Model::Main

CompletedConfig
-completedConfig

completeConfig
+Config

Config
+ComponentConfig
+LoopbackClientConfig
+InsecureServing
+SecureServing
+Authentication
+Authorization
+Client
+InformerFactory
+PodInformer
+Complete()

KubeSchedulerConfiguration
-SchedulerName: string
+AlgorithmSource
+HardPodAffinitySymmetricWeight: int32
+ClientConnection
+DisablePreemption: bool
+PercentageOfNodesToScore: int32
+BindTimeoutSeconds: int64
+Plugin: Plugins
+PluginConfig: array

ConfigFactoryArgs
+SchedulerName: string
+Client
+NodeInformer
+PodInformer
+PvInformer
+PvcInformer
+ReplicationControllerInformer
+ReplicaSetInformer
+StatefulSetInformer
+ServiceInformer
+PdbInformer
+StorageClassInformer
+HardPodAffinitySymmetricWeight: int32
+DisablePreemption: bool
+PercentageOfNodesToScore: int32
+BindTimeoutSeconds: int64
+StopCh: <-chan struct()
+Registry
+Plugins
+PluginConfig

Configurator

configFactory
-client
-scheduledPodLister
-podLister
-nodeLister
-pVLister
-pVCLister
-serviceLister
-controllerLister
-replicaSetLister
-statefulSetLister
-pdbLister
-storageClassLister
-framework
+StopEverything: <-chan struct()
-scheduledPodHasSynced
-schedulerCache
-schedulerName: string
-hardPodAffinitySymmetricWeight: int32
-volumeBinder
-alwaysCheckAllPredicates: bool
-disablePreemption: bool
-percentageOfNodesToScore: int32
-bindTimeoutSeconds: int64
-podQueue
-enableNonPreempting: bool
+GetSchedulerName()
+GetPriorityFunctionConfigs()
+GetPriorityMetadataProducer()
-getPluginArgs()

Plugins
+QueueSort
+PreFilter
+Filter
+PostFilter
+Score
+NormalizeScore
+Reserve
+Permit
+PreBind
+Bind
+PostBind
+Unreserve

PluginSet
+Enabled: array
+Disabled: array

Plugin
+Name
+Weight

Options
+ComponentConfig
+ConfigFile: string
+Master: string

PluginConfig
+Name: string
+Args

SchedulerAlgorithmSource
+Policy: string
+Provide: string

SchedulerPolicySource
+File
+ConfigMap

SchedulerPolicyConfigMapSource
+Namespace: string
+Name: string

SchedulerPolicyFileSource
+Path: string

Scheduler
+config
+Run()
+Config()
-scheduleOne()
-scheduler()
-preempt()
-onPvAdd()
-onPvUpdate()
-onPvcAdd()
-onPvcUpdate()
-onStorageClassAdd()
-onServiceAdd()
-onServiceUpdate()
-onServiceDelete()
+Cache()
-addNodeToCache()
-updateNodeInCache()
-deleteNodeFromCache()
-addPodToSchedulingQueue()
-updatePodInSchedulingQueue()
-deletePodFromSchedulingQueue()
-addPodToCache()
-updatePodInCache()
-deletePodFromCache()
-assumeVolumes()
-assume()
-bindVolumes()
-bind()

HttpExtender
-extenderURL: string
-preemptVerb: string
-filterVerb: string
-prioritizeVerb: string
-bindVerb: string
-weight: int
-client: *http.Client
-nodeCacheCapable: bool
-managedResource: sets.String
-ignorable: bool
-convertToNodeToVictims()
-convertPodUIDToPod()
-hasManagedResources()
-send()

SchedulerExtender

genericScheduler
-cache
-schedulingQueue
-predicates: map
-priorityMetaProducer
-predicateMetaProducer
-prioritizers: array
-framework: framework.Framework
-extenders: array
-lastNodeIndex: uint64
-alwaysCheckAllPredicates: bool
-nodeInfoSnapshot
-volumeBinder
-pvcLister
-pdbLister
-disablePreemption: bool
-percentageOfNodesToScore: int32
-enableNonPreempting: bool
-findNodesThatFit()
-numFeasibleNodesToFind()
-getLowerPriorityNominatedPods()
-processPreemptionWithExtenders()
-selectHost()
-snapshot()

