Authoring Deconstructed Templates

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Module Overview

Why deconstruct templates?

Share outputs between templates

Explore nested deployments

Store deployment secrets in Key Vault

Link to shared templates
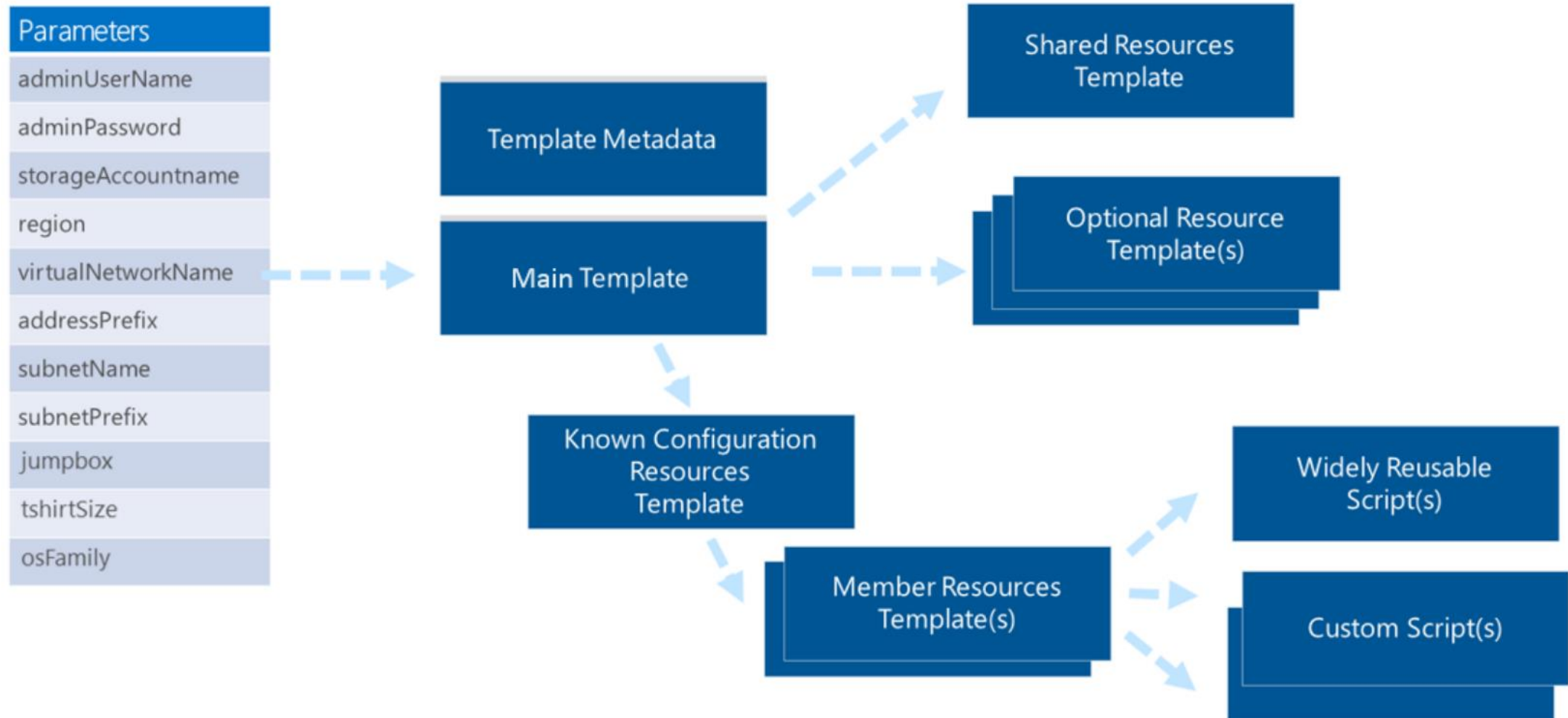
Deploy nested template solution

World Class ARM Templates

https://azure.microsoft.com/en-us/documentation/articles/best-practices-resource-manager-design-templates/

Deconstructed ARM Templates

World Class ARM Templates – pg.40

Deconstructing ARM Deployments

```
"resources": [

    Microsoft.Storage/storageAccounts

    Microsoft.Network/virtualNetworks

    Microsoft.Network/networkInterfaces

    Microsoft.Network/publicIPAddresses

    Microsoft.Compute/virtualMachines

]
```

azureDeploy.json

storageAccount.json

virtualNetwork.json

networkInterface.json

publicIP.json

virtualMachine.json

Output from Shared Template

```
"variables": {
    "storageName":
"[concat(parameters('storageAccountNamePrefix'),
uniqueString(resourceGroup().id))]"
  },
"outputs": {
    "storageAccountName": {
      "type": "string",
      "value": "[variables('storageName')]"
    }
  }
```

Share State Between Templates

```
"parameters": {

    "storageAccountName": { "value":
    "[reference(parameters('nestedDeploymentNameStorage')).
    outputs.storageAccountName.value]" },

}
```

