

Tungsten Fabric Operator User APIs

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Purpose

This document provides an aggregated overview of the user exposed APIs of the Tungsten Fabric Operator. The code can be viewed at:

<https://github.com/Juniper/contrail-operator/blob/master/pkg/apis/contrail/v1alpha1/>

Custom Controllers

The Spec of each Custom Controller has a CommonConfiguration and a Service specific configuration field. CommonConfiguration defines scale, host network, tolerations, node selector and image pull secrets. The CommonConfiguration can be set centrally in the Manager and used by all other services. However, each service can individually override the CommonConfiguration.

Manager

The Manager Custom Controller is the main interface to users. All subsequent Custom Controllers can be managed via the Manager Custom Controller.

```
type ManagerSpec struct {
    CommonConfiguration ManagerConfiguration `json:"commonConfiguration,omitEmpty"`
    Services              Services              `json:"services,omitEmpty"`
    KeystoneSecretName   string               `json:"keystoneSecretName,omitEmpty"`
}
```

CommonConfiguration

These configurations are used subsequently by all services IF not overridden by the service.

```
type ManagerConfiguration struct {
    NodeSelector map[string]string `json:"nodeSelector,omitEmpty"`
    protobuf: "bytes,7,rep,name=nodeSelector"
    HostNetwork *bool `json:"hostNetwork,omitEmpty"`
    protobuf: "varint,11,opt,name=hostNetwork"
    ImagePullSecrets []string `json:"imagePullSecrets,omitEmpty"`
    Tolerations []corev1.Toleration `json:"tolerations,omitEmpty"`
    protobuf: "bytes,22,opt,name=tolerations"
}
```

Services

Services define the individual services with their service specific configurations.

```
type Services struct {
    Config *Config `json:"config,omitEmpty"`
    Controls []*Control `json:"controls,omitEmpty"`
    Kubemanagers []*Kubemanager `json:"kubemanagers,omitEmpty"`
    Webui *Webui `json:"webui,omitEmpty"`
    Vrouters []*Vrouter `json:"vrouters,omitEmpty"`
    Cassandras []*Cassandra `json:"cassandras,omitEmpty"`
    Zookeepers []*Zookeeper `json:"zookeepers,omitEmpty"`
    Rabbitmq *Rabbitmq `json:"rabbitmq,omitEmpty"`
    ProvisionManager *ProvisionManager `json:"provisionManager,omitEmpty"`
    Command *Command `json:"command,omitEmpty"`
    Postgres *Postgres `json:"postgres,omitEmpty"`
}
```

```

Keystone      *Keystone      `json:"keystone,omitempty"`
Swift         *Swift          `json:"swift,omitempty"`
Memcached     *Memcached      `json:"memcached,omitempty"`
Contrailmonitor *Contrailmonitor `json:"contrailmonitor,omitempty"`
ContrailCNIs  []*ContrailCNI  `json:"contrailCNIs,omitempty"`
}

```

KeystoneSecretName

The name for the keystone secret

Config

Config defines the expected state of the Config service

```

type ConfigSpec struct {
    CommonConfiguration PodConfiguration `json:"commonConfiguration,omitempty"`
    ServiceConfiguration ConfigConfiguration `json:"serviceConfiguration"`
}

```

CommonConfiguration

```

type PodConfiguration struct {
    // NodeSelector is a selector which must be true for the pod to fit on a node.
    // Selector which must match a node's labels for the pod to be scheduled on that
    node.
    // More info:
https://kubernetes.io/docs/concepts/configuration/assign-pod-node/.
    // +optional
    NodeSelector map[string]string `json:"nodeSelector,omitempty"
    protobuf:"bytes,7,rep,name=nodeSelector"`
    // Host networking requested for this pod. Use the host's network namespace.
    // If this option is set, the ports that will be used must be specified.
    // Default to false.
    // +k8s:conversion-gen=false
    // +optional
    HostNetwork *bool `json:"hostNetwork,omitempty"
    protobuf:"varint,11,opt,name=hostNetwork"`
    // ImagePullSecrets is an optional list of references to secrets in the same
    namespace to use for pulling any of the images used by this PodSpec.
    ImagePullSecrets []string `json:"imagePullSecrets,omitempty"`
    // If specified, the pod's tolerations.
    // +optional
    Tolerations []corev1.Toleration `json:"tolerations,omitempty"
    protobuf:"bytes,22,opt,name=tolerations"`
    // Number of desired pods. This is a pointer to distinguish between explicit
    // zero and not specified. Defaults to 1.
    // +optional

```

```

    Replicas *int32 `json:"replicas,omitempty"
protobuf:"varint,1,opt,name=replicas"
}

