# Digital.ai DevOps Platform on the AWS Cloud

## Quick Start Reference Deployment

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#### Digital.ai

AWS Quick Start Team

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This Quick Start was created by Digital.ai, Inc. in collaboration with Amazon Web Services (AWS).

**Disclaimer**: Some references and Xebialabs web links appear in this document belong to Digital.ai

<u>Quick Starts</u> are automated reference deployments that use AWS CloudFormation templates to deploy key technologies on AWS, following AWS best practices.

## **Quick Links**

The links in this section are for your convenience. Before you launch the Quick Start, please review the architecture, security, and other considerations discussed in this guide.

If you have an AWS account, and you're already familiar with AWS services and the Digital.ai DevOps Platform, you can launch the Quick Start to build the architecture shown in <a href="Figure 1">Figure 1</a> in a new or existing virtual private cloud (VPC). The deployment takes approximately 40 minutes. If you're new to AWS or to the Digital.ai DevOps Platform, please review the implementation details and follow the <a href="Step-by-step instructions">step-by-step instructions</a> provided later in this guide.



Launch (for new VPC)

Launch (for existing VPC)

• If you want to take a look under the covers, you can view the AWS CloudFormation templates that automate the deployment.

View template (for new VPC)

View template (for existing VPC)

#### Overview

This Quick Start reference deployment guide provides step-by-step instructions for deploying the <u>Digital.ai DevOps Platform on the AWS Cloud</u>.

This Quick Start is for development teams, infrastructure architects, and DevOps professionals who want to quickly get started with the Digital.ai DevOps Platform, which orchestrates releases, automates deployments, and provides performance insights for DevOps pipelines.

This Quick Start provides a secure, highly-available setup of the Digital.ai DevOps Platform running in the AWS Cloud. It is designed for Digital.ai customers who are looking to move to AWS, or for users who are test-driving the trial version of the Digital.ai DevOps Platform. The goal of this guide is to help you get started with Digital.ai release orchestration and deployment automation on AWS, even if you're new to the Digital.ai DevOps Platform.

#### The Digital.ai DevOps Platform on AWS

The Digital.ai DevOps Platform can provision and manage dynamic infrastructure running in the AWS Cloud, or in private or hybrid cloud environments. Digital.ai supports deployments to a variety of AWS products and services, including Amazon Elastic Container Service (Amazon ECS), Amazon Elastic Container Service for Kubernetes (Amazon EKS), AWS Fargate, AWS Service Catalog, and more.

In addition to provisioning and managing cloud-based environments, Digital.ai orchestrates end-to-end release and deployment processes for applications running in the cloud or on premises. The Digital.ai DevOps Platform helps you build efficient, repeatable,



and scalable release and deployment processes for all types of technologies, from mainframes and middleware to containers and microservices.

#### Model-Based Deployments and Automated Rollbacks for AWS

Digital.ai dynamically generates provisioning and deployment plans based on your infrastructure and application configuration, using logic stored in plugins. By abstracting configuration details from provisioning and deployment logic, Digital.ai can provision any cloud-based architecture and deploy to it. Changes are easy to make and propagate, and rollbacks happen automatically when needed.

Release Orchestration, Dependency Management, and Self-Service Deployments for AWS Digital.ai' release orchestration defines and automates the steps in your software delivery pipeline and connects AWS directly to that pipeline. You can deploy your code to AWS after it passes through the release process. Digital.ai tracks and enforces dependencies between complex releases and microservices, and prevents deployment conflicts.

#### Built-in Compliance and Reporting for AWS Release Pipelines

Digital.ai provides extensive reporting on the complete release pipeline and goal-based KPI dashboards that you can use to measure and improve your DevOps processes. It captures release status, release metrics, and data needed for compliance requirements, and displays this information in configurable dashboards and customizable reports.

#### **Costs and Licenses**

You are responsible for the cost of the AWS services used while running this Quick Start reference deployment. There is no additional cost for using the Quick Start.

