run: al

Workload YAML Reference

Version Control

Version #	What's new?	Date updated
1	New version	June 2024

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Workload YAML Reference

Each field has a specific value type. The following value types are supported.

Value types

Value type	Description	Example
Boolean	A binary value that can be either True or False	true
String	A sequence of characters used to represent text. It can include letters, numbers, symbols, and spaces	ubuntu:latest
Itemized	An ordered collection of items (objects), which can be of different types (all items in the list are of the same type).	<pre>pvcs: items: pvc-1: value: claimName: pvc-1 ephemeral: false path: /tmp/pvc-1 readOnly: false readWriteOnce: true size: 1G storageClass: default pvc-2: value: claimName: pvc-2 ephemeral: false path: /tmp/pvc-2 readOnly: false readWriteOnce: true size: 1G storageClass: default</pre>
Integer	An Integer is a whole number without a fractional component.	4
Number	Capable of having non-integer values	5.5 or 0.3 etc
Quantity	Holds a string composed of a number and a unit representing a quantity	10G or 15M etc

Workload YAML reference table

The fields listed in the table are all the fields below the spec (spec.field). Click the link to view full details of each field.

Fields	Description	Supported Run:ai workload types
<u>allowPrivilege</u> Escalation	Allows the container running the workload and all launched processes to gain additional privileges after the workload starts	 ✓ Workspace ✓ Training ✓ Distributed ☐ Inference ✓ Job (legacy)
args	When set, contains the arguments sent along with the command. These override the entry point of the image in the created workload.	 Workspace Training Distributed Inference Job (legacy)
<u>capabilities</u>	The capabilities field allows adding a set of unix capabilities to the container running the workload. Capabilities are Linux distinct privileges traditionally associated with superuser which can be independently enabled and disabled	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>command</u>	A command to serve as the entry point of the container running the workspace	 Workspace Training Distributed Inference Job (legacy)
<u>createHomeDir</u>	Instructs the system to create a temporary home directory for the user within the container. Data stored in this directory is not saved when the container exits. When the runAsUser flag is set to true, this flag defaults to true as well.	 Workspace Training Distributed Inference Job (legacy)
<u>environment</u>	Set of environmentVariables to populate the container running the workspace	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>hostipc</u>	Whether to enable hostIpc. Defaults to false.	 Workspace Training Distributed Inference Job (legacy)
<u>hostNetwork</u>	Whether to enable host network.	 ✓ Workspace ✓ Training ✓ Distributed ☐ Inference ✓ Job (legacy)
<u>image</u>	Specifies the image to use when creating the container running the workload.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>imagePullPolic</u> ¥	Specifies the pull policy of the image when starting a container running the created workload. Options are: always, ifNotPresent, or never.	 Workspace Training Distributed Inference Job (legacy)
<u>runAsUid</u>	Specifies the Unix user id with which the container running the created workload should run. It is used only if runAsUser is set to true.	 Workspace Training Distributed Inference Job (legacy)
<u>runAsGid</u>	Specifies the Unix Group ID with which the container should run. It is used only if runAsUser is set to true.	 Workspace Training Distributed Inference Job (legacy)
<u>supplementalGr</u> oups	Comma separated list of groups that the user running the container belongs to, in addition to the group indicated by runAsGid	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>workingDir</u>	Container's working directory. If not specified, the container runtime default is used, which might be configured in the container image.	 Workspace Training Distributed Inference Job (legacy)
<u>runAsNonRoot</u>	Indicates that the container must run as a non-root user	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>seccompProfile</u> <u>Type</u>	 Indicates which kind of seccomp profile is applied to the container. The options are: RuntimeDefault - the container runtime default profile should be used Unconfined - no profile should be applied 	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>extendedResour</u> <u>ces</u>	Specifies values for extended resources. Extended resources are third-party devices (such as high-performance NICs, FPGAs, or InfiniBand adapters) that you want to allocate to your Job.	 Workspace Training Distributed Inference Job (legacy)
migProfile	Specifies the memory profile to be used for workload running on NVIDIA Multi-Instance GPU (MIG) technology.	 Workspace Training Distributed Inference Job (legacy)
nodeType	Nodes (machines) or a group of nodes on which the workload runs.	 Workspace Training Distributed Inference Job (legacy)
