

Non-interactive installation (Configuration file)

Introduction

Sandbox Studio can be installed in two ways:

- **Interactive mode:** you run the installation script and answer each prompt as the wizard guides you through the setup. This is described in [Running the Installation Wizard](#).
- **Non-interactive mode:** you provide all of the required settings up front in a JSON **configuration file** and pass it to the script with the `--config-file` flag. The installer reads every value from the file and runs the entire deployment without asking any questions.

Non-interactive mode is useful when you want repeatable, scripted, or unattended installations (for example in CI/CD pipelines, or when deploying the same configuration across multiple environments).

The configuration file drives exactly the same deployment as the interactive wizard. Every value you would normally be asked for in the wizard has a matching field in the configuration file.

Installing with the script and a configuration file

You can run the installer from any terminal, including AWS CloudShell, your local machine, or a build agent, as long as it meets the requirements below.

Before you begin, make sure your terminal is:

- Authenticated to your AWS **Organisation Management account** (for example via `aws configure`, environment variables, an SSO profile, or an assumed role).

Do not use your root account.

- Targeting the AWS region where you want to install Sandbox Studio (for example by setting `AWS_REGION` / `AWS_DEFAULT_REGION` or your CLI profile's default region).

You can confirm which account and region your terminal is using with:

```
aws sts get-caller-identity
aws configure get region
```

Then run the installation:

1. Create your configuration file somewhere on the machine running the installer. For example, create a file called `sbs-config.json` in your home directory:

```
nano ~/sbs-config.json
```

Paste your configuration (see the [example configuration files](#) below), then save and exit. You can use any text editor; `nano` is just an example.

2. Run the installation script and point it at your configuration file:

```
bash <(curl -s https://dist.sandboxstudiosoftware.com/install.sh) --config-file ~/sbs-config.json
```

The installer will load every value from the file and deploy the solution without prompting. Because no questions are asked, make sure your file is complete and correct before you run the command.

Using a configuration file to update Sandbox Studio

The same command is used to update an existing installation. When the script runs with a configuration file and detects an existing Sandbox Studio installation, it automatically upgrades all deployed stacks, with no confirmation prompts. Point the `--config-file` flag at your file exactly as you would for a first-time install:

```
bash <(curl -s https://dist.sandboxstudiosoftware.com/install.sh) --config-file ~/sbs-config.json
```

For more details on the update behaviour, see [Update Sandbox Studio](#).

The configuration file

The configuration file is a single JSON object. The sections below describe every field, whether it is required, its default value, and what it does.

Required fields

These fields must always be present in the configuration file.

Field	Type	Description
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namespace	string	Unique namespace for this Sandbox Studio instance. Must be 3 to 8 alphanumeric characters (pattern <code>^[0-9a-zA-Z]{3,8}\$</code>). Used as a prefix to name Sandbox Studio resources. Example: <code>Sandbox</code> .
hub_account_id	string	AWS account ID of the hub account where the data, compute, and API stacks are deployed. Must be a 12-digit account ID (pattern <code>^[0-9]{12}\$</code>).
parent_ou_id	string	ID of the parent Organisational Unit where the Sandbox OUs will be created. Example: <code>ou-xxxx-xxxxxxxx</code> or a root ID such as <code>r-xxxx</code> .
managed_regions	string	Comma-separated list of AWS regions to manage. <code>us-east-1</code> is always included automatically. Example: <code>us-east-1,eu-west-1,ap-southeast-2</code> .
admin_group_name	string	IAM Identity Center group name for administrators. Example: <code>Sandbox_AdminsGroup</code> .
manager_group_name	string	IAM Identity Center group name for managers. Example: <code>Sandbox_ManagersGroup</code> .
user_group_name	string	IAM Identity Center group name for regular users. Example: <code>Sandbox_UsersGroup</code> .
allowed_ip_ranges	string	Comma-separated CIDR ranges allowed to access the API. Default: <code>0.0.0.0/1,128.0.0.0/1</code> (all IPs). Restrict to your corporate ranges if required.
use_existing_vpc	boolean	Whether to use an existing VPC (<code>true</code>) or create a new one (<code>false</code>).
notifications_enabled	boolean	Whether to enable email notifications.

Database options

Field	Type	Required	Description
db_instance_type	string	Optional	RDS instance type for the PostgreSQL database, without the <code>db.</code> prefix. Default: <code>t4g.small</code> . Examples: <code>t4g.small</code> , <code>t4g.medium</code> , <code>r6g.large</code> .
db_engine_version	string	Optional	PostgreSQL engine version (format <code>X.Y</code> , major version 17 or higher). Leave empty (<code>" "</code>) to use the latest default. Example: <code>17.4</code> .
db_encryption	string	Optional	Enable storage encryption for the RDS database. One of <code>Yes</code> or <code>No</code> . Default: <code>Yes</code> for new installations.