```

ServiceConfiguration

Exposes the configuration of the Config service to the user. All settings are **optional**, in case they are not specified, defaults will be used or the setting is retrieved from run time state of other services/

```

type ConfigConfiguration struct {
    Containers []*Container `json:"containers,omitempty"`
    APIPort *int `json:"apiPort,omitempty"`
    AnalyticsPort *int `json:"analyticsPort,omitempty"`
    CollectorPort *int `json:"collectorPort,omitempty"`
    RedisPort *int `json:"redisPort,omitempty"`
    ApiIntrospectPort *int `json:"apiIntrospectPort,omitempty"`
    SchemaIntrospectPort *int `json:"schemaIntrospectPort,omitempty"`
    DeviceManagerIntrospectPort *int `json:"deviceManagerIntrospectPort,omitempty"`
    SvcMonitorIntrospectPort *int `json:"svcMonitorIntrospectPort,omitempty"`
    AnalyticsApiIntrospectPort *int `json:"analyticsMonitorIntrospectPort,omitempty"`
    CollectorIntrospectPort *int `json:"collectorMonitorIntrospectPort,omitempty"`
    CassandraInstance string `json:"cassandraInstance,omitempty"`
    ZookeeperInstance string `json:"zookeeperInstance,omitempty"`
    NodeManager *bool `json:"nodeManager,omitempty"`
    RabbitmqUser string `json:"rabbitmqUser,omitempty"`
    RabbitmqPassword string `json:"rabbitmqPassword,omitempty"`
    RabbitmqVhost string `json:"rabbitmqVhost,omitempty"`
    LogLevel string `json:"logLevel,omitempty"`
    KeystoneSecretName string `json:"keystoneSecretName,omitempty"`
    KeystoneInstance string `json:"keystoneInstance,omitempty"`
    AuthMode AuthenticationMode `json:"authMode,omitempty"`
    AAAMode AAAMode `json:"aaaMode,omitempty"`
    Storage Storage `json:"storage,omitempty"`
    FabricMgmtIP string `json:"fabricMgmtIP,omitempty"`
}

```

```

    // Time (in hours) that the analytics object and log data stays in the Cassandra
    database. Defaults to 48 hours.
    AnalyticsDataTTL *int `json:"analyticsDataTTL,omitempty"`
    // Time (in hours) the analytics config data entering the collector stays in the
    Cassandra database. Defaults to 2160 hours.
    AnalyticsConfigAuditTTL *int `json:"analyticsConfigAuditTTL,omitempty"`
    // Time to live (TTL) for statistics data in hours. Defaults to 4 hours.
    AnalyticsStatisticsTTL *int `json:"analyticsStatisticsTTL,omitempty"`
    // Time to live (TTL) for flow data in hours. Defaults to 2 hours.
    AnalyticsFlowTTL *int `json:"analyticsFlowTTL,omitempty"`
}

```

Controls

```

type ControlConfiguration struct {
    Containers      []*Container `json:"containers,omitempty"`
    CassandraInstance string      `json:"cassandraInstance,omitempty"`
    BGPPort         *int       `json:"bgpPort,omitempty"`
    ASNNumber       *int       `json:"asnNumber,omitempty"`
    XMPPPort        *int       `json:"xmppPort,omitempty"`
    DNSPort         *int       `json:"dnsPort,omitempty"`
    DNSIntrospectPort *int      `json:"dnsIntrospectPort,omitempty"`
    NodeManager     *bool      `json:"nodeManager,omitempty"`
    RabbitmqUser    string     `json:"rabbitmqUser,omitempty"`
    RabbitmqPassword string    `json:"rabbitmqPassword,omitempty"`
    RabbitmqVhost   string     `json:"rabbitmqVhost,omitempty"`
    // DataSubnet allow to set alternative network in which control, nodemanager
    // and dns services will listen. Local pod address from this subnet will be
    // discovered and used both in configuration for hostip directive and provision
    // script.
    //
+kubebuilder:validation:Pattern=`^( (25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?) (\/(3[0-2]|2[0-9]|1[0-9]|[0-9]))$`
    DataSubnet string `json:"dataSubnet,omitempty"`
}

```

Kubemanagers

```

type KubemanagerConfiguration struct {
    Containers      []*Container `json:"containers,omitempty"`
    CassandraInstance string      `json:"cassandraInstance,omitempty"`
    ZookeeperInstance string    `json:"zookeeperInstance,omitempty"`
    UseKubeadmConfig *bool     `json:"useKubeadmConfig,omitempty"`
    ServiceAccount  string    `json:"serviceAccount,omitempty"`
    ClusterRole     string    `json:"clusterRole,omitempty"`
    ClusterRoleBinding string    `json:"clusterRoleBinding,omitempty"`
}