The AWS CloudFormation template for this Quick Start includes configuration parameters that you can customize. Some of these settings, such as instance type, will affect the cost of deployment. For cost estimates, see the pricing pages for each AWS service you will be using. Prices are subject to change.

**Tip:** After you deploy the Quick Start, we recommend that you enable the <u>AWS Cost</u> and <u>Usage Report</u> to track costs associated with the Quick Start. This report delivers billing metrics to an S3 bucket in your account. It provides cost estimates based on usage throughout each month and finalizes the data at the end of the month. For more information about the report, see the <u>AWS documentation</u>.

You can deploy the Digital.ai DevOps Platform using one of the following license types:

• A trial license that you can obtain from <a href="https://www.xebialabs.com/trial">https://www.xebialabs.com/trial</a>.



• A commercial subscription license that you can purchase by contacting Digital.ai at <a href="https://digital.ai/contact">https://digital.ai/contact</a>, and then download from <a href="https://dist.xebialabs.com">https://dist.xebialabs.com</a>.

## **Architecture**

Deploying this Quick Start for a new virtual private cloud (VPC) with **default parameters** builds the following Digital.ai DevOps Platform environment in the AWS Cloud.

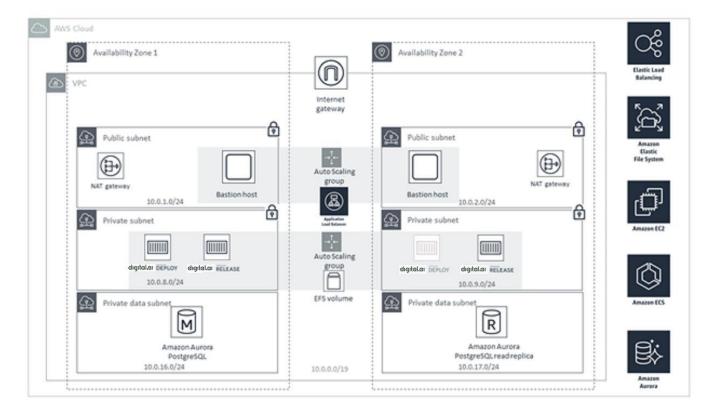


Figure 1: Quick Start architecture for the Digital.ai DevOps Platform on AWS

The Quick Start sets up the following:

- A highly available architecture that spans two Availability Zones.\*
- A VPC configured with public and private subnets according to AWS best practices, to provide you with your own virtual network on AWS.\*
- An internet gateway to allow access to the internet. This gateway is used by the bastion hosts to send and receive traffic.\*
- In the public subnets, managed NAT gateways to allow outbound internet access for resources in the private subnets.\*



- In the public subnets, a Linux bastion host in an Auto Scaling group to allow inbound Secure Shell (SSH) access to Amazon Elastic Compute Cloud (Amazon EC2) instances in public and private subnets.\*
- In the private application subnets, an Amazon Elastic Container Service (Amazon ECS) cluster running on EC2 instances for hosting the Digital.ai DevOps Platform containers that contain the XL Release and XL Deploy modules.
- In the ECS cluster, an XL Release module set up in full cluster mode.
- In the ECS cluster, an XL Deploy module set up in high-availability (hot-standby) mode.
- In the private data subnets, an Amazon Aurora PostgreSQL cluster, for hosting the Digital.ai DevOps Platform data.
- An Amazon Elastic File System (Amazon EFS) volume, for hosting the disk-based configuration and data for the Digital.ai DevOps Platform.

Note: Amazon Elastic File System (Amazon EFS) volumes are encrypted.

- An Application Load Balancer for routing incoming user requests to the Digital.ai DevOps Platform containers.
- \* The template that deploys the Quick Start into an existing VPC skips the tasks marked by asterisks and prompts you for your existing VPC configuration.

## **Prerequisites**

## **Technical Requirements**

From a technical standpoint you'll need:

- An AWS account. If you don't already have an AWS account, create one at <a href="https://aws.amazon.com">https://aws.amazon.com</a> by following the on-screen instructions.
- The ability to launch AWS CloudFormation templates that create AWS Identity and Access Management (IAM) roles.
- A trial or commercial Digital.ai DevOps Platform license. See <u>Costs and Licenses</u> earlier in this document.