Identity Center application

You must provide **either** an existing application ARN (`idc_app_arn`) **or** a name for a new application (`idc_app_name`). If `idc_app_arn` is not supplied, a new SAML application is created using `idc_app_name` and `idc_app_description`.

Field	Type	Required	Description
idc_app_arn	string	Conditional	ARN of an existing IAM Identity Center application to use. If provided, an existing application is reused instead of creating a new one. Example: <code>arn:aws:sso::123456789012:application/ssoins-xxxxxxxxxxxxxxxxx/apl-xxxxxxxxxxxxxxxxx</code> .
idc_app_name	string	Conditional	Display name for a new IAM Identity Center SAML application (used when creating a new application). Default: <code>Sandbox Studio</code> .

Field	Type	Required	Description
idc_app_description	string	Optional	Description for a new IAM Identity Center SAML application. Default: Sandbox Studio allows users to access temporary AWS accounts.

Networking (VPC)

When `use_existing_vpc` is `true`, the following three fields become **required**. When `use_existing_vpc` is `false`, a new VPC is created and these fields are ignored.

Field	Type	Required	Description
vpc_id	string	Required if <code>use_existing_vpc</code> is <code>true</code>	VPC ID to use. Example: <code>vpc-0123456789abcdef0</code> .
database_subnets	string	Required if <code>use_existing_vpc</code> is <code>true</code>	Comma-separated subnet IDs for the database. Minimum 2 subnets in different Availability Zones. Example: <code>subnet-aaa,subnet-bbb</code> .
compute_subnets	string	Required if <code>use_existing_vpc</code> is <code>true</code>	Comma-separated subnet IDs for compute resources. Minimum 1 subnet. Example: <code>subnet-ccc,subnet-ddd</code> .

Custom domain

Field	Type	Required	Description
custom_domain	string or null	Optional	Custom domain name for the application. Set to <code>null</code> to use the default CloudFront URL. Example: <code>sandbox.example.com</code> .
certificate_arn	string	Required if <code>custom_domain</code> is set	ARN of the ACM certificate in <code>us-east-1</code> . Example: <code>arn:aws:acm:us-east-1:123456789012:certificate/xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx</code> .

Administrators

Field	Type	Required	Description
add_admin_users	boolean	Optional	Whether to add IAM Identity Center users as Sandbox Studio administrators during installation. Default: <code>false</code> .
admin_users	array of strings	Optional	List of IAM Identity Center usernames to add as Sandbox Studio administrators. Used when <code>add_admin_users</code> is <code>true</code> . Example: <code>["admin@example.com", "john.doe"]</code> .

Email notifications

When `notifications_enabled` is `true`, `email_service` and `email_from` are **required**. If `email_service` is set to `SMTP`, the SMTP fields below also become required.

Field	Type	Required	Description
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<code>email_service</code>	string	Required if <code>notifications_enabled</code> is <code>true</code>	Email service to use for notifications. One of <code>SES</code> or <code>SMTP</code> . Default: <code>SES</code> .
<code>email_from</code>	string (email)	Required if <code>notifications_enabled</code> is <code>true</code>	Sender email address for notifications. For SES, this must be a verified identity. Example: <code>sandboxstudio@example.com</code> .
<code>smtp_server</code>	string	Required if <code>email_service</code> is <code>SMTP</code>	SMTP server hostname. Example: <code>smtp.example.com</code> .
<code>smtp_username</code>	string	Required if <code>email_service</code> is <code>SMTP</code>	SMTP username.
<code>smtp_password</code>	string	Required if <code>email_service</code> is <code>SMTP</code>	SMTP password.
<code>smtp_port</code>	string or integer	Required if <code>email_service</code> is <code>SMTP</code>	SMTP port number. Default: <code>587</code> .
<code>smtp_use_tls</code>	boolean	Required if <code>email_service</code> is <code>SMTP</code>	Whether to use TLS for SMTP connections. Default: <code>true</code> .

Security: When you use the `SMTP` email service, the configuration file contains your `smtp_password` in plain text. Do not commit this file to source control and do not share it. Delete it once the installation is complete, and store any long-lived copy securely.

Example configuration files

The examples below use placeholder account IDs, VPC IDs, and subnet IDs. Replace them with your own values.

Example 1: New VPC with SES notifications

```
{
  "namespace": "Sandbox",
  "hub_account_id": "123456789012",
  "parent_ou_id": "ou-xxxx-xxxxxxxx",
  "managed_regions": "us-east-1,eu-west-1",
  "db_instance_type": "t4g.small",
  "db_engine_version": "",
  "idc_app_name": "Sandbox Studio",
  "idc_app_description": "Sandbox Studio allows users to access temporary AWS accounts",
  "admin_group_name": "Sandbox_AdminsGroup",
  "manager_group_name": "Sandbox_ManagersGroup",
  "user_group_name": "Sandbox_UsersGroup",
  "allowed_ip_ranges": "0.0.0.0/1,128.0.0.0/1",
  "use_existing_vpc": false,
  "custom_domain": null,
```

```
"notifications_enabled": true,
"add_admin_users": true,
"admin_users": ["admin@example.com"],
"email_service": "SES",
"email_from": "sandboxstudio@example.com"
}
```