nodePools	A prioritized list of node pools for the scheduler to run the workspace on. The scheduler always tries to use the first node pool before moving to the next one when the first is not available.	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>annotations</u>	Set of annotations to populate into the container running the workspace	 Workspace Training Distributed Inference Job (legacy)
<u>labels</u>	Set of labels to populate into the container running the workspace	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>terminateAfter</u> <u>Preemption</u>	Indicates whether the job should be terminated, by the system, after it has been preempted	 ✓ Workspace ✓ Training Distributed Inference ✓ Job (legacy)
<u>autoDeletionTi</u> <u>meAfterComplet</u> <u>ionSeconds</u>	Specifies the duration after which a finished workload (Completed or Failed) is automatically deleted. If this field is set to zero, the workload becomes eligible to be deleted immediately after it finishes.	 Workspace Training Distributed Inference Job (legacy)
<u>backoffLimit</u>	Specifies the number of retries before marking a workload as failed	 Workspace Training Distributed Inference Job (legacy)
<u>completions</u>	Used with Hyperparameter Optimization. Specifies the number of successful pods the job should reach to be completed. The Job is marked as successful once the specified amount of pods has succeeded	 Workspace ✓ Training Distributed Inference ✓ Job (legacy)
<u>Parallelism</u>	Used with Hyperparameter Optimization. Specifies the maximum desired number of pods the workload should run at any given time.	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>gitSync</u>	Details of the git repository and items mapped to it	 Workspace Training Distributed Inference Job (legacy)
pvcs	Specifies persistent volume claims to mount into a container running the created workload	 Workspace Training Distributed Inference Job (legacy)
<u>nfs</u>	Specifies NFS volume to mount into the container running the workload	 Workspace Training Distributed Inference Job (legacy)
<u>s3</u>	Specifies S3 buckets to mount into the container running the workload	 Workspace Training Distributed Inference Job (legacy)
<u>configMapVolum</u> <u>es</u>	Specifies ConfigMaps to mount as volumes into a container running the created workload.	 Workspace Training Distributed Inference Job (legacy)
active	Specifies whether the workload should be active or suspended	 Workspace Training Distributed Inference Job (legacy)
<u>cpu</u>	Specifies CPU units to allocate for the created workload (0.5, 1, .etc). The workload receives at least this amount of CPU. Note that the workload is not scheduled unless the system can guarantee this amount of CPUs to the workload.	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>cpuLimit</u>	Specifies a limit on the number of CPUs consumed by the workload (0.5, 1, .etc). The system guarantees that this workload is not able to consume more than this amount of CPUs.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>dropAllCapabil</u> <u>ities</u>	Indicates whether to drop all capabilities or not. Default is false	 Workspace Training Distributed Inference Job (legacy)
<u>exposedUrls</u>	Specifies a set of exported URL (e.g. ingress) from the container running the created workload.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
apu	Specifies the fraction of GPU to be allocated to the workload, between 0 and 1. For backward compatibility, it also supports the number of gpuDevices larger than 1, currently provided using the gpuDevices field.	 Workspace Training Distributed Inference Job (legacy)
gpuDevices	Specifies the number of GPUs to allocate for the created workload	 Workspace Training Distributed Inference Job (legacy)
gpuLimit	When a fraction of a GPU is requested, the GPU limit specifies the portion limit to allocate to the workload. The range of the value is from 0 to 1.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
gpuMemory	Specifies GPU memory to allocate for the created workload. The workload receives this amount of memory. Note that the workload is not scheduled unless the system can guarantee this amount of GPU memory to the workload.	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>gpuMemoryLimit</u>	Specifies a limit on the GPU memory to allocate for this workload. Should be no less than the gpuMemory.	 Workspace Training Distributed Inference Job (legacy)
<u>largeShm</u>	Specifies a large /dev/shm device to mount into a container running the created workload. SHM is a shared file system mounted on RAM.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>memory</u>	Specifies the amount of CPU memory to allocate for this workload (1G, 20M, .etc). The workload receives at least this amount of memory. Note that the workload is not scheduled unless the system can guarantee this amount of memory to the workload.	 Workspace Training Distributed Inference Job (legacy)
<u>memoryLimit</u>	Specifies a limit on the CPU memory to allocate for this workload (1G, 20M, .etc). The system guarantees that this workload is not able to consume more than this amount of memory. The workload receives an error when trying to allocate more memory than this limit.largeShmRequest	 Workspace Training Distributed Inference Job (legacy)
