestration tool   * Developed by Google * Helps you manager containerized applications in different deployment environments. |
| **Need for container orchestration tool**   * Trend from monolith to microservices * Increase usage of containers |
| **What Features do orchestration tool offer?**  - High availability or no downtime  - scalability or high performance  load fast and user have high performance  - Disaster recovery - backup and restore  pick up the data and use latest data after the recovery |
| **Kubernetes Components:**  **Node and Pod:**  Term Node: which is simple server or physical machine  POD: smallest unit of K8s, abstraction over container |
| **Pod**  can have only one container but we can add multiple.  Reason behind this, container are tightly coupled and if any one is bad then other container also down |
| **If pod failed then never live again.** If any reason.  Instead of that new pod will be created  In this case **Control manager** will create new pod and create same count of container. |
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**kubernet:**

**Master:**

1. API server
2. Controller manager(actual=desire)
3. etcd cluster
4. kube schedular

**Worker:**

1. Kube proxy
2. Kubelet
3. container engine
4. pod

