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# Terraform remote state — sharing information across state files



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One really cool feature I used recently was sharing a terraform state across multiple terraform projects.

Here is an example of a structure I have used, which has worked well for me.

```
.
├── management
│   ├── outputs.tf
│   ├── route53.tf
│   └── vpc.tf
├── service-1
│   ├── api-gateway.tf
│   └── data.tf
└── service-2
    ├── api-gateway.tf
    └── data.tf
```

I have split this way, to handle the core “management” configuration which will handle the core infrastructure, which I want to segregate away from individual services hosted within the infrastructure.

There are other reasons to split projects this way, such as simplifying the deployment, sometimes it is to do with circular dependencies, other times configuration issues.

In my case, service-1 and service-2 were dependent on management, to access VPC and Route53 information. It would have been possible to include all the terraform configurations into a single “project”, but I wanted to avoid creating a monolithic infrastructure configuration.

In order to create a loose connection between service-1, service-2 and management, and reference infrastructure from the latest version of its state, your project can access the remote state of another’s service. This is documented well on the terraform website

Data is shared by using outputs, for example I have a container running in management and I want to be able to output the Route 53 zone id, to be shared with other services

```
output "route53_zone_id" {  
  value = "${aws_route53_zone.zone_id}"  
}
```

When you run an apply with an output, you will also see it in the console

Apply complete! Resources: 0 added, 1 changed, 0 destroyed.

Outputs:

route53\_zone\_id = Z1J2WFZ3ZFF4B5

In order to reference this from another project, I add a data block which points to the remote state:

```
data "terraform_remote_state" "management" {  
  backend = "s3"  
  config {  
    bucket = "craig-godden-payne-terraform-remote-state"  
    key     = "infrastructure/management/terraform.tfstate"  
    region = "eu-west-1"  
  }  
}
```

Now when I want to use the data from the remote state, I can do this as so:

```
"${data.terraform_remote_state.management.route53_zone_id}"
```

If you have issues, make sure to check that you have run `terraform apply` on the source environment, even if you have not made any changes.





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