<u>mountPropagati</u> <u>on</u>	Allows for sharing volumes mounted by a container to other containers in the same pod, or even to other pods on the same node. The volume mount receives all subsequent mounts that are mounted to this volume or any of its subdirectories.	 ✓ Workspace ✓ Training ✓ Distributed ☐ Inference ✓ Job (legacy)
name	The specific name of the created workload. Either name of namePrefix should be provided, but not both.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>namePrefix</u>	A prefix used for assigning a name to the created resource. Either name of namePrefix should be provided, but not both.	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
podAffinity	Indicates whether pod affinity scheduling rules apply	 Workspace Training Distributed Inference Job (legacy)
<u>podAffinitySch</u> <u>edulingRule</u>	Indicates if we want to use the Pod affinity rule as : the "hard" (required) or the "soft" (preferred) This field can be specified only if PodAffinity is set to true	 Workspace Training Distributed Inference Job (legacy)
<u>podAffinityTop</u> <u>ology</u>	Specifies the Pod Affinity Topology to be used for scheduling the job. This field can be specified only if PodAffinity is set to true	 ✓ Workspace ✓ Training Distributed ✓ Inference ✓ Job (legacy)
<u>ports</u>	Specifies a set of ports exposed from the container running the created workload. Used together withservice-type.	 Workspace Training Distributed Inference Job (legacy)
preemptible	Specifies that the created workload is preemptible. Interactive preemptible workloads can be scheduled above the guaranteed quota but may be reclaimed at any time.	 Workspace Training Distributed Inference Job (legacy)
processes	Number of distributed training processes that are allocated for the created mpijob (MPI ONLY)	 Workspace Training ✓ Distributed Inference Job (legacy)
<u>readOnlyRootFi</u> <u>lesystem</u>	If true, mounts the container's root filesystem as read-only	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>readinessProbe</u>	Specifies the ReadinessProbe to use to determine if the container is ready to accept traffic. For more information see <u>https://kubernetes.io/docs/tasks/configure-pod-con</u> <u>tainer/configure-liveness-readiness-startup-probes</u>	 Workspace Training Distributed Inference Job (legacy)
<u>runAsUser</u>	Limits the container running the created workload to run in the context of a specific non-root user. The user id is provided by the runAsUid field. This would manifest itself in access to operating system resources, in the ownership of new folders created under shared directories, etc. Alternatively, if your cluster is connected to Run:ai via SAML, you can map the container to use the Linux UID/GID which is stored in the organization's directory. For more information see the User Identity guide at https://docs.run.ai/admin/runai-setup/config/non-ro ot-containers/	 Workspace Training Distributed Inference Job (legacy)
<u>serviceType</u>	Specifies the default service exposure method for ports. The default shall be used for ports which do not specify service type. Options are: LoadBalancer, NodePort or ClusterIP. For more information see the External Access to Containers guide on <u>https://docs.run.ai/admin/runai-setup/config/allow-e</u> <u>xternal-access-to-containers/</u>	 Workspace Training Distributed Inference Job (legacy)
<u>slotsPerWorker</u>	Number of slots to allocate per worker in the created mpijob (MPI ONLY)	 Workspace Training ✓ Distributed Inference Job (legacy)
<u>stdin</u>	Instructs the system to keep stdin open for the container(s) running the created workload, even if nothing is attached	 Workspace Training Distributed Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>tolerations</u>	Toleration rules which apply to the pods running the workload. Toleration rules guide (but do not require) the system to which node each pod can be scheduled to or evicted from, based on matching between those rules and the set of taints defined for each Kubernetes node.	 Workspace Training Distributed Inference Job (legacy)
tty	Instructs the system to allocate a pseudo-TTY for the created workload.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>username</u>	Display-only field describing the user who owns the workload. The data is not used for authentication or authorization purposes.	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy)
<u>volumes</u>	Specifies volumes to mount into a container running the created workload	 Workspace Training Distributed Inference Job (legacy)
minScale	The minimum number of replicas to run	 Workspace Training Distributed ✓ Inference Job (legacy)
maxScale	The maximum number of replicas to run	 Workspace Training Distributed Inference Job (legacy)
metric	The predefined metric to use for autoscaling. Possible values are: throughput, concurrency and latency	 Workspace Training Distributed ✓ Inference Job (legacy)

