Data Sources

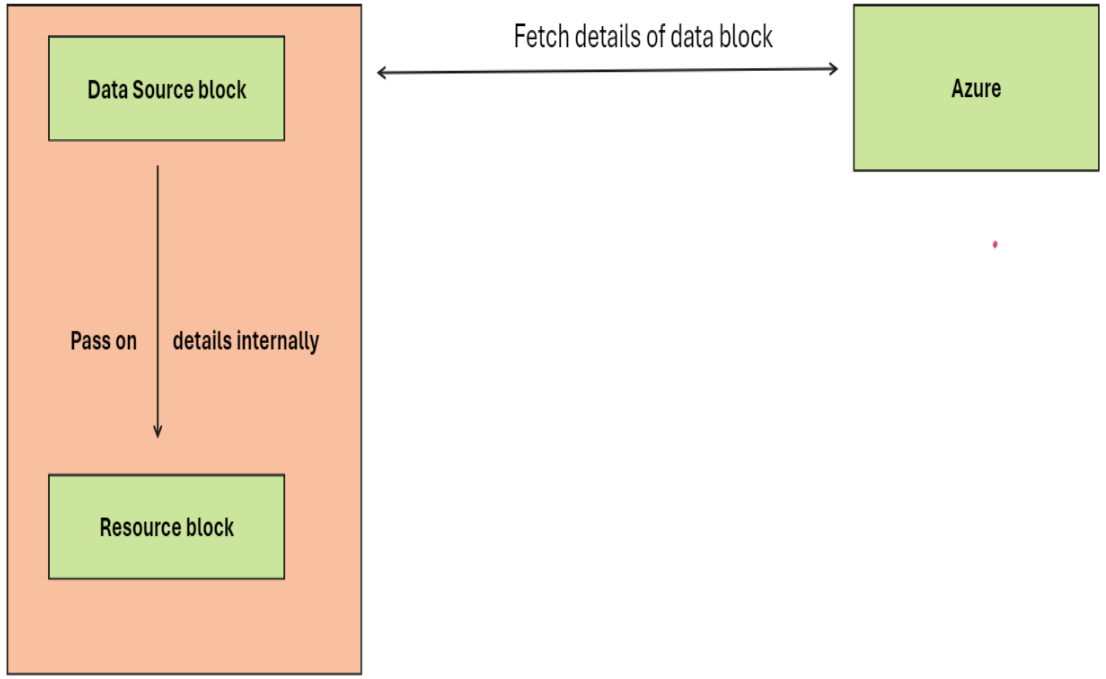
Using Data Sources

- Data sources in Terraform provide a way to fetch information about existing infrastructure or resources from external systems.

- Example 1: Fetching Information About an Existing Resource Group to create a storage account.

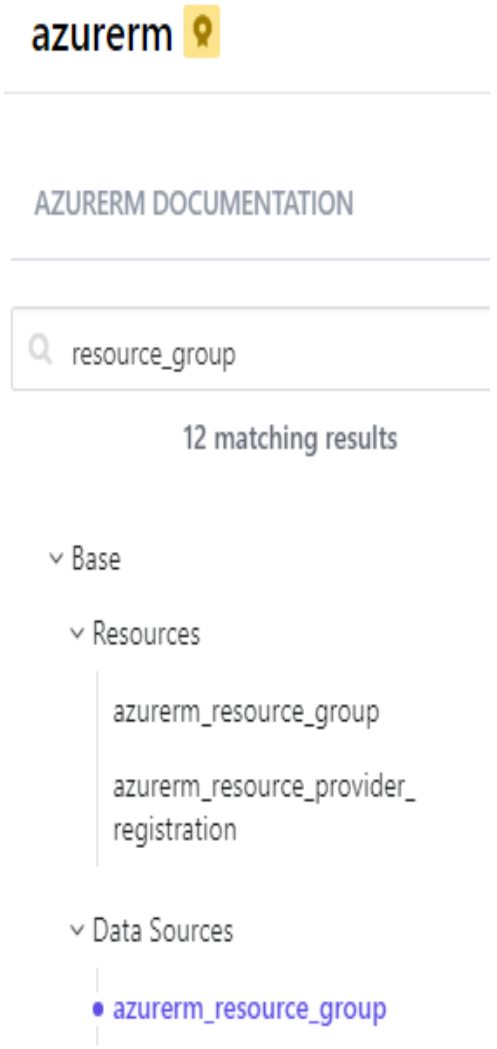
- Example 2: Fetching Information About an Existing Virtual Network to create a vm