Share State Between Templates

storageAccountNamePrefix

nicName

storageAccountName

vmNic

azureDeploy.json

```
"outputs": {
    "storageAccountName": {
        "type": "string",
        "value": "[variables('storageName')]"
    }
}
```

storageAccount.json

```
"outputs": {
    "vmNic": {
        "type": "string",
        "value": "[variables('nicName'))]"
    }
}
```

networkInterface.json

```
"parameters": {
    "storageName",
    "vmNic"
}
```

virtualMachine.json
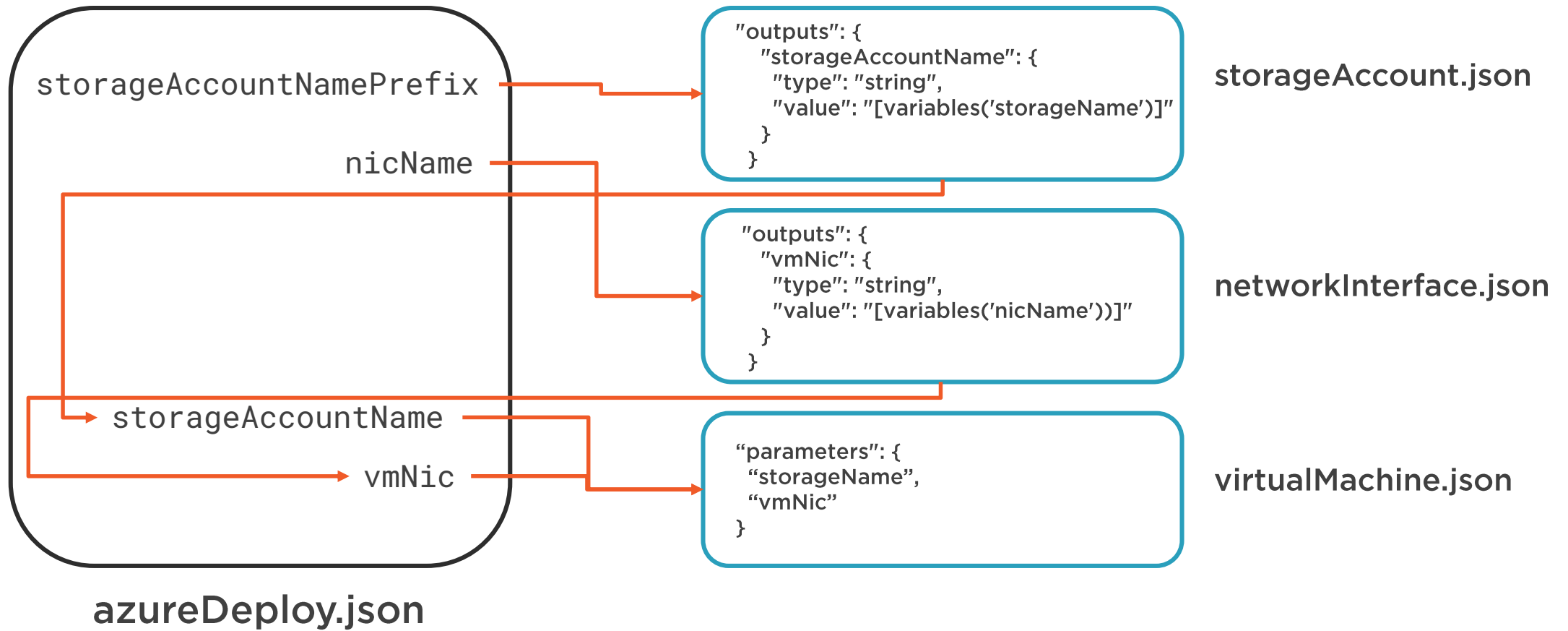
Demo

Explore nested deployment template

Calling Secrets from Key Vault

```json
"vmAdminPassword": {
    "reference": {
      "keyVault": {
        "id":
"/subscriptions/<SUBSCRIPTIONID>/resourceGroups/<GROUPNAME>
/providers/Microsoft.KeyVault/vaults/<VAULTNAME>"
      },
      "secretName": "vmAdminPassword"
    }
  }
```

Demo

Create Azure Key Vault

Add secret to Key Vault

Update deployment parameters

Linking to Shared Templates

```
"parameters": {
    "baseTemplateUri": {
        "type": "string",
        "metadata": {
            "description": "Base URI of template resources."
        }
    },
}
"templateLink": {
        "uri": "[concat(parameters('baseTemplateUri'),
'/shared/', parameters('sharedTemplateNameVM'))]"
}
```

Demo

Create Azure Storage account

Upload template files

Demo

Deploy nested template solution

Verify successful deployment

Module Summary

Deconstructed templates

Output & state sharing

Nested deployments

Store deployment secrets in Key Vault

Shared template linking

Deploy nested template solution

Mastering Microsoft Azure Resource Manager

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