AWS Batch

aws

Introducing AWS Batch

Fully Managed

No software to install or servers to manage. AWS Batch provisions, manages, and scales your infrastructure

Integrated with AWS

Natively integrated with the AWS Platform, AWS Batch jobs can easily and securely interact with services such as Amazon S3 and DynamoDB

Cost-optimized Resource Provisioning

AWS Batch automatically provisions compute resources tailored to the needs of your jobs using Amazon EC2 and EC2 Spot

AWS Batch Concepts

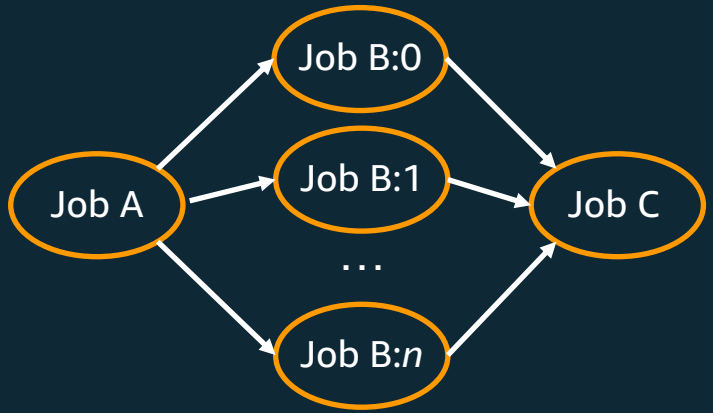
- Job Queue
- Compute Environments
- Job Definitions
- Jobs
  - Single jobs vs Array jobs vs Multi-node Parallel jobs
- Scheduler

Easily run massively parallel jobs

Instead of submitting a large number of independent "**simple jobs**", we also support "**array jobs**" that run many copies of an application against an array of elements.

Array jobs are an efficient way to run:

- Parametric sweeps
- Monte Carlo simulations
- Processing a large collection of objects



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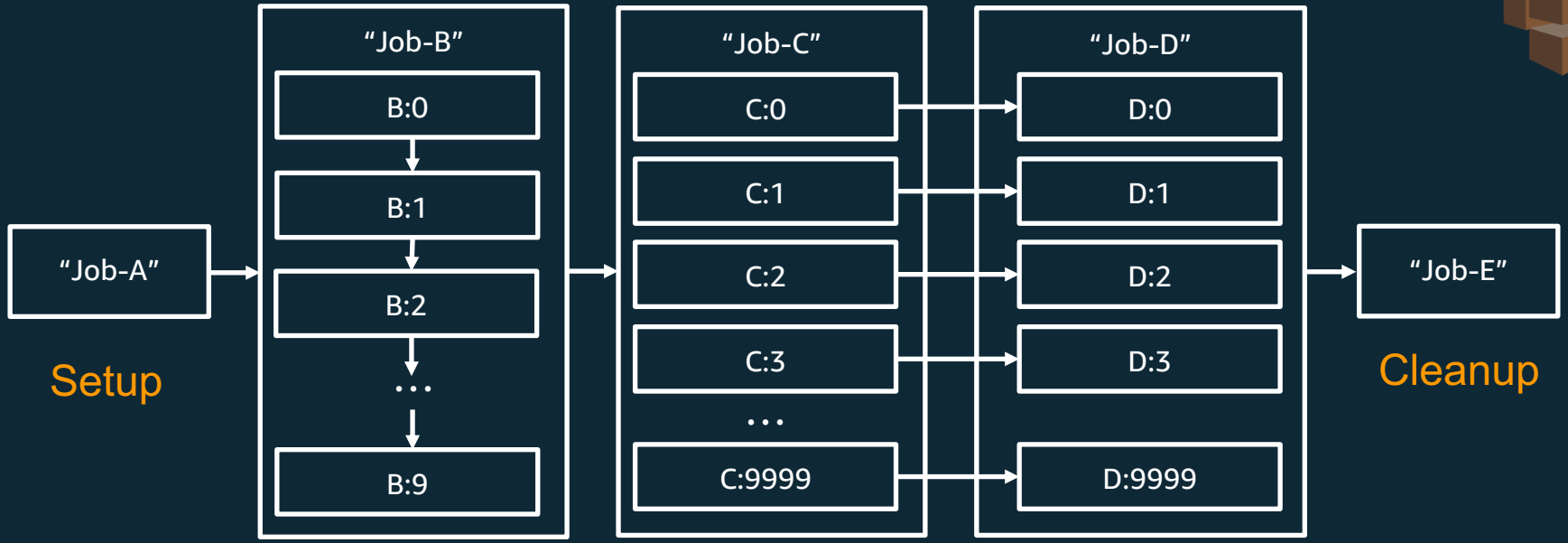
Array Job Dependency Models