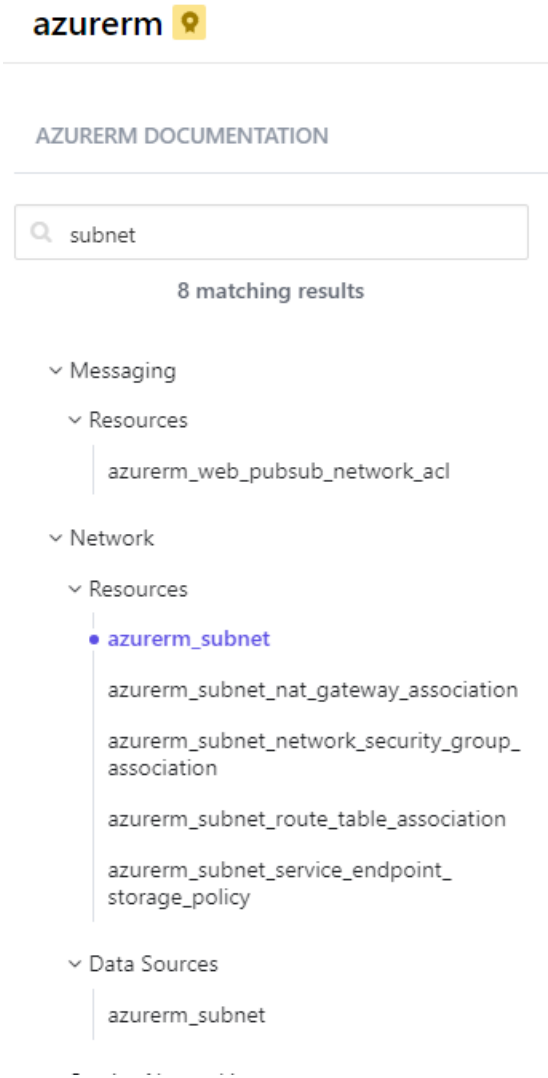
- Example 3: Fetching Information About an Existing App Service Plan to create a function app



Documentation References

- List of available data source are associated with each resource of a provider





```
resource "azurerm_storage_account" "example" {
  name                     = "storageaccountnameasdf234"
  resource_group_name      = data.azurerm_resource_group.example.name
  location                 = data.azurerm_resource_group.example.location
  account_tier             = "Standard"
  account_replication_type = "GRS"

  tags = {
    environment = "staging"
  }
}

data "azurerm_resource_group" "example" {
  name = "storage_rg"
}
```

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Conditional Expression

Overview of Conditional Expression

- A conditional expression uses the value of a bolean expressions to select one of two values.
- **Syntax of Conditional Expression:**
  - condition ? true_val : false_val
- If condition is true then the result is true_val, If condition is false then result is false_val.

Conditional Expression Example

- In the following example, if the environment is 'dev,' the LRS account replication type will be created; otherwise, the GRS replication type will be used

```
resource "azurerm_resource_group" "example" {
  name     = "example-resources"
  location = "West Europe"
}

resource "azurerm_storage_account" "example" {
  name                     = "akashstorage"
  resource_group_name      = azurerm_resource_group.example.name
  location                 = azurerm_resource_group.example.location
  account_tier             = "Standard"
  account_replication_type = var.env == "dev" ? "LRS" : "GRS"
}


variable "env" {
  description = "Please type your env"
}
```

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Data Types for Variables

Overview of Data Types

- In Terraform, if you don't explicitly define the data type for a variable, Terraform will try to infer the type from the value assigned to it
- The best practice is to define the data type for a variable, which helps ensure that configurations are clear, predictable, and robust.

```
# variables.tf
variable "example" {
  default = "Hello, world!"  # Type inferred as string
}

variable "number_example" {
  default = 123  # Type inferred as number
}

variable "boolean_example" {
  default = true  # Type inferred as bool
}

variable "list_example" {
  default = ["one", "two", "three"]  # Type inferred as list(string)
}

variable "map_example" {
  default = {
    key1 = "value1"
    key2 = "value2"
  }  # Type inferred as map(string)
}
```

```
# variables.tf
variable "example_string" {
  description = "An example string variable"
  type        = string
  default     = "Hello, world!"
}

variable "example_number" {
  description = "An example number variable"
  type        = number
  default     = 123
}

variable "example_list" {
  description = "An example list variable"
  type        = list(string)
  default     = ["one", "two", "three"]
}

variable "example_map" {
  description = "An example map variable"
  type        = map(string)
  default     = {
    key1 = "value1"
    key2 = "value2"
  }
}
```

Data Types

Type Keywords	Description
String	Sequence of Unicode characters representing some text, like “hello”
List	Sequential list of values identified by their position. Starts with 0 [“mumbai”,”singapore,”,”usa”]
Map	A group of values identified by named labels, like {name = “John”, age=53}
Number	Example: 200

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