ScheduleAlgorithm

PriorityConfig
+Name: string
+Map: PriorityMapFunction
+Reduce: PriorityReduceFunction
+Function: PriorityFunction
+Weight: int

PriorityFunctionFactory2

PriorityMapFunction

PriorityReduceFunction

PriorityFunction

PriorityConfigFactory
+Function
+MapReduceFunction
+Weight: int

PriorityFunctionFactory

FitPredicate

FitPredicateFactory

PriorityMetadataProducer

PriorityMetadataProducerFactory

PredicateMetadataProducer

PredicateMetadataProducerFactory

HostPriority
+Host: string
+Score: int

PluginFactoryArgs
+PodLister
+ServiceLister
+ControllerLister
+ReplicaSetLister
+StatefulSetLister
+NodeLister
+PDBLister
+NodeInfo
+PVInfo
+PVCInfo
+StorageClassInfo
+VolumeBinder
+HardPodAffinitySymmetricWeight: int32

PodLister

ServiceLister

ControllerLister

ReplicaSetLister

StatefulSetLister

PDBLister

NodeLister

StorageClassInfo

PersistentVolumeClaimInfo

PersistentVolumeInfo

NodeInfo

EmptyControllerLister

EmptyReplicaSetLister

EmptyStatefulSetLister

nodeLister
+NodeLister

CachedStorageClassInfo
+PersistentVolumeClaimLister

CachedPersistentVolumeClaimInfo
+PersistentVolumeClaimLister

CachedPersistentVolumeInfo
+PersistentVolumeLister

CachedNodeInfo
+NodeLister

Config
+SchedulerCache
+NodeLister
+Algorithm
+PodPreemptor
+Framework
+GetBinder
+NextPod
+WaitForCacheSync
+VolumeBinder
+SchedulingQueue
+DisablePreemption

PodPreemptor

podPreemptor
+Client

Cache

Framework

SchedulingQueue

VolumeBinder
+Binder
+DeletePodBindings()

NodeInfo
-node: *v1.Node
-pods
-usedPorts: HostPortInfo
-requestedResource: *Resource
-nonzeroRequest: *Resource
-allocatableResource: *Resource
-imageStates: map
+TransientInfo: *TransientSchedulerInfo
-memoryPressureCondition: string
-diskPressureCondition: string
-pidPressureCondition: string
-generation: int
+Node()
+SetNode()
+RemoveNode()
+Pods()
+SetPods()
+AddPod()
+RemovePod()
+UsedPorts()
+SetUsedPorts()
+UpdateUsedPorts()
+ImageStates()
+SetImageStates()
+Taints()
+SetTaints()
+PodsWithAffinity()
+AllowedPodNumber()
+MemoryPressureCondition()
+DiskPressureCondition()
+PIDPressureCondition()
+RequestedResource()
+SetRequestedResource()
+NonZeroRequest()
+SetNonZeroRequest()
+AllocatableResource()
+SetAllocatableResource()
+GetGeneration()
+SetGeneration()
+Clone()
+VolumeLimits()
+String()
+Filter()
+FilterOutPods()

NodeInfoSnapshot
+NodeInfoMap: map
+Generation: int64

PluginContext
-mu: sync.RWMutex
-storage: map

Snapshot
+AssumedPods: map
+Nodes: map

Registry
+Register()
+Unregister()

FrameworkHandle

framework
-registry: Registry
-nodeInfoSnapshot
-waitingPods
-plugins: map
-queueSortPlugins
-reservePlugins
-prebindPlugins
-postbindPlugins
-unreservePlugins
-permitPlugins