## Specialized Knowledge

Before you deploy this Quick Start, we recommend that you become familiar with the following AWS services. If you are new to AWS, see <u>Getting Started with AWS</u>.

Amazon Aurora



- Amazon EC2
- Amazon EFS
- Amazon VPC
- AWS CloudFormation
- AWS IAM
- AWS Lambda

## **Deployment Options**

This Quick Start provides two deployment options:

- Deploy the Digital.ai DevOps Platform into a new VPC (end-to-end deployment). This option builds a new AWS environment consisting of the VPC, subnets, NAT gateways, security groups, bastion hosts, and other infrastructure components, and then deploys Digital.ai DevOps Platform into this new VPC.
- **Deploy the Digital.ai DevOps Platform into an existing VPC**. This option provisions the Digital.ai DevOps Platform in your existing AWS infrastructure.

The Quick Start provides separate templates for these options. It also lets you configure CIDR blocks, instance types, and the Digital.ai DevOps Platform settings, as discussed later in this guide.

## **Deployment Steps**

## Step 1. Prepare Your AWS Account

- 1. If you don't already have an AWS account, create one at <a href="https://aws.amazon.com">https://aws.amazon.com</a> by following the on-screen instructions.
- 2. Use the region selector in the navigation bar to choose the AWS Region where you want to deploy the Digital.ai DevOps Platform on AWS.
- 3. Create a key pair in your preferred region.
- 4. If necessary, <u>request a service limit increase</u> for the chosen Amazon EC2 instance type. You might need to do this if you already have an existing deployment that uses this instance type, and you think you might exceed the <u>default limit</u> with this deployment.

#### Step 2. Obtain a Digital.ai DevOps Platform License

You can deploy the Digital.ai DevOps Platform by using one of the following license types:

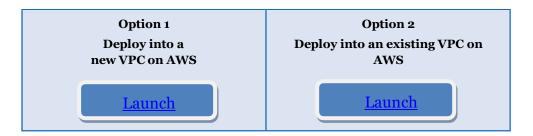


- A trial license that you can obtain from <a href="https://www.xebialabs.com/trial">https://www.xebialabs.com/trial</a>.
- A commercial subscription license that you can purchase by contacting Digital.ai at <a href="https://digital.ai/contact">https://digital.ai/contact</a>, and then download from <a href="https://dist.xebialabs.com">https://dist.xebialabs.com</a>.

#### Step 3. Launch the Quick Start

**Note:** You are responsible for the cost of the AWS services used while running this Quick Start reference deployment. There is no additional cost for using this Quick Start. For full details, see the pricing pages for each AWS service you will be using in this Quick Start. Prices are subject to change.

1. Choose one of the following options to launch the AWS CloudFormation template into your AWS account. For help choosing an option, see <u>deployment options</u> earlier in this guide.



**Important:** If you're deploying the Digital.ai DevOps Platform into an existing VPC, make sure that your VPC has four private subnets in two different Availability Zones (i.e., two per zone). One set of subnets requires <a href="MAT gateways or NAT instances">NAT instances</a> in their route tables, to allow the instances to download packages and software without exposing them to the internet. The other set of subnets shouldn't be exposed to the internet. You will also need the domain name option configured in the DHCP options as explained in the <a href="Amazon VPC documentation">Amazon VPC documentation</a>. You will be prompted for your VPC settings when you launch the Quick Start.

Each deployment takes about 40 minutes to complete.

2. Check the region that's displayed in the upper-right corner of the navigation bar and change it if necessary. This is where the network infrastructure for the Digital.ai DevOps Platform will be built. The template is launched in the US East (Ohio) Region by default.



**Important:** This Quick Start uses Amazon EFS, which is supported only in the regions listed on the AWS Regions and Endpoints <u>webpage</u>.

- 3. On the **Select Template** page, keep the default setting for the template URL, and then choose **Next**.
- 4. On the **Specify Details** page, change the stack name if needed. Review the parameters for the template. Provide values for the parameters that require input. For all other parameters, review the default settings and customize them as necessary. When you finish reviewing and customizing the parameters, choose **Next**.

