

Git

```
# Git Documentation
# Git global setup
git config --global user.name "John Doe"
git config --global user.email "johndoe@gmail.com"

# Clone and Edit a repository
git clone git@git.example.com:repository/project.git
cd project
touch README.md
git add README.md
git commit -m "add README"
git push -u origin master

# Convert existing folder to repo and push
cd existing_folder
git init
git remote add origin git@gitexample.com:repository/project.git
git add .
git commit -m "Initial commit"
git push -u origin master
```

Git Secrets

```
# Git-Secrets prevents you from committing secrets/credentials into git repositories
# Scan for secrets on each commit
git secrets --install /path/to/files
git secrets --register-aws

# Scan file/folders for secrets
git secrets --scan /path/to/file
git secrets --scan -r /path/to/directory

# Adds a prohibited pattern to the current repo:
git secrets --add '[A-Z0-9]{20}'

# Adds a prohibited pattern to the global git config:
git secrets --add --global '[A-Z0-9]{20}'

# Add an allowed pattern:
git secrets --add -a 'allowed pattern'
```

Scout Suite

```
# Scout Suite is a multi-cloud audit tool
# Install and configure
git clone https://github.com/nccgroup/ScoutSuite
cd ScoutSuite
sudo pip3 install -r requirements.txt
python3 scout.py --help #Check install

# Pull the latest ruleset
curl https://raw.githubusercontent.com/nccgroup/ScoutSuite/master/ScoutSuite/providers/aws/rules/rule-sets/detailed.json > detailed-rules.json

# Run with the latest Ruleset
python3 scout.py aws --profile <profile> --ruleset <ruleset>
```

Docker

```
# Docker Documentation
docker pull <image>:<tag>
docker build -f /path/dockerfile -t imagename .

docker image ls
docker image rm <imageid>
docker commit containerid [REPOSITORY[:TAG]]
docker container ls -a
docker container prune
docker info
docker kill <containerid>
docker rm <containerid>

# Bulk Delete All Containers
docker ps -a -q | xargs -n 1 -I {} docker rm {}

# Run Containers in Detached Mode
docker run -d -p 80:80 myimage nginx -g 'daemon off; '

# Run Interactive Containers with Mounted Files
docker run -v /hostpath:/containerpath -it <image>:<tag>

docker save image:tag > image.tar
```



SANS
CLOUD
SECURITY

Cloud Security and DevOps
“Fix Security Issues Left of Prod”

By Ross Young
Cheat Sheet v1.1.2

SANS.ORG/CLOUD-SECURITY

Docker Security Checks

```
Dockle - Check your Dockerfile against the CIS Benchmarks with a Container Image Linter
# Install Dockle
https://github.com/goodwithtech/dockle

dockle REPOSITORY/IMAGE:TAG
dockle --exit-code 1 --exit-level fatal IMAGE:TAG

Docker Scan - Find Vulnerabilities within a Container Image
docker scan --file /Path/Dockerfile IMAGE:TAG

Container Vuln Scan (Excluding the Base Image)
docker scan --file /Path/Dockerfile --exclude-base IMAGE:TAG

Dependency Tree
docker scan --dependency-tree IMAGE:TAG

Docker-Bench - Evaluate your Docker Engine configuration against the CIS Benchmark
Install Go, then clone this repository
https://github.com/aquasecurity/docker-bench

go build -o docker-bench .

./docker-bench
```

Terraform Syntax

Blocks are the configuration of an object

Arguments assign a value to a name.

Expressions represent a value, either literally or by referencing and combining other values.

```
<BLOCK TYPE> "<BLOCK LABEL>" "<BLOCK LABEL>" {  
  # Block body  
  <IDENTIFIER> = <EXPRESSION> # Argument  
}  
  
# Example:  
  
resource "aws_vpc" "main" {  
  cidr_block = var.base_cidr_block  
}
```

CloudFormation (YAML Syntax)

Resources:

- Logical ID:*
- Type: Resource type*
- Properties:*
 - Set of properties*

Example

Resources:

