PowerShell + DevOps
Global Summit

Building DSC v3 Resources

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About Me

- Attending since 2018
- Engineer @ Microsoft
- Infrastructure Focused
- Not on the PowerShell Team
- PowerShell Fan!

PURESTORAGE®

ScriptRunner®
The #1 for PowerShell Management

PDQ

DataOn®

PATCH
MY PC

MANNING

Chocolatey

SNIA

DMTF

WARNING

dsc v3 is not yet preview

Agenda

- Fundamental Info
- Setup DSC v3
- Quick look at DSC v3
- Think about designing resources
- Wrap an existing Binary
- Write a new Binary

DSC Changes