In the following tables, parameters are listed by category and described separately for the two deployment options:

- Parameters for deploying the Digital.ai DevOps Platform into a new VPC
- Parameters for deploying the Digital.ai DevOps Platform into an existing VPC
- Option 1: Parameters for deploying the Digital.ai DevOps Platform into a new VPC

#### View template

*VPC* network configuration:

| Parameter label (name)                     | Default        | Description  |
|--|----------------|--|
| Remote access CIDR<br>(RemoteAccessCIDR)   | Requires input | The CIDR block for remote access. We recommend that you use a constrained CIDR range to reduce the potential of inbound attacks from unknown IP addresses.                   |
| Availability Zones (Availability Zones)    | Requires input | The list of Availability Zones to use for the subnets in the VPC.<br>The Quick Start uses two Availability Zones from your list and preserves the logical order you specify. |
| VPC CIDR<br>(VPCCIDR)                      | 10.0.0.0/19    | The CIDR block for the VPC.  |
| Private subnet 1<br>(PrivateSubnet1CIDR)   | 10.0.8.0/24    | The CIDR block for the private subnet located in Availability Zone 1.  |
| Private subnet 2 (PrivateSubnet2CIDR)      | 10.0.9.0/24    | The CIDR block for the private subnet located in Availability Zone 2.  |
| Private data subnet 1<br>(DataSubnet1CIDR) | 10.0.16.0/24   | The CIDR block for private data subnet 1 located in Availability Zone 1.   |
| Private data subnet 2<br>(DataSubnet2CIDR) | 10.0.17.0/24   | The CIDR block for private data subnet 2 located in Availability Zone 2.   |
| Public subnet 1                            | 10.0.1.0/24    | The CIDR block for the public (DMZ) subnet 1 located in  |



| Parameter label (name)              | Default     | Description  |
|-------------------------------------|-------------|--|
| (PublicSubnet1CIDR)                 |             | Availability Zone 1.   |
| Public subnet 2 (PublicSubnet2CIDR) | 10.0.2.0/24 | The CIDR block for the public (DMZ) subnet 2 located in Availability Zone 2. |

## Amazon RDS configuration:

| Parameter label (name)   | Default        | Description   |
|--|----------------|---|
| Database<br>administrator<br>username<br>(DBMasterUsername)    | xldevops       | The user name for the database admin account. Must be 1-16 characters. Must begin with a letter and contain only alphanumeric characters.                                   |
| Database<br>administrator<br>password<br>(DBMasterPassword)    | Requires input | The password for the database admin account. Must be 8-41 alphanumeric characters, and can't contain white space, ampersand (@), forward slash (/), or quotation marks ("). |
| DB backup retention<br>period<br>(DBBackupRetention<br>Period) | 7              | The number of days for which automatic DB snapshots are retained.   |
| DB instance class<br>(DBInstanceClass)                         | db.r4.large    | The name of the compute and memory capacity class of the DB instance.   |

## HTTP configuration:

| Parameter label (name)                     | Default         | Description  |
|--|-----------------|--|
| SSL certificate ARN<br>(SslCertificateArn) | :default        | The Amazon Resource Name (ARN) of the Secure Shell (SSL) certificate used to secure internet access to the Digital.ai DevOps Platform. |
| Load balancer type<br>(Loadbalancertype)   | internet-facing | The type of load balancer to deploy (either internal or internet facing)   |

## General settings:

| Parameter label (name)                | Default        | Description   |
|---------------------------------------|----------------|---|
| Environment name<br>(EnvironmentName) | xldevops       | The environment name, which defaults to 'xldevops.'   |
| Key name<br>(KeyPairName)             | Requires input | The name of an existing public/private key pair, which allows you to securely connect to your instance after it launches. |



| Parameter label (name)     | Default | Description  |
|----------------------------|---------|--|
| <b>InstallBastion Host</b> | False   | Whether or not to install and configure a bastion host |
| (InstallBastionHost)       |         |  |

