# Containerization & Docker:

## Basics:

Read this post : <https://arun-ts.blogspot.com/2019/01/containers-and-docker.html>

In technical words..Containerization is an approach to software development in which an application or service, its dependencies, and its configuration (abstracted as deployment manifest files) are packaged together as a **Container Image.**  
  
The **Containerized Application**

* Can be Deployed and Unit Tested as a **Container Image Instance** to the host operating system (OS).
* Then Host/Run on top of a Docker/Container Host (Docker Engine) that in turn runs on the OS (Linux or Windows).

Here is the example to containerize Node.js application and Host on Docker.

Ref: <https://github.com/nodejs/docker-node/blob/master/README.md#how-to-use-this-image>

Video Tutorial - <https://www.youtube.com/watch?v=wCTTHhehJbU>

# Kubernetes

## Basics

<https://www.youtube.com/watch?v=R-3dfURb2hA>

<https://www.youtube.com/watch?v=rmf04ylI2K0>

<https://www.youtube.com/watch?v=QJ4fODH6DXI&list=PLWSJgJmES26kpzXhEyDSABhCruhSaf8QW&index=3&t=0s>

What is Kubernetes:

* It’s a platform to maintain deploying containers into PROD
* It’s a **Container Orchestrator**
* It scales, monitor for failure and replace with new, it can schedule more containers depending on load, schedule etc.

Multiple Container Orchestration Available in Market:

* Docker Swarm – Docker – Easy to setup , but lacks auto scaling feature to required extent
* Kubernetes – Google - This is best among. Supported on all clouds (AWS, Google, Azure)
* Mesos – Apache - Tough to setup

