Getting started

This guide contains a brief overview and instructions to deploy the solution quickly. This solution uses AWS CloudFormation templates and stacks to automate its deployment. The CloudFormation templates specify the AWS resources included in this solution and their properties. The CloudFormation stack provisions the resources that are described in the templates.

Deployment process overview

> **Important**
>
> This solution includes an option to send anonymized operational metrics to AWS. We use this data to better understand how customers use this solution and related services and products. AWS owns the data gathered though this survey. Data collection is subject to the Privacy notice.

To opt out of this feature, download the template, modify the AWS CloudFormation mapping section, and then use the AWS CloudFormation console to upload your updated template and deploy the solution.

Follow the step-by-step instructions in this section to configure and deploy the solution into your account.

Time to deploy: Approximately 5-10 minutes (not including configuration).

Step 1: Launch the instance scheduler stack

1. Launch the AWS CloudFormation template in your AWS account.
2. Enter values for the required parameters.
3. Review the other template parameters, and adjust if necessary.

Step 2 (Optional): Launch the remote stack in secondary accounts

1. Launch the AWS CloudFormation template in your AWS account.
2. Enter values for the required parameters.

AWS CloudFormation templates

This solution uses AWS CloudFormation templates and stacks to automate its deployment. The CloudFormation templates specify the AWS resources included in this solution and their properties. The CloudFormation stack provisions the resources that are described in the templates.

You can download the CloudFormation templates for this solution before deploying it.

View template

instance-scheduler-on-aws.template - Use this template to launch the solution and all associated components. The default configuration deploys an AWS Lambda function, an Amazon DynamoDB table, an Amazon CloudWatch event, and CloudWatch custom metrics, but you can also customize the template based on your specific needs.

View template

instance-scheduler-on-aws-remote.template - Use this template to launch the cross-account role used by the solution to schedule instances in spoke accounts. For deployments using AWS Organizations, deploying the template also registers the spoke account with the hub, requiring no manual configuration.

> **Note**
>
> If you previously deployed this solution, see Update the solution for update instructions.

Step 1: Launch the instance scheduler hub stack

Follow the step-by-step instructions in this section to deploy the solution into your account.

Time to deploy: Approximately five minutes

Launch solution

1. Sign in to the AWS Management Console and select the button to launch the **instance-scheduler-on-aws.template** AWS CloudFormation template.

2. The template launches in the US East (N. Virginia) Region by default. To launch the solution in a different AWS Region, use the Region selector in the console navigation bar.
3. On the **Create stack** page, verify that the correct template URL is in the **Amazon S3 URL** text box and choose **Next**.
4. On the **Specify stack details** page, assign a name to your solution stack. For information about naming character limitations, see IAM and AWS STS quotas in the *AWS Identity and Access Management User Guide*.
5. Under **Parameters**, review the parameters for this solution template and modify them as necessary. This solution uses the following default values.

Parameter	Default
Schedule tag key	`Schedule`
Scheduling interval (minutes)	`5`
Default time zone	`UTC`
Scheduling enabled	`Yes`
Enable xxx Scheduling	`Enabled`

Parameter	Default
Start tags	`InstanceScheduler-LastA n=Started By {schedule {year}/{month}/{day} {h inute}{timezone},>`
Stop tags	`InstanceScheduler-LastA n=Stopped By {schedule {year}/{month}/{day} {h inute}{timezone},>`
Enable EC2 SSM maintenance windows	No
KMS Key ARNs for EC2	*<Optional Input>*
Create RDS instance snapshots on stop	No
ASG scheduled tag key	`scheduled`
ASG action name prefix	`is-`
Use AWS Organizations	No
Namespace	`default`

Parameter	Default
Organization ID/Remote Account IDs	*<Optional Input>*
Region(s)	*<Optional Input>*
Enabled hub account scheduling	`Yes`
Log retention period (days)	`30`
Enable CloudWatch Debug Logs	`No`
Operational Monitoring	`Enabled`
Memory Size	`128`
Protect DynamoDB Tables	`Enabled`

6. Choose **Next**.
7. On the **Configure stack options** page, choose **Next**.
8. On the **Review and create** page, review and confirm the settings. Check the box acknowledging that the template will create IAM resources.

9. Choose **Submit** to deploy the stack.

You can view the status of the stack in the AWS CloudFormation console in the **Status** column. You should receive a CREATE_COMPLETE status in approximately five minutes.

Step 2 (Optional): Launch the remote stack in secondary accounts

> **Important**
>
> The remote stack must be deployed in the same Region as the hub stack.

This automated AWS CloudFormation template configures secondary account permissions that will allow the hub stack to schedule instances in other accounts. Install the remote template only after the primary/hub stack has been successfully installed in the Hub account.

1. Sign in to the AWS Management Console of the applicable secondary account and select the button to launch the instance-scheduler-on-aws-remote AWS CloudFormation template.
2. The template launches in the US East (N. Virginia) Region by default. To launch the solution in a different AWS Region, use the Region selector in the console navigation bar. If the hub stack is configured to use AWS Organizations, then deploy the remote template in the same region as the hub stack.
3. On the **Create stack** page, verify that the correct template URL is in the **Amazon S3 URL** text box and choose **Next**.
4. On the **Specify Details** page, assign a name to your remote stack.
5. Under **Parameters**, review the parameter for the template, and modify it.
6. If the AWS Organizations option is enabled and the hub stack is similarly configured, there are no further changes required in the main stack to start the scheduling.
7. If the AWS Organization option is set to No, then the hub stack should be updated with the new Account ID.

Parameter	Default	Description
Hub Account ID	*<Requires Input>*	Account ID of the Instance Scheduler on AWS hub stack that will schedule resources in this account.
Use AWS Organizations	No	Use AWS Organizations to automate spoke account registration. Must be set to the same value as the hub stack.
Namespace	`default`	Unique identifier used to differentiate between multiple solution deployments. Must be set to the same value as the hub stack.
Kms Key ARNs for EC2	<Optional Input>	Comma-separated list of KMS ARNs to grant the solution kms:CreateGrant permissions to provide the EC2 service with decrypt permissions for encrypted EBS volumes. This allows the scheduler to start EC2 instances with attached encrypted EBS volumes. Provide (*) to give limited access to all KMS keys; leave blank to disable. For details on the exact policy created, refer to Encrypted EC2 EBS Volumes

5. Choose **Next.**

6. On the **Options** page, choose **Next**.
7. On the **Review and create** page, review and confirm the settings. Be sure to check the box acknowledging that the template will create IAM resources.
8. Choose **Submit** to deploy the stack.

You can view the status of the stack in the AWS CloudFormation Console in the **Status** column. You should see a status of `CREATE_COMPLETE` in approximately five minutes.

Configure the solution

Now that the solution has been deployed, you can begin configuring schedules and tagging instances for scheduler. To learn more about how to do these things, refer to Configure schedules and Tag instances for scheduling.