## ${\it Digital. ai\ DevOps\ Platform\ configuration:}$

| Parameter label   | Default                  | Description  |
|---|--------------------------|--|
| (name)  |                          |  |
| XL DevOps Platform<br>instance type<br>(XLPlatform<br>InstanceType) | m5.xlarge                | The instance type that the Digital.ai DevOps Platform applications are created on. |
| Install XL Deploy<br>(InstallXLDeploy)                              | True                     | Whether Digital.ai Deploy should be installed in the ECS cluster.                  |
| XL Deploy Docker<br>image<br>(XLDeployDocker<br>Image)              | xebialabs/xl-deploy      | The path to the Digital.ai Deploy Docker image (registry/image).                   |
| XL Deploy version<br>(XLDeployVersion)                              | Requires input           | The version of Digital.ai Deploy to deploy.  |
| XL Deploy<br>administrator<br>password<br>(XLDeploy<br>Password)    | Requires input           | The administrator password for Digital.ai Deploy. Must be at least 8 characters.   |
| XL Deploy cluster<br>mode<br>(XLDeployClusterMode)                  | default                  | Set the cluster mode for Digital.ai Deploy.  |
| XL Deploy license<br>(XLDeployLicense)                              | trial                    | The (base64-encoded) license for Digital.ai Deploy.                                |
| Install XL Release<br>(InstallXLRelease)                            | True                     | Whether Digital.ai Release should be installed in the ECS cluster.                 |
| XL Release Docker<br>image<br>(XLReleaseDocker<br>Image)            | xebialabs/xl-<br>release | The path to the Digital.ai Release Docker image (registry/image).                  |
| XL Release version<br>(XLRelease<br>Version)                        | Requires input           | The version of Digital.ai Release to deploy.                                       |



| Parameter label (name)   | Default        | Description   |
|--|----------------|---|
| XL Release<br>administrator<br>password<br>(XLRelease<br>Password) | Requires input | The administrator password for Digital.ai Release. Must be at least 8 characters. |
| XL Release cluster<br>mode<br>(XLReleaseClusterMode)               | default        | Set the cluster mode for Digital.ai Release.                                      |
| XL Release license<br>(XLDeployLicense)                            | trial          | The (base64-encoded) license for Digital.ai Release.                              |
| AcceptEula<br>(AcceptEula)   | Requires input | To deploy the stack, AcceptEula value must be set to 'yes'                        |

**Note**: Irrespective of having a full license or a 30 days trial license or evaluating the product for 7 days using docker containers, you must accept <u>EULA</u> (End-user license agreement)

## AWS Quick Start configuration:

| Parameter label (name)                                | Default                                       | Description   |
|---|---|---|
| Quick Start S3 bucket<br>name<br>(QSS3BucketName)     | aws-quickstart                                | The S <sub>3</sub> bucket you have created for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. The bucket name can include numbers, lowercase letters, uppercase letters, and hyphens, but should not start or end with a hyphen. |
| Quick Start S3 bucket<br>Region<br>(QSS3BucketRegion) | us-east-1                                     | The AWS Region where the Quick Start S3 bucket (QSSBucketName) is hosted. When using your own bucket, you must specify this value.  |
| Quick Start S3 key<br>prefix<br>(QSS3KeyPrefix)       | quickstart-<br>xebialabs-devops-<br>platform/ | The <u>S3 key name prefix</u> used to simulate a folder for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. This prefix can include numbers, lowercase letters, uppercase letters, hyphens (-), and forward slashes (/).          |

• Option 2: Parameters for deploying the Digital.ai DevOps Platform software into an existing VPC