```

```

CloudOrchestrator    string    `json:"cloudOrchestrator,omitempty"`
KubernetesAPIServer  string    `json:"kubernetesAPIServer,omitempty"`
KubernetesAPIPort    *int     `json:"kubernetesAPIPort,omitempty"`
KubernetesAPISSLPort *int     `json:"kubernetesAPISSLPort,omitempty"`
PodSubnets          string    `json:"podSubnets,omitempty"`
ServiceSubnets      string    `json:"serviceSubnets,omitempty"`
KubernetesClusterName string    `json:"kubernetesClusterName,omitempty"`
IPFabricSubnets     string    `json:"ipFabricSubnets,omitempty"`
IPFabricForwarding   *bool    `json:"ipFabricForwarding,omitempty"`
IPFabricSnat         *bool    `json:"ipFabricSnat,omitempty"`
KubernetesTokenFile  string    `json:"kubernetesTokenFile,omitempty"`
HostNetworkService   *bool    `json:"hostNetworkService,omitempty"`
RabbitmqUser         string    `json:"rabbitmqUser,omitempty"`
RabbitmqPassword     string    `json:"rabbitmqPassword,omitempty"`
RabbitmqVhost        string    `json:"rabbitmqVhost,omitempty"`
}

```

Vrouters

```

type VrouterConfiguration struct {
    Containers          []*Container    `json:"containers,omitempty"`
    ControlInstance     string          `json:"controlInstance,omitempty"`
    CassandraInstance   string          `json:"cassandraInstance,omitempty"`
    Gateway             string          `json:"gateway,omitempty"`
    PhysicalInterface   string          `json:"physicalInterface,omitempty"`
    MetaDataSecret      string          `json:"metaDataSecret,omitempty"`
    NodeManager         *bool          `json:"nodeManager,omitempty"`
    Distribution         *Distribution   `json:"distribution,omitempty"`
    ServiceAccount      string          `json:"serviceAccount,omitempty"`
    ClusterRole         string          `json:"clusterRole,omitempty"`
    ClusterRoleBinding string          `json:"clusterRoleBinding,omitempty"`
    VrouterEncryption   bool           `json:"vrouterEncryption,omitempty"`
    ContrailStatusImage string          `json:"contrailStatusImage,omitempty"`
    StaticConfiguration *VrouterStaticConfiguration
    `json:"staticConfiguration,omitempty"`
}

```

Webui

```
type WebuiConfiguration struct {
    Containers          []*Container `json:"containers,omitempty"`
    CassandraInstance  string      `json:"cassandraInstance,omitempty"`
    ServiceAccount     string      `json:"serviceAccount,omitempty"`
    ClusterRole        string      `json:"clusterRole,omitempty"`
    ClusterRoleBinding string      `json:"clusterRoleBinding,omitempty"`
    KeystoneSecretName string      `json:"keystoneSecretName,omitempty"`
    KeystoneInstance   string      `json:"keystoneInstance,omitempty"`
}
```

Cassandras

```
type CassandraConfiguration struct {
    Containers          []*Container `json:"containers,omitempty"`
    ClusterName        string      `json:"clusterName,omitempty"`
    ListenAddress      string      `json:"listenAddress,omitempty"`
    Port               *int       `json:"port,omitempty"`
    CqlPort            *int       `json:"cqlPort,omitempty"`
    SslStoragePort     *int       `json:"sslStoragePort,omitempty"`
    StoragePort        *int       `json:"storagePort,omitempty"`
    JmxLocalPort       *int       `json:"jmxLocalPort,omitempty"`
    MaxHeapSize        string      `json:"maxHeapSize,omitempty"`
    MinHeapSize        string      `json:"minHeapSize,omitempty"`
    StartRPC           *bool      `json:"startRPC,omitempty"`
    Storage            Storage     `json:"storage,omitempty"`
}
```

Zookeepers

```
type ZookeeperConfiguration struct {
    Containers          []*Container `json:"containers,omitempty"`
    ClientPort         *int       `json:"clientPort,omitempty"`
    ElectionPort       *int       `json:"electionPort,omitempty"`
    ServerPort         *int       `json:"serverPort,omitempty"`
    AdminEnableServer *bool      `json:"adminEnabled,omitempty"`
    AdminPort          *int       `json:"adminPort,omitempty"`
    Storage            Storage     `json:"storage,omitempty"`
}
```

Rabbitmq

```
type RabbitmqConfiguration struct {
    Containers          []*Container `json:"containers,omitempty"`
}
```

```
Port      *int      `json:"port,omitempty"`
SSLPort   *int      `json:"sslPort,omitempty"`
ErlangCookie string    `json:"erlangCookie,omitempty"`
Vhost     string    `json:"vhost,omitempty"`
User      string    `json:"user,omitempty"`
Password  string    `json:"password,omitempty"`
Secret    string    `json:"secret,omitempty"`
}
```