Example 2: Existing VPC, no notifications

```
{
  "namespace": "SBS",
  "hub_account_id": "123456789012",
  "parent_ou_id": "ou-xxxx-xxxxxxxx",
  "managed_regions": "us-east-1,ap-southeast-1",
  "db_instance_type": "t4g.small",
  "db_engine_version": "",
  "idc_app_name": "Sandbox Studio",
  "idc_app_description": "Sandbox Studio allows users to access temporary AWS accounts",
  "admin_group_name": "Sandbox_Admins",
  "manager_group_name": "Sandbox_Managers",
  "user_group_name": "Sandbox_Users",
  "allowed_ip_ranges": "0.0.0.0/1,128.0.0.0/1",
  "use_existing_vpc": true,
  "vpc_id": "vpc-0123456789abcdef0",
  "database_subnets": "subnet-0aaaaa1111bbbb2222,subnet-0cccc3333dddd4444",
  "compute_subnets": "subnet-0eeee5555ffff6666,subnet-07777gggg8888hhhh",
  "custom_domain": null,
  "notifications_enabled": false,
  "add_admin_users": true,
  "admin_users": ["admin-trial", "andy"]
}
```

Example 3: Email notifications with SES

This example enables email notifications using Amazon SES. The `email_from` address must be a verified identity in SES.

```
{
  "namespace": "Sandbox",
  "hub_account_id": "123456789012",
  "parent_ou_id": "ou-xxxx-xxxxxxxx",
```

```

"managed_regions": "us-east-1,eu-west-1",
"db_instance_type": "t4g.small",
"db_engine_version": "",
"idc_app_name": "Sandbox Studio",
"idc_app_description": "Sandbox Studio allows users to access temporary AWS accounts",
"admin_group_name": "Sandbox_AdminsGroup",
"manager_group_name": "Sandbox_ManagersGroup",
"user_group_name": "Sandbox_UsersGroup",
"allowed_ip_ranges": "0.0.0.0/1,128.0.0.0/1",
"use_existing_vpc": false,
"custom_domain": null,
"notifications_enabled": true,
"email_service": "SES",
"email_from": "sandboxstudio@example.com"
}

```

Example 4: Email notifications with SMTP

This example enables email notifications using an SMTP server. When `email_service` is set to `SMTP`, all of the `smtp_*` fields are required.

```

{
  "namespace": "Sandbox",
  "hub_account_id": "123456789012",
  "parent_ou_id": "ou-xxxx-xxxxxxxx",
  "managed_regions": "us-east-1,eu-west-1",
  "db_instance_type": "t4g.small",
  "db_engine_version": "",
  "idc_app_name": "Sandbox Studio",
  "idc_app_description": "Sandbox Studio allows users to access temporary AWS accounts",
  "admin_group_name": "Sandbox_AdminsGroup",
  "manager_group_name": "Sandbox_ManagersGroup",
  "user_group_name": "Sandbox_UsersGroup",
  "allowed_ip_ranges": "0.0.0.0/1,128.0.0.0/1",
  "use_existing_vpc": false,
  "custom_domain": null,
  "notifications_enabled": true,
  "email_service": "SMTP",
  "email_from": "sandboxstudio@example.com",
  "smtp_server": "smtp.example.com",
  "smtp_username": "smtp-user",

```

```
"smtp_password": "your-smtp-password",
"smtp_port": "587",
"smtp_use_tls": true
}
```

Example 5: Custom domain with an ACM certificate

This example serves Sandbox Studio from a custom domain instead of the default CloudFront URL. When `custom_domain` is set, `certificate_arn` is required and the certificate must exist in `us-east-1`.

```
{
  "namespace": "Sandbox",
  "hub_account_id": "123456789012",
  "parent_ou_id": "ou-xxxx-xxxxxxxx",
  "managed_regions": "us-east-1,eu-west-1",
  "db_instance_type": "t4g.small",
  "db_engine_version": "",
  "idc_app_name": "Sandbox Studio",
  "idc_app_description": "Sandbox Studio allows users to access temporary AWS accounts",
  "admin_group_name": "Sandbox_AdminsGroup",
  "manager_group_name": "Sandbox_ManagersGroup",
  "user_group_name": "Sandbox_UsersGroup",
  "allowed_ip_ranges": "0.0.0.0/1,128.0.0.0/1",
  "use_existing_vpc": false,
  "custom_domain": "sandbox.example.com",
  "certificate_arn": "arn:aws:acm:us-east-1:123456789012:certificate/xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx",
  "notifications_enabled": false
}
```

Support

If you encounter any issues, please contact your Sandbox Studio support team at support@sandboxstudiosoftware.com or go to <https://support.sandboxstudiosoftware.com>.

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