PriorityQueue
-podBackoff: *PodBackoffMap
-activeQ: *util.Heap
-podBackoffQ: *util.Heap
-unschedulableQ: *UnschedulablePodsMap
-nominatedPods: *nominatedPodMap
-schedulingCycle: int64
-moveRequestCycle: int64
-closed: bool
-stop: <-chan struct()
-clock: util.Clock
-lock: sync.RWMutex
-cond: sync.Cond
-run()
-cleadPodBackoff()
-isPodBackingOff()
-backoffPod()
-flushBackoffQCompleted()
-flushUnschedulableQLeftover()
-movePodsToActiveQueue()
-getUnschedulablePodsWithMatchingAffinityTerm()
-podsCompareBackoffCompleted()
-newPodInfo()

SchedulerVolumeBinder

volumeBinder
-kubeClient: clientset.Interface
-classLister
-nodeInformer
-pvcCache
-pvCache
-podBindingCache
-bindTimeout: time.Duration
-bindAPIUpdate()
-checkBindings()
-isVolumeBound()
-isPVCBound()
-isPVCFullyBound()
-arePodVolumesBound()
-getPodVolumes()
-checkBoundClaims()
-findMatchingVolumes()
-checkVolumeProvisions()
-revertAssumedPVs()
-revertAssumedPVCs()

HostPortInfo
+CheckConflict()
+Add()
+Remove()
+Len()
-sanitize()

ProtocolPort
+Protocol: string
+Port: int32

Resource
+MilliCPU: int64
+Memory: int64
+EphemeralStorage: int64
+AllowedPodNumber: int
+ScalarResources: map
+Add()
+ResourceList()
+Clone()
+AddScalar()
+SetScalar()
+SetMaxResource()

nodeInfoListItem
-info: *NodeInfo
-next: *nodeInfoListItem
-prev: *nodeInfoListItem

schedulerCache
-assumedPods: map
-podStates: map
-nodes: map
-headNode: *nodeInfoListItem
-nodeTree: *NodeTree
-imageStates: map
-ttl: time.Duration
-period: time.Duration
-mu: sync.RWMutex
-stop: <-chan struct()
-run()
-expirePod()
-createImageStateSummary()
-addNodeImageState()
-moveNodeInfoToHead()
-removeNodeInfoFromList()
-finishBinding()
-addPod()
-updatePod()
-removePod()
-cleanupExpiredAssumedPod()
-cleanupAssumedPod()

waitingPodsMap
-pods: map
+mu: sync.RWMutex
-add()
-remove()
-get()
-iterate()

WaitingPod

waitingPod
-pod: *v1.Pod
-s: chan *Status

Status
-code: Code
-message: string
+Code()
+Message()
+IsSuccess()
+AsError()

UnschedulablePodsMap
-podInfoMap: map
-keyFunc
-addOrUpdate()
-delete()
-get()
-clear()

PodInfo
+Pod: *v1.Pod
+Timestamp: time.Time

nominatedPodMap
-nominatedPods: map
-nominatedPodToNode: map
-add()
-delete()
-update()
-podsForNode()

TransientSchedulerInfo
+TransientLock: sync.Mutex
+TransientInfo: nodeTransientInfo
+ResetTransientSchedulerInfo()

ImageStateSummary
+Size: int64
+NumNodes: int

nodeTransientInfo
+AllocatableVolumesCount: int
+RequestVolumes: int

podState
-pod: *v1.Pod
-deadline: *time.Time
-bindingFinished: bool

NodeTree
-tree: map
-zones
-zoneIndex: int
-numNodes: int
-mu: sync.RWMutex
+AddNode()
+RemoveNode()
+UpdateNode()
+Next()
+NumNodes()
-addNode()
-removeNode()
-removeZone()
-resetExhausted()

imageState
-size: int64
-nodes: sets.String

Plugin

PermitPlugin

ReservePlugin

UnreservePlugin

QueueSortPlugin

PrebindPlugin

PostbindPlugin

PodBackoffMap
-initialDuration: time.Duration
-maxDuration: time.Duration
-podAttempts: map
-podLastUpdateTime: map
-lock: sync.RWMutex
+GetBackoffTime()
+ClearPodBackoff()
+CleanupPodsCompletesBackingoff()
+BackoffPods()
-calculateBackoffDuration()
-clearPodBackoff()

nodeArray
-nodes
-lastIndex: int
-next()