

Understanding Azure Resource Manager Templates



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Module Overview



ARM Template Structure & Schemas

Parameters

Variables

Resources

PowerShell-driven Deployment

Deploy Simple PaaS via Template

Deploy Simple IaaS via Template



ARM Template Core Structure

```
{  
    "$schema": "https://schema.management.azure.com/schemas/2015-  
01-01/deploymentTemplate.json#",  
    "contentVersion": "",  
    "parameters": {},  
    "variables": {},  
    "resources": [],  
    "outputs": {},  
}
```



Azure Resource Manager Templates Schemas

[https://github.com/Azure/
azure-resource-manager-
schemas.git](https://github.com/Azure/azure-resource-manager-schemas.git)



ARM Template Parameters

```
"windowsServerEdition": {  
  "type": "string",  
  "defaultValue": "2016-Datacenter",  
  "allowedValues": [  
    "2012-Datacenter ",  
    "2012-R2-Datacenter",  
    "2016-Datacenter"  
  ],  
  "metadata": {  
    "description": "The Windows version for the VM."  
  }  
}
```



ARM Template Parameters File

```
{
  "$schema": "http://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {
    "vmNamePrefix": {
      "value": "webVM"
    },
    "adminUsername": {
      "value": "vmAdmin"
    }
  }
}
```



ARM Template Variables

```
"variables": {  
    "vnetID": "[resourceId('Microsoft.Network/virtualNetworks',  
parameters('virtualNetworkName'))]",  
    "subnetRef": "[concat(variables('vnetID'), '/subnets/',  
parameters('subnetName'))]"  
}
```



ARM Template Resources

```
"resources": [  
  {  
    "type": "Microsoft.Storage/storageAccounts",  
    "name": "[parameters('newStorageAccountName')]",  
    "apiVersion": "2015-05-01-preview",  
    "location": "[ResourceGroup().location]",  
    "properties": {  
      "accountType": "[parameters('storageAccountType')]"  
    }  
  }  
]
```



ARM Template Multiple Resources

```
"parameters": {  
  "count": {  
    "type": "int",  
    "defaultValue": 4  
  }  
},  
"resources": [  
  {  
    "name": "[concat('website', '-', copyIndex())]",  
    "type": "Microsoft.Web/sites",  
    "location": "East US",  
    "apiVersion": "2015-08-01",  
    "copy": {  
      "name": "websitescopy",  
      "count": "[parameters('count')]"  
    }  
  }  
]  
]
```



Template Deployment with PowerShell

```
New-AzureRmResourceGroupDeployment `
```

```
-Name $DeploymentName `
```

```
-ResourceGroupName $AzureResourceGroup.ResourceGroupName `
```

```
-TemplateFile azureDeployment.json `
```

```
-TemplateParameterFile azureDeployment.parameters.json `
```

```
@additionalParameters `
```

```
-Verbose -Force
```



Demo



Create new ARM template

Deploy simple PaaS solution via template



Demo



Create new ARM template

Deploy simple IaaS solution via template



Azure Resource Manager Quickstart Templates

[https://github.com/Azure/
azure-quickstart-templates.git](https://github.com/Azure/azure-quickstart-templates.git)



Module Summary



ARM template core structure

Template parameters

Template parameter files

Template variables

Template resources

Deploy simple ARM PaaS solution

Deploy simple ARM IaaS solution



Coming next:
Building Azure Resource
Manager Services

