

Deploying an application

With all of the tools we need installed, we can start deploying the application. First we need to get the application code, then sign in to AWS, and finally write and run our terraform.

1. Get the application repository

<https://github.com/sam-bipsync/cybersoc-intro-to-terraform>

Above is the link to the repository that contains a very simple NodeJS application and your initial terraform files. Go to the repository and clone it if you have Git installed, if not download a zip by clicking the green 'Code' button and 'Download Zip' at the bottom of the pop-up menu.

2. Setting-up your awscli

To talk with AWS, we need to get you set-up with credentials to access the AWS account. This is in the form of access keys given to your group which we can use to set-up the awscli on your machine.

1. Start by opening a command prompt, it can be in any directory but might as well be in the same directory as the application repository you've downloaded earlier (If you're unsure how to put the command prompt in this directory, try googling the `cd` command).
2. With the command prompt, run the command `aws configure` and you will be asked for 4 inputs.
 - a. For the first input, type the access key from the group sheet
 - b. For the second input, type the secret access key from the group sheet
 - c. Enter region name as `us-east-1` - This is the location of the AWS servers your application will be hosted on
 - d. Enter output format as `json`
3. Verify that the set-up is complete by running the command `aws sts get-caller-identity` and see if the userID matches your access key, and that the end of the 'Arn' matches your group name, e.g. 'user/event_users/group_0'

3. Initialising Terraform

With every terraform project, you need to initialise it. What this does is download the plugins (in this case AWS), and will set-up your terraform state file.

1. You need to tell Terraform to use a unique state file just for your application, otherwise all of you will start to overwrite each others applications. To do this, open the `aws_config.tf` file and replace `$YOUR_INITIAL_AND_LAST_NAME$` in the 'key' field on line 7 with a unique string such as your initial and last name, e.g. `jsmith`
2. Open Command Prompt in the same directory as the terraform files (you can check using the `dir` command on windows, `ls` on mac)
3. With Command Prompt, run the command `terraform init`

4. Deploying some Terraform

Now you have AWS access set-up and terraform initialised, you can run the terraform to create the environment.

1. Run the terraform with `terraform apply` and read over the changes, if they're what you expect (should be all green for creation) then type `yes` to approve and attempt a deploy.
2. If you run into any errors, read them, hopefully it will be obvious what the issue is. Sam/Tom are around to help.

5. Access deployed application

Once the terraform completes, and you have included a `output` of the application URL, you should see it printed in your console.

Take the URL and paste it in to google where you should be able to access the application.