Fields	Description	Supported Run:ai workload types
<u>target</u>	The target value for the autoscaling metric	 Workspace Training Distributed Inference Job (legacy)

YAML field details

Field	allowPrivilegeEscalation		
Description	Allows the container running the workload and all launched processes to gain additional privileges after the workload starts		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value True
Example workload snippet	<pre>apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest allowPrivilegeEscalation: value: true name: value: true name: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		

Field	args		
Description	When set, contains the arguments sent along with the command. These override the entry point of the image in the created workload.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value N/A
Example workload snippet	<pre>String No N/A apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: jupyter/scipy-notebook command: value: start-notebook.sh arguments: value:NotebookApp.base_url=/\${RUNAI_PROJECT}/\${RUNAI_JOB_N AME}NotebookApp.token='' name: value: <workload-name> nodePools: value: default</workload-name></namespace></name></pre>		ECT}/\${RUNAI_JOB_N

Field	capabilities		
Description	The capabilities field allows adding a set of unix capabilities to the container running the workload. Capabilities are Linux distinct privileges traditionally associated with superuser which can be independently enabled and disabled		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet	<pre>Itemized No N/A apiVersion: run.ai/v2alphal kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest capabilities: items: "cap-1": value: capability: AUDIT_CONTROL "cap-2": value: capability: IPC_LOCK name: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		

Field	command		
Description	A command to serve as the entry point of the container running the workspace		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value N/A
Example workload snippet	<pre>apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: jupyter/scipy-notebook command: value: start-notebook.sh name: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		

Field	createHomeDir		
Description	Instructs the system to create a temporary home directory for the user within the container. Data stored in this directory is not saved when the container exits. When the runAsUser flag is set to true, this flag defaults to true as well.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value True
Example workload snippet	<pre>apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest createHomeDir: value: true name: value: true name: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		

Field	environment		
Description	Set of environment variables to populate the container running the workspace		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Map (key → value)	Mandatory No	Default value N/A
Example workload snippet			

Field	hostipc		
Description	Whether to enable hostlpc. Defaults to false.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type BooleanMandatory NoDefault value False		
Example workload snippet			

Field	hostNetwork		
Description	Whether to enable host networking.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value False
Example workload snippet			

Field	image		
Description	Specifies the image to use when creating the container running the workload.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type String	Mandatory Yes	Default value N/A
Example workload snippet	<pre>string res N/A apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest imagePullPolicy: value: Always name: value: <workload-name> nodePools: value: default wasase Submit</workload-name></namespace></name></pre>		

Field	imagePullPolicy		
Description	Specifies the pull policy of the image when starting a container running the created workload. Options are: always, ifNotPresent, or never.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value Always
Example workload snippet	<pre>apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest imagePullPolicy: value: Always name: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		

Field	runAsUid		
Description	Specifies the Unix user id with which the container running the created workload should run. Is used only if runAsUser is set to true.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type IntegerMandatory NoDefault value N/A		
Example workload snippet			

Field	runAsGid		
Description	Specifies the Unix Group ID with which the container should run. Is used only if runAsUser is set to true.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type IntegerMandatory NoDefault value N/A		
Example workload snippet			

