



# kubernetes

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*Kubernetes: Affinity - Demo*

## *KUBERNETES : Advance of Kuebernetes*

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- To apply the nodeSelector on Pods, First user needs to label the intended Pod.
- Get Node Labels:  
`kubectl get nodes --show-labels`
- Label Node :  
`kubectl label nodes <Host_Name> <Key> = <Value>`
- Show Node Levels:  
`kubectl describe node <Host_Name>`

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- Nodes also have some default Labels:
  - kubernetes.io/hostname
  - failure-domain.beta.kubernetes.io/zone
  - failure-domain.beta.kubernetes.io/region
  - beta.kubernetes.io/instance-type
  - beta.kubernetes.io/os
  - beta.kubernetes.io/arch
- Deploy the Pod with custom Node Label.

### **Node Affinity:**

- Node affinity allows scheduling Pods to specific nodes.
- Spreading Pods across different availability zones to improve resilience and availability of applications in the cluster.
- Affinity has two type 'hard' & 'soft'.
- With “hard” affinity, users can set a precise rule that should be met in order for a Pod to be scheduled on a node.
- With “soft” affinity, users can set a rules but Pods can be scheduled if rules not matching completely.

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- To apply the hard affinity, you need to use **requiredDuringSchedulingIgnoredDuringExecution** field on the Pod Specification.
- Soft affinity defined by **preferredDuringSchedulingIgnoredDuringExecution** field in the Pod specification.
- **IgnoredDuringExecution** part in both names means that if labels on a node will be changed after the Pod matching these labels is scheduled, it will still continue to run on that node.

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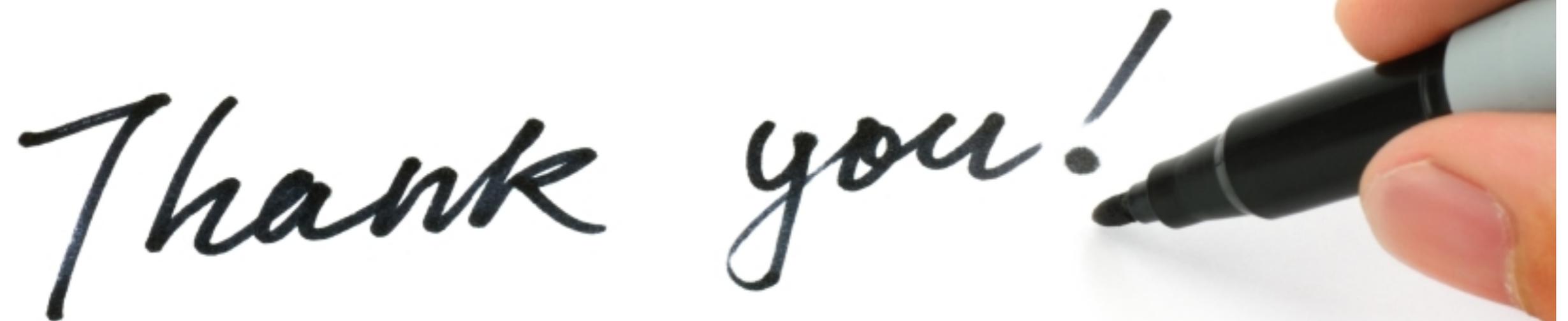
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- Create Pods and demonstrate.
- Soft affinity rule includes the weight field that takes values in the range from **1 to 100**. This value is used to calculate the priority of nodes to take Pods for scheduling.

*Will see you in Next Lecture...*

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*Thank you!*

A close-up photograph of a hand holding a black marker, writing the words 'Thank you!' in a cursive script on a white surface. The hand is positioned on the right side of the frame, with the marker tip touching the paper. The background is plain white.

*See you in next lecture ...*