INFRASTRUCTURE AS CODE (IAC)

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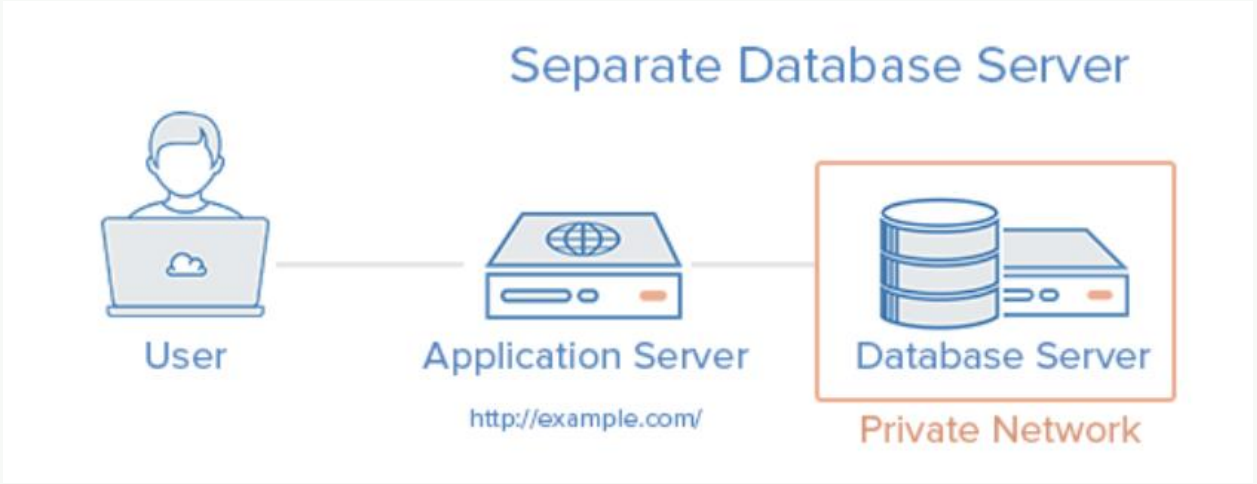
Infrastructure as code (IaC)

Infrastructure - servers to run your application



Infrastructure ***as*** code - define cloud resources with code/text

```
module apiTodo './app/api-todo.bicep' = {
  name: 'api-todo'
  params: {
    name: '${abbrs.appContainerApps}api-todo-${resourceToken}'
    location: location
    tags: tags
    identityName: '${abbrs.managedIdentityUserAssignedIdentities}api-todo-${resourceToken}'
    applicationInsightsName: monitoring.outputs.applicationInsightsName
    containerAppsEnvironmentName: appsEnv.outputs.name
    containerRegistryName: registry.outputs.name
    exists: apiTodoExists
    corsAcaUrl: corsAcaUrl
    }
  scope: rg
}
```

On-premises and old cloud

Pets

- Carefully tended servers
- Given names
- Nurse back to health
- When they go missing, you notice
- Scaling requires more units
- Maintenace includes the whole unit

  (OS, server software, your code)

Cloud

Cattle

- Tagged with a number like cattle
- 1 is the same as the next
- Easy to create and replace
- Cheapest resources for purpose
- Easy to scale – just create more
- Management thru automation
- Checked into source code repo
- Automated with pipelines

Provision & Deploy

Provision: create resources

Google Terraform

Azure Bicep

AWS CDK

Deploy: build and send code to resource

Azure Developer CLI

Puppet/Chef

Links

Azure Dev CLI (AZD):

https://learn.microsoft.com/azure/developer/azure-developer-cli

AZD templates:

https://learn.microsoft.com/azure/developer/azure-developer-cli/azd-templates

Terraform:

https://developer.hashicorp.com/terraform