Field	supplementalGroups		
Description	Comma separated list of groups that the user running the container belongs to, in addition to the group indicated by runAsGid		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	workingDir		
Description	Container's working directory. If not specified, the container runtime default is used, which might be configured in the container image.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value N/A
Example workload snippet	<pre>apiVersion: run.ai kind: InteractiveW metadata: name: <name> namespace: <name spec: image: value: ubuntu: workingDir: value: /tmp name: value: <worklo nodePools: value: default usage: Submit</worklo </name </name></pre>	/v2alpha1 orkload space> latest ad-name>	

Field	runAsNonRoot		
Description	Indicates that the container must run as a non-root user		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type BooleanMandatory YesDefault value True		
Example workload snippet			

Field	seccompProfileType		
Description	 Indicates which kind of seccomp profile is applied to the container. The options are RuntimeDefault - the container runtime default profile should be used Unconfined - no profile should be applied 		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value N/A
Example workload snippet			

Field	extendedResources		
Description	Specifies values for extended resources. Extended resources are third-party devices (such as high-performance NICs, FPGAs, or InfiniBand adapters) that you want to allocate to your Job.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Map (Key → Value)	Mandatory No	Default value N/A
Example workload snippet	<pre>Map (Key → Value) No N/A apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest name: value: <workload-name> nodePools: value: default usage: Submit extendedResources: items: "resrc-1": value: name: "ext/a" quantity: "5" "resrc-2": value: name: "ext/b"</workload-name></namespace></name></pre>		

Field	migProfile		
Description	Specifies the memory profile to be used for workload running on NVIDIA Multi-Instance GPU (MIG) technology.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value N/A
Example workload snippet			

Field	nodeType		
Description	Nodes (machines) or a group of nodes on which the workload runs.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	nodePools		
Description	A prioritized list of node pools for the scheduler to run the workspace on. The scheduler always tries to use the first node pool before moving to the next one when the first is not available.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type String	Mandatory No	Default value N/A
Example workload snippet			

Field	annotations		
Description	Set of annotations to populate into the container running the workspace		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Map (key → value)	Mandatory No	Default value N/A
Example workload snippet	<pre>Map (key → value) No N/A apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: annotations: items: id: value: b48a92e1-02e3-4592-acb2-59a4b027cc0b image: value: ubuntu:latest name: value: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		

Field	labels		
Description	Set of labels to populate into the container running the workspace		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Map (key → value)	Mandatory No	Default value N/A
Example workload snippet	<pre>map (key → value) NO N/A apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: labels: items: PROJECT: value: TEST image: value: ubuntu:latest name: value: <workload-name> nodePools: value: default usage: Submit</workload-name></namespace></name></pre>		
Field	terminateAfterPreemption		
--	---	--	--
Description	Indicates whether the job should be terminated by the system, after it has been preempted		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type BooleanMandatory NoDefault value False		
Example workload snippet			

Field	autoDeletionTimeAfterCompletionSeconds			
Description	Specifies the duration after which a finished workload (Completed or Failed) is automatically deleted. If this field is set to zero, the workload becomes eligible to be deleted immediately after it finishes.			
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 			
Value	TypeMandatoryDefault valueIntegerNoN/A			
Example workload snippet				

Field	backoffLimit		
Description	Specifies the number of retries before marking a workload as failed		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Integer	Mandatory No	Default value 6
Example workload snippet	<pre>apiVersion: run.ai kind: InteractiveW metadata: name: <name> namespace: <name spec: image: value: ubuntu: backoffLimit: value: 6 name: value: <worklow nodePools: value: default usage: Submit</worklow </name </name></pre>	/v2alpha1 Workload espace> latest pad-name>	

Field	completions			
Description	Used with Hyperparameter Optimization. Specifies the number of successful pods the job should reach to be completed. The Job is marked as successful once the specified amount of pods has succeeded			
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 			
Value	TypeMandatoryDefault valueIntegerNoN/A			
Example workload snippet				

Field	parallelism		
Description	Used with Hyperparameter Optimization. Specifies the maximum desired number of pods the workload should run at any given time.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type IntegerMandatory NoDefault value N/A		
Example workload snippet			

