



## Prerequisites

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This module provides the prerequisites for deploying Cisco IOS XRd on Amazon EKS.

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- [Cisco IOS XRd Deployment Requirements, on page 2](#)

## Prerequisites

Before you begin to deploy the XRd on AWS EKS, ensure that you have the following:

- Basic knowledge of Kubernetes and Helm
- Familiarity with AWS Services, such as:
  - [IAM](#)
  - [EC2](#)
  - [VPC](#)
  - [ECR](#)
  - [EKS](#)
- Familiarity and availability of tools, such as:
  - [AWS CLI tool](#)  
You must configure the AWS CLI tool with an account with administrator permissions. Admin permissions are required to create IAM roles.
  - Standard CLI tools, for example, **tar** and **SSH**
  - [Helm](#)
  - [kubectl](#)
  - [skopeo](#), or, [docker](#), or [podman](#)
- Availability of an EC2 key-pair to access the worker nodes. If you have not created a key-pair already in the region that you are deploying the cluster, create a key-pair using these [instructions](#).



**Note** Most commands that run on the AWS CLI tool do not require the AWS region to be specified. These commands use the default region from the CLI tool configuration. Commands that require the region to be specified explicitly are indicated as `<region>` in the command example.

## Cisco IOS XRd Deployment Requirements

The following table provides the Cisco IOS XRd deployment requirements:

Use Case		SR-PCE	Cloud Router
Platform		XRd Control Plane	XRd vRouter
Worker Node	Validated Instance Type	m5.2xlarge	m5[n].24xlarge
	Hyper Threading	No	No
	CPU Isolation	None	Cores 16-23 isolated
	OS	Amazon Linux 2 with EKS Optimizations	
	AMI	Base Amazon Linux 2 with EKS AMI	Modified Amazon Linux 2 with EKS AMI*
	Sysctl Settings	inotify settings, kernel core pattern**	
	Robust core handling to avoid disk exhaustion	A pipe script, rather than a path pattern, can be used to ensure that cores are handled on the host.  <code>systemd-coredump</code> service can be used to collect core files safely.	
	Hugepages	None	6 x 1 GiB
	Storage	56 GiB	56 GiB
	Extra Kernel Modules	None	UIO (in AL2 but not loaded) igb_uio from the dpdk-mods package.
Cluster	Kubernetes Version	Version 1.25, and versions 1.27 and above.	
	AWS-Node Settings	MAX_ENI=1	
Multus	Version	v4.0.2-eksbuild.1	NA
	Attachment Types	AWS-CNI (default CNI interface only)  Host-device	

Use Case		SR-PCE	Cloud Router
Platform		XRd Control Plane	XRd vRouter
XRd	RAM (excluding hugetlb) - Deployment requirements	4 GiB	10 GiB
	Hugepages - Deployment Requirements	None	3 GiB
	CPU - Deployment Requirements	4 physical CPUs (shared with OS)	12 physical CPUs
	CPU Split	NA	4xCP, 1xDPA main, 7xDP
	CPU Settings		Override cpuset to 12-23
	CPU Mapping		Standard 12 core layout: 12-15 CP, 16 DPA, 17-23 DP
	CPU Requirements		Number of CP cores > 1 must be non-isolated, DP must be isolated always, and full physical CPUs always
	DPA Tuning		Off
	Interface Driver	NA	igb_uio with Write Combine support
	Security Context	Privileged	
	Persistent Volume	6 GiB, "gp2" class, dynamically allocated	
	Scheduling	Pinned to specific worker node	
	Node Exclusivity	No other workloads running on the node	
	Initial Configuration	In workload definition, dependent on worker node (and interface) settings	
Redundancy Model	Pair of separate, redundant, instances each in a separate StatefulSet		

\* For Amazon Linux 2 modification details, see [Create an AMI](#) section.

\*\*For inotify settings, and kernel core pattern details, see [Kernel Parameters](#) section.

