**What is Azure Resource Manager (ARM)?**

When you are working with Microsoft Azure cloud you must create Azure resources. For managing these resources, Microsoft introduced Azure resource manager, an advanced, cheaper, and faster way to deploy, configure, and manage resources on Azure. It combines all the resources which include Azure resources groups, resource providers, and resources to form a managed cloud platform

**ARM**

* Azure specific
* Get the latest Azure resources as they are released
* Does not maintain a state file
* Written in JSON
* Does not have a Destroy/Cleanup command

**Terraform**

* Supports multiple cloud providers and on-prem resources
* Can lag behind when new Azure resources are released
* Relies on a state file that must be maintained
* Written in HCL, a custom DSL from Hashicorp
* Able to cleanup/destroy resources

FORMAT OF ARM TEMPLATE

{

"$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",

"contentVersion": "",

"apiProfile": "",

"parameters": { },

"variables": { },

"functions": [ ],

"resources": [ ],

"outputs": { }

}

|  |  |  |
| --- | --- | --- |
| $schema | Yes | Location of the JavaScript Object Notation (JSON) schema file that describes the version of the template language. The version number you use depends on the scope of the deployment and your JSON editor.  If you're using [Visual Studio Code with the Azure Resource Manager tools extension](https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/quickstart-create-templates-use-visual-studio-code), use the latest version for resource group deployments: https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#  Other editors (including Visual Studio) may not be able to process this schema. For those editors, use: https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#  For subscription deployments, use: https://schema.management.azure.com/schemas/2018-05-01/subscriptionDeploymentTemplate.json# |

|  |  |  |
| --- | --- | --- |
| contentVersion | Yes | Version of the template (such as 1.0.0.0). You can provide any value for this element. Use this value to document significant changes in your template. When deploying resources using the template, this value can be used to make sure that the right template is being used. |
| apiProfile | No | An API version that serves as a collection of API versions for resource types. Use this value to avoid having to specify API versions for each resource in the template. When you specify an API profile version and don't specify an API version for the resource type, Resource Manager uses the API version for that resource type that is defined in the profile. |
| [parameters](https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/syntax#parameters) | No | Values that are provided when deployment is executed to customize resource deployment. |
| [variables](https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/syntax#variables) | No | Values that are used as JSON fragments in the template to simplify template language expressions. |
| [functions](https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/syntax#functions) | No | User-defined functions that are available within the template. |
| [resources](https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/syntax#resources) | Yes | Resource types that are deployed or updated in a resource group or subscription. |
| [outputs](https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/syntax#outputs) | No | Values that are returned after deployment. |