Spec Fields	gitSync		
Description	Details of the git repository and items mapped to it		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet	<pre>Itemized No N/A apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest name: value: <workload-name> nodePools: value: default usage: Submit gitSync: items: git-kubernetes: value: directory: /tmp/ repository: https://github.com/kubernetes/kubernetes</workload-name></namespace></name></pre>		
Spec git fields	Description		Value type
Repository (mandatory)	URL to a remote git repository. The content of this repository is mapped to the container running the workload		String
rev	Specific revision to synchronize the String repository from		
Path (mandatory)	Local path within the which the S3 bucke	e workspace to t is mapped	String

secretName	Optional name of Kubernetes secret that holds your git username and password	String
username	If secretName is provided, this field should contain the key, within the provided Kubernetes secret, which holds the value of your git username. Otherwise, this field should specify your git username in plain text (example: myuser).	String

Spec fields	pvcs		
Description	Specifies persistent volume claims to mount in created workload	nto a containe	r running the
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet	<pre>apiVersion: run.ai/v2alpha1 kind: InteractiveWorkload metadata: name: <name> namespace: <namespace> spec: image: value: ubuntu:latest name: value: <workload-name> nodePools: value: default usage: Submit pvcs: items: pvc-1: value: claimName: pvc-1 ephemeral: false path: /tmp/ readOnly: false readWriteOnce: true size: 1G storageClass: default</workload-name></namespace></name></pre>		
Spec PVC fields	Description	Value type	
claimName (mandatory)	A given name for the PVC. Allowed referencing it across workspaces	String	
ephemeral		Boolean	
path			

readOnly	Permits read only from the PVC, prevents additions or modifications to its content	Boolean
ReadwriteOnc e	Requesting claim that can be mounted in read/write mode to exactly 1 host. If none of the modes are specified, the default is readWriteOnce	Boolean
Size	Requested size for the PVC. Mandatory when existing PVC is false	String
storageClass	Storage class name to associate with the PVC. This parameter may be omitted if there is a single storage class in the system, or you are using the default storage class. Further details at https://kubernetes.io/docs/concepts/storage/ storage-classes.	String
readOnlyMany	Requesting claim that can be mounted in read-only mode to many hosts	Boolean
readWriteMan Y	Requesting claim that can be mounted in read/write mode to many hosts	Boolean

Spec fields	nfs		
Description	Specifies NFS volume to mount into the container running the workload		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Itemized	Mandatory No	Default Value
Example workload snippet			
Field	Description		Value type
sourcePath (mandatory)	The path that the NFS in use	volume is mounted to when	String
readOnly	Whether to force the NFS export to be mounted with read-only permissions		Boolean
nfsServer (mandatory)	The hostname or IP address of the NFS server		String
targetPath (mandatory)	The path that the NFS in use	volume is mounted to when	String

Field	s3		
Description	Specifies S3 buckets to mount into the container running the workload)		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet			
Field	Description		Value type
Bucket (mandatory)	The name of the bucket		String
Path (mandatory)	Local path within the workspace to which the S3 bucket is mapped		String
url	The URL of the S3 service provider. The default is the URL of the Amazon AWS Se service		String
key	If secretName is provided, this field should contain the key, within the provided kubernetes secret, which holds the value of your S3 access key ID. otherwise, this field should specify your S3 access key ID in plain text (example: AKIAIOSFODNN7EXAMPLE).		String
secret	If secretName is provided, this field should contain the key, within the provided kubernetes secret, which holds the value of your S3 secret access key. otherwise, this field should specify your S3 secret access key in plain text (example: wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY).		String
secretName	Optional name of kubernet access key ID and S3	es secret that holds your S3	String

Field	configMapVolume		
Description	Specifies ConfigMaps to mount as volumes into a container running the created workload.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet	<pre>apiVersion: run.ai kind: InteractiveW metadata: name: <name> namespace: <name spec: image: value: ubuntu: configMapVolumes items: configmap-vo value: name: cm mountPat name: value: <worklo nodePools: value: default usage: Submit</worklo </name </name></pre>	<pre>/v2alpha1 /orkload //v2alpha1 /orkload ////////////////////////////////////</pre>	