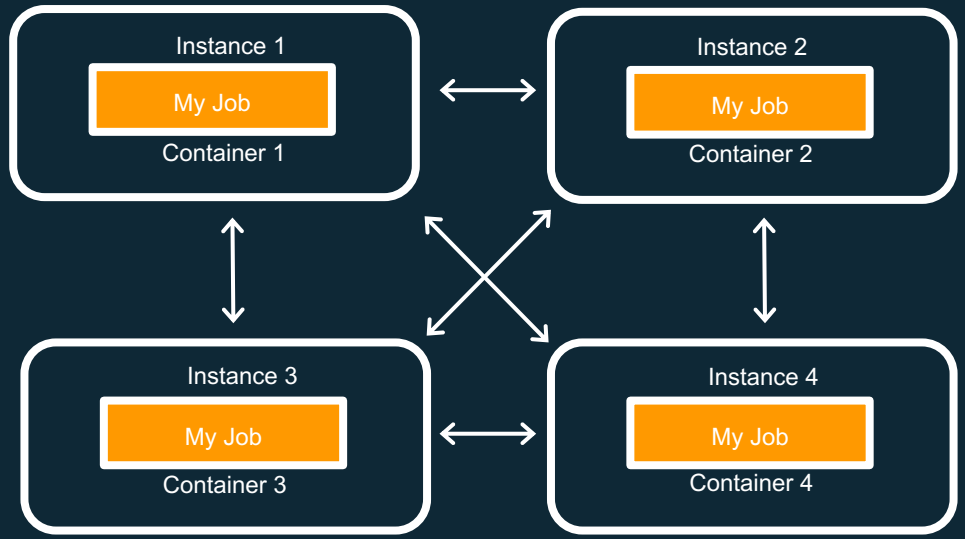



```
$ aws batch submit-job –depends-on 606b3ad1-aa31-48d8-92ec-f154bfc8215f ...
```

Multi-node Parallel Jobs on AWS Batch

- Scale jobs across multiple instances with AWS Batch support for Multi-node Parallel (MNP) jobs

Use AWS Batch to efficiently run larger-scale tightly coupled High Performance Computing (HPC) applications and distributed GPU model training without the need to launch, configure, and manage EC2 resources directly



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Typical AWS Batch Job Architecture

Input Files

S3 Events Trigger Lambda Function or CloudWatch Event to Submit Batch Job

Job Definition

IAM Role for Batch Job

Application Image

Job Resource Requirements and other parameters

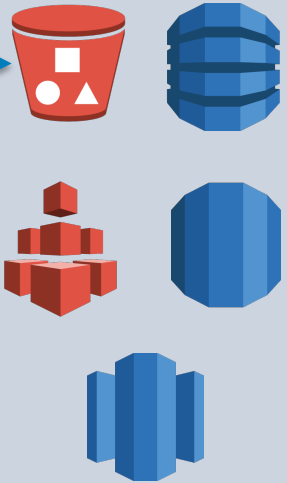
AWS Batch Execution

Queue of Runnable Jobs

AWS Batch Compute Environments

AWS Batch Scheduler

AWS Batch Job Output



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