View template



## Network configuration:

| Parameter label (name)                   | Default        | Description   |
|--|----------------|---|
| VPC ID<br>(VPCID)                        | Requires input | The ID of your existing VPC (e.g., vpc-0343606e).                                       |
| VPC CIDR<br>(VPCCIDR)                    | 10.0.0.0/19    | The CIDR range for your VPC.  |
| Remote access CIDR<br>(RemoteAccessCIDR) | Requires input | The CIDR block for remote access.   |
| Public subnet 1<br>(PublicSubnet1ID)     | Requires input | The first public subnet that the Digital.ai DevOps Platform should be deployed to.      |
| Public subnet 2<br>(PublicSubnet2ID)     | Requires input | The second public subnet that the Digital.ai DevOps<br>Platform should be deployed to.  |
| Private subnet 1<br>(PrivateSubnet1ID)   | Requires input | The first private subnet that the Digital.ai DevOps Platform should be deployed to.     |
| Private subnet 2<br>(PrivateSubnet2ID)   | Requires input | The second private subnet that the Digital.ai DevOps<br>Platform should be deployed to. |
| Private data subnet 1<br>(DataSubnet1ID) | Requires input | The first private data subnet that the Aurora database cluster should be deployed to.   |
| Private data subnet 2<br>(DataSubnet2ID) | Requires input | The second private data subnet that the Aurora database cluster should be deployed to.  |

## Amazon RDS configuration:

| Parameter label (name)   | Default        | Description   |
|--|----------------|---|
| Database<br>administrator<br>username<br>(DBMasterUsername)    | xldevops       | The user name for the database admin account. Must be 1-16 characters. Must begin with a letter and contain only alphanumeric characters.                                   |
| Database<br>administrator<br>password<br>(DBMasterPassword)    | Requires input | The password for the database admin account. Must be 8-41 alphanumeric characters, and can't contain white space, ampersand (@), forward slash (/), or quotation marks ("). |
| DB backup retention<br>period<br>(DBBackupRetention<br>Period) | 7              | The number of days for which automatic DB snapshots are retained.   |
| DB instance class<br>(DBInstanceClass)                         | db.r4.large    | The name of the compute and memory capacity class of the DB instance.   |



## HTTP configuration:

| Parameter label (name)                       | Default         | Description   |
|--|-----------------|---|
| SSL certificate ARN<br>(SslCertificateArn)   | :default        | The Amazon Resource Name (ARN) of the Secure Shell (SSL) certificate used to secure internet access to the Digital.ai DevOps Platform |
| <b>Load balancer type</b> (LoadBalancerType) | internet-facing | The type of load balancer to deploy (either internal or internet facing)  |

## General settings:

| Parameter label (name)                           | Default        | Description   |
|--|----------------|---|
| Environment name<br>(EnvironmentName)            | xldevops       | The environment name, which defaults to 'xldevops.'   |
| <b>Key name</b> (KeyPairName)                    | Requires input | The name of an existing public/private key pair, which allows you to securely connect to your instance after it launches. |
| Bastion security group<br>(BastionSecurityGroup) | Requires input | The bastion security group that allows Secure Shell (SSH) access to the ECS machines.                                     |
| User external database? (UseExternalDB)          | True           | Use an external database.   |

## Digital.ai DevOps Platform configuration:

| Parameter label (name)  | Default                  | Description  |
|---|--------------------------|--|
| XL DevOps Platform<br>instance type<br>(XLPlatform<br>InstanceType) | m5.xlarge                | The instance type that the Digital.ai DevOps Platform applications are created on. |
| Install XL Release<br>(InstallXLRelease)                            | True                     | Whether Digital.ai Release should be installed in the ECS cluster.                 |
| XL Release Docker<br>image<br>(XLReleaseDockerImage)                | xebialabs/xl-<br>release | The path to the Digital.ai Release Docker image (registry/image).                  |
| XL Release version<br>(XLReleaseVersion)                            | Requires input           | The version of Digital.ai Release to deploy.                                       |
| XL Release<br>administrator<br>password<br>(XLRelease<br>Password)  | Requires input           | The administrator password for Digital.ai Release. Must be at least 8 characters.  |