Field	active		
Description	Specifies whether the workload should be active or suspended		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Boolean	Mandatory N/A	Default value True
Example workload snippet			

Field	сри		
Description	Specifies CPU units to allocate for the created workload (0.5, 1, .etc). The workload receives at least this amount of CPU. Note that the workload is not scheduled unless the system can guarantee this amount of CPUs to the workload.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Number	Mandatory No	Default value N/A
Example workload snippet			

Field	cpuLimit		
Description	Specifies a limit on the number of CPUs consumed by the workload (0.5, 1, etc). The system guarantees that this workload is not able to consume more than this amount of CPUs.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Number	Mandatory No	Default value N/A
Example workload snippet			

Field	dropAllCapabilities		
Description	Indicates whether to drop all capabilities or not. Default is false.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type BooleanMandatory NoDefault value False		
Example workload snippet			

Field	exposedUrls		
Description	Specifies a set of exported URL (e.g. ingress) from the container running the created workload		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ☐ Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet			

Field	gpu		
Description	Specifies the fraction of GPU to be allocated to the workload, between 0 and 1. For backward compatibility, it also supports the number of gpuDevices larger than 1, currently provided using the gpuDevices field.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Number	Mandatory No	Default value N/A
Example workload snippet			

Field	gpuDevices		
Description	Specifies the number of GPUs to allocate for the created workload		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Integer	Mandatory No	Default value N/A
Example workload snippet			

Field	gpuLimit		
Description	When a fraction of a GPU is requested, the GPU limit specifies the portion limit to allocate to the workload. The range of the value is from 0 to 1.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type NumberMandatory NoDefault value N/A		
Example workload snippet			

Field	gpuMemory		
Description	Specifies GPU memory to allocate for the created workload. The workload receives this amount of memory. Note that the workload is not scheduled unless the system can guarantee this amount of GPU memory to the workload.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Quantity	Mandatory No	Default value N/A
Example workload snippet			

Field	gpuMemoryLimit		
Description	Specifies a limit on the GPU memory to allocate for this workload. Should be no less than the gpuMemory.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Quantity	Mandatory No	Default value N/A
Example workload snippet			

Field	largeShm		
Description	Specifies a large /dev/shm device to mount into a container running the created workload. SHM is a shared file system mounted on RAM.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value N/A
Example workload snippet			

Field	memory		
Description	Specifies the amount of CPU memory to allocate for this workload (1G, 20M, .etc). The workload receives at least this amount of memory. Note that the workload is not scheduled unless the system can guarantee this amount of memory to the workload		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Quantity	Mandatory No	Default value N/A
Example workload snippet			

Field	memoryLimit		
Description	Specifies a limit on the CPU memory to allocate for this workload (1G, 20M, etc). The system guarantees that this workload is not able to consume more than this amount of memory. The workload receives an error when trying to allocate more memory than this limit.largeShmRequest		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Quantity	Mandatory No	Default value N/A
Example workload snippet			

Field	mountPropagation		
Description	Allows for sharing volumes mounted by a container to other containers in the same pod, or even to other pods on the same node. The volume mount receives all subsequent mounts that are mounted to this volume or any of its subdirectories.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value N/A
Example workload snippet			

Field	name		
Description	The specific name of the created workload. Either name of namePrefix should be provided, but not both.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	namePrefix		
Description	A prefix used for assigning a name to the created resource. Either name of namePrefix should be provided, but not both.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	podAffinity		
Description	Indicates whether pod affinity scheduling rules apply		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value N/A
Example workload snippet			

Field	podAffinitySchedulingRule		
Description	Indicates if we want to use the Pod affinity rule as : the "hard" (required) or the "soft" (preferred) This field can be specified only if PodAffinity is set to true		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	podAffinityTopology		
Description	Specifies the Pod Affinity Topology to be used for scheduling the job. This field can be specified only if PodAffinity is set to true.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	ports		
Description	Specifies a set of ports exposed from the container running the created workload. Used together withservice-type.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet			

Field	preemptible		
Description	Specifies that the created workload is preemptible. Interactive preemptible workloads can be scheduled above the guaranteed quota but may be reclaimed at any time.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value N/A
Example workload snippet			