- MyInstance:**
 - Type:** "AWS::EC2::Instance"
 - Properties:**
 - UserData:**
 - "Fn::Base64":
 - !Sub |
 - Queue=\${MyQueue}
 - AvailabilityZone:** "us-east-1a"
 - ImageId:** "ami-0ff8a91507f77f867"
- MyQueue:**
 - Type:** "AWS::SQS::Queue"
 - Properties:** {}

Infrastructure Scans (Terraform, CloudFormation, & Helm)

[Terrascan](#) is a misconfiguration scanner. It can scan Terraform, Kubernetes, and other file types.

```
git clone git@github.com:accurics/terrascan.git  
cd terrascan  
make build  
./bin/terrascan  
terrascan scan -t aws  
  
# Find security misconfigurations in Helm Charts  
terrascan scan -I helm  
  
Checkov looks for misconfigurations in files such as Terraform, Cloud Formation, and even Helm Charts.  
  
pip install checkov  
checkov -f /path/example.tf  
  
# Find security misconfigurations in Helm Charts  
checkov --framework kubernetes -d <template files>  
  
CFN NAG looks for misconfigurations in CloudFormation templates.  
  
gem install cfn-nag  
cfn_nag_scan --input-path <path to templates>
```

Azure Key Store

```
# Create a Resource Group  
az group create --name "MyResourceGroup" -l "EastUS"  
  
# Create a new key in the keyvault  
az keyvault create --name "<unique name>" --resource-group "MyResourceGroup" --location "EastUS"  
  
# Show details of a key vault  
az keyvault show --name MyKeyVault  
  
# List Azure Key Vaults  
az keyvault list --resource-group "MyResourceGroup"  
  
# Delete a Key Vault  
az keyvault delete --name MyKeyVault --resource-group MyResourceGroup
```

AWS Systems Manager Parameter Store

```
aws ssm put-parameter --name MyParameter --  
value "secret_value" --type SecureString  
  
aws ssm get-parameter --name MyParameter --  
with-decryption
```

Jenkins Integration

[Scan](#) is a free open-source audit tool for DevOps teams. It can perform:

- Credentials Scanning to detect accidental secret leaks
- Static Analysis Security Testing (SAST) for a range of languages and frameworks
- Open-source dependencies audit
- License violation checks

You can add the following stage to your Jenkinsfile (declarative syntax) for basic integrations

```
stages {  
  stage('Scan') {  
    agent {  
      docker { image 'shiftleft/sast-scan' }  
    }  
    steps {  
      sh 'scan'  
    }  
  }  
}
```



RESOURCES

-  sans.org/cloud-security
-  SANS Cloud Security
-  @SANSCloudSec
-  SANS Cloud Security
-  Webcasts
-  Blogs

LONG COURSES

- SEC488: Cloud Security Essentials**
Learning the language of Cloud Security
- SEC510: Public Cloud Security: AWS, Azure, and GCP**
Multiple clouds require multiple solutions.
-  **SEC522: Defending Web Applications Security Essentials**
Not a matter of "if" but "when". Be prepared for a web app attack. We'll teach you how.
-  **SEC540: Cloud Security and DevOps Automation**
The cloud moves fast. Automate to keep up.
- SEC545: Cloud Security Architecture & Operations**
In the Cloud, no one can hear you scream. Architect it properly and you won't have to.
- SEC557: Continuous Automation for Enterprise and Cloud Compliance**
Using Cloud and DevOps Tools to Measure Security and Compliance



- SEC588: Cloud Penetration Testing**
Aim your arrows to the sky and penetrate the Cloud.
- SEC584: Cloud Native Security: Defending Containers and Kubernetes**
Deploy securely at the speed of cloud native.
- MGT516: Managing Security Vulnerabilities: Enterprise & Cloud**
Stop treating the symptoms. Cure the disease.

SHORT COURSES

- SEC534: Secure DevOps: A Practical Introduction**
Principles! Practices! Tools! Oh My! Start your journey on the DevSecOps road here.
- SEC541: Cloud Security Monitoring and Threat Detection**
Attackers can run, but not hide! Our radar sees all threats.
- MGT520: Leading Cloud Security Design & Implementation**
Building and leading a cloud security program