| Parameter label (name)                                 | Default             | Description  |
|--|---------------------|--|
| XL Release cluster<br>mode<br>(XLReleaseClusterMode)   | default             | Set the cluster mode for Digital.ai Release.                                     |
| XL Release license<br>(XLReleaseLicense)               | trial               | The (base64-encoded) license for Digital.ai Release.                             |
| Install XL Deploy<br>(InstallXLDeploy)                 | True                | Whether Digital.ai Deploy should be installed in the ECS cluster.                |
| XL Deploy Docker<br>image<br>(XLDeployDocker<br>Image) | xebialabs/xl-deploy | The path to the Digital.ai Deploy Docker image (registry/image).                 |
| XL Deploy version<br>(XLDeployVersion)                 | Requires input      | The version of Digital.ai Deploy to deploy.                                      |
| XL Deploy administrator password (XLDeployPassword)    | Requires input      | The administrator password for Digital.ai Deploy. Must be at least 8 characters. |
| XL Deploy cluster<br>mode<br>(XLDeployClusterMode)     | default             | Set the cluster mode for Digital.ai Deploy.                                      |
| XL Deploy license<br>(XLDeployLicense)                 | trial               | The (base64-encoded) license for Digital.ai Deploy.                              |
| EFS mount point<br>(MountPoint)                        | /mnt/efs            | The Linux mount point for the EFS volume.  |
| AcceptEula<br>(AcceptEula)                             | Requires input      | To deploy the stack, AcceptEula value must be set to 'yes'                       |

**Note**: Irrespective of having a full license or a 30 days trial license or evaluating the product for 7 days using docker containers, you must accept <u>EULA</u> (End-user license agreement)

#### AWS Quick Start configuration:

| Parameter label (name)                         | Default            | Description   |
|--|--------------------|---|
| Quick Start S3 bucket name<br>(QSS3BucketName) | aws-<br>quickstart | The S3 bucket you have created for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. The bucket name can include numbers, lowercase letters, uppercase letters, and hyphens, but should not start or end with a hyphen. |
| Quick Start S3 bucket                          | us-east-1          | The AWS Region where the Quick Start S3 bucket  |



| Parameter label (name)                       | Default   | Description  |
|--|---|--|
| Region<br>(QSS3BucketRegion)                 |   | (QSSBucketName) is hosted. When using your own bucket, you must specify this value.  |
| Quick Start S3 key prefix<br>(QSS3KeyPrefix) | quickstart-<br>xebialabs-<br>devops-<br>platform/ | The <u>S3 key name prefix</u> used to simulate a folder for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. This prefix can include numbers, lowercase letters, uppercase letters, hyphens (-), and forward slashes (/). |

- 5. On the **Options** page, you can <u>specify tags</u> (key-value pairs) for resources in your stack and <u>set advanced options</u>. When you're done, choose **Next**.
- **6.** On the **Review** page, review and confirm the template settings. Under **Capabilities**, select the check box to acknowledge that the template will create IAM resources. Please select the checkbox **CAPABILITY\_AUTO\_EXPAND**
- 7. Choose **Create** to deploy the stack.
- 8. Monitor the status of the stack. When the status is **CREATE\_COMPLETE**, the Digital.ai DevOps Platform cluster is ready.
- 9. Use the URLs displayed in the **Outputs** tab for the stack to view the resources that were created.

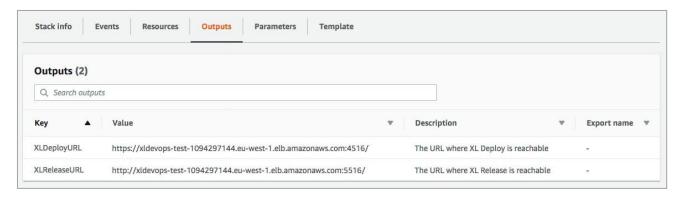


Figure 2: Digital.ai DevOps Platform outputs after successful deployment



#### Step 4. Test the Deployment

Once the deployment has succeeded, you can access the products at:

- https://<IP\_or\_hostname>:4516 (Deploy)
- https://<IP\_or\_hostname>:5516 (Release)

## Best Practices for Using the Digital.ai DevOps Platform on AWS

## **Backups**

It is recommended to regularly back up the data in the Amazon RDS instance in addition to the contents of the EFS volume. This prevents data loss, if the stack is removed accidentally.

## Security

The security groups and IAM roles are set up to provide minimal access to the software. You can fine-tune them to your needs.

For setting up users and groups in the Digital.ai DevOps Platform itself, please refer to the product documentation at <a href="https://docs.xebialabs.com">https://docs.xebialabs.com</a>.

#### FAQ

Q. I encountered a CREATE\_FAILED error when I launched the Quick Start.

**A.** If AWS CloudFormation fails to create the stack, we recommend that you relaunch the template with **Rollback on failure** set to **No**. (This setting is under **Advanced** in the AWS CloudFormation console, **Options** page.) With this setting, the stack's state will be retained and the instance will be left running, so you can troubleshoot the issue. (Look at the log files in %ProgramFiles%\Amazon\EC2ConfigService and C:\cfn\log.)

**Important:** When you set **Rollback on failure** to **No**, you will continue to incur AWS charges for this stack. Please make sure to delete the stack when you finish troubleshooting.

For additional information, see <u>Troubleshooting AWS CloudFormation</u> on the AWS website.



Q. I encountered a size limitation error when I deployed the AWS CloudFormation templates.

**A.** We recommend that you launch the Quick Start templates from the links in this guide or from another S3 bucket. If you deploy the templates from a local copy on your computer or from a non-S3 location, you might encounter template size limitations when you create the stack. For more information about AWS CloudFormation limits, see the <u>AWS</u> documentation.

Q. Can I use the 'latest' tag when specifying a version for the Digital.ai DevOps Platform?

A. The 'latest' tag is an anti-pattern in DevOps because it precludes repeatable builds/deployments. This makes it impossible to tell which version was used for the deployment. The Digital.ai DevOps Platform is not released with a 'latest' tag. Rather, Digital.ai releases each new version with two tags: the exact (major.minor.patch) version number and a "latest in stream" (major.minor) version number. The "latest in stream" tag will be updated with each subsequent maintenance release of the Digital.ai DevOps Platform.

Q. Can I run the Digital.ai DevOps Platform on the AWS Free Tier?

**A.** No. The minimum instance sizes needed for the Digital.ai DevOps Platform are larger than the AWS Free Tier allows.

Q. How many AWS resources does the Digital.ai DevOps Platform use?

**A.** The Digital.ai DevOps Platform instantiates two to four EC2 hosts in a single ECS cluster for running the Digital.ai DevOps Platform containers. In addition, one EC2 host is created to provide a bastion host to access your VPC. Finally, you need one Elastic IP address to access the Digital.ai DevOps Platform.

## **GitHub Repository**

You can visit our <u>GitHub repository</u> to download the templates and scripts for this Quick Start, to post your comments, and to share your customizations with others.

## **Additional Resources**

#### **AWS services**

- Amazon EC2 <a href="https://docs.aws.amazon.com/ec2/">https://docs.aws.amazon.com/ec2/</a>
- Amazon ECS
   https://docs.aws.amazon.com/AmazonECS/latest/developerguide/Welcome.html



- Amazon EFS https://docs.aws.amazon.com/efs/
- Amazon VPC
   <a href="https://docs.aws.amazon.com/vpc/">https://docs.aws.amazon.com/vpc/</a>
- AWS CloudFormation https://docs.aws.amazon.com/cloudformation/
- AWS Identity and Access Management https://docs.aws.amazon.com/iam/

#### Digital.ai DevOps Platform documentation

- Digital.ai product documentation https://docs.xebialabs.com/
- Digital.ai support https://support.xebialabs.com
- Digital.ai contact information https://digital.ai/contact/

#### **Quick Start reference deployments**

• AWS Quick Start home page https://aws.amazon.com/quickstart/

## **Document Revisions**

| Date          | Change   | In sections   |
|---------------|--|---|
| July 2020     | Updated new features, Eula license link etc                                    | Existing VPC and New VPC  |
| August 2019   | Updated links for trial license, commercial subscription license, and download | Costs and Licenses; Step 2:<br>Obtain a Digital.ai DevOps<br>Platform License |
| February 2019 | Initial publication  | _   |



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