Field	processes		
Description	Number of distributed training processes that are allocated for the created mpijob		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type IntegerMandatory NoDefault value N/A		
Example workload snippet			

Field	readOnlyRootFilesystem		
Description	If true, mounts the container's root filesystem as read-only		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type BooleanMandatory NoDefault value False		
Example workload snippet			

Field	readinessProbe			
Description	Specifies the ReadinessProbe to use in order to determine if the container is ready to accept traffic. For more information see https://kubernetes.io/docs/tasks/configure-pod-container/configure-liveness-readiness-startup-probes			
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 			
Value	Type String	Mandatory No	Default value N/A	
Example workload snippet				
Field	runAsUser			
--	--	--	--	--
Description	Limits the container running the created workload to run in the context of a specific non-root user. The user id is provided by the runAsUid field. This would manifest itself in access to operating system resources, in the ownership of new folders created under shared directories, etc. Alternatively, if your cluster is connected to Run:ai via SAML, you can map the container to use the Linux UID/GID which is stored in the organization's directory. For more information see the User Identity guide at https://docs.run.ai/admin/runai-setup/config/non-root-containers			
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 			
Value	Type BooleanMandatory NoDefault value N/A			
Example workload snippet				

Field	serviceType		
Description	Specifies the default service exposure method for ports. The default shall be used for ports which do not specify service type. Options are: LoadBalancer, NodePort or ClusterIP. For more information see the External Access to Containers guide on https://docs.run.ai/admin/runai-setup/config/allow-external-access-to-contai ners/		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	slotsPerWorker		
Description	Number of slots to allocate per worker in the created mpijob		
Supported Run:ai workload types	 Workspace Training ✓ Distributed Inference Job (legacy) 		
Value	Type IntegerMandatory NoDefault value N/A		
Example workload snippet			

Field	stdin		
Description	Instructs the system to keep stdin open for the container(s) running the created workload, even if nothing is attached		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value N/A
Example workload snippet			

Field	tolerations		
Description	Toleration rules which apply to the pods running the workload. Toleration rules guide (but do not require) the system to which node each pod can be scheduled to or evicted from, based on matching between those rules and the set of taints defined for each Kubernetes node.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet			

Field	tty		
Description	Instructs the system to allocate a pseudo-TTY for the created workload.		
Supported Run:ai workload types	 ✓ Workspace ✓ Training ✓ Distributed ✓ Inference ✓ Job (legacy) 		
Value	Type Boolean	Mandatory No	Default value N/A
Example workload snippet			

Field	username		
Description	Display-only field describing the user who owns the workload. The data is not used for authentication or authorization purposes.		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type StringMandatory NoDefault value N/A		
Example workload snippet			

Field	volumes		
Description	Specifies volumes to mount into a container running the created workload		
Supported Run:ai workload types	 Workspace Training Distributed Inference Job (legacy) 		
Value	Type Itemized	Mandatory No	Default value N/A
Example workload snippet			

Field	minScale			
Description	The minimum number of	The minimum number of replicas to run		
Supported Run:ai workload types	 Workspace Training Distributed ✓ Inference Job (legacy) 			
Value	Type Object	Mandatory No	Default value 0 if metric is concurrency or throughput, 1 otherwise	
Example workload snippet				

Field	maxScale		
Description	The maximum number of replicas to run		
Supported Run:ai workload types	 Workspace Training Distributed ✓ Inference Job (legacy) 		
Value	Type Object	Mandatory No	Default value 1
Example workload snippet			

Field	metric		
Description	The predefined metric to use for autoscaling. Possible values are throughput, concurrency or latency		
Supported Run:ai workload types	 Workspace Training Distributed ✓ Inference Job (legacy) 		
Value	Type ObjectMandatory NoDefault value concurrency		
Example workload snippet			

Field	target			
Description	The target value for autoscaling metric			
Supported Run:ai workload types	 Workspace Training Distributed ✓ Inference Job (legacy) 			
Value	Type Object	Mandatory No	Default value N/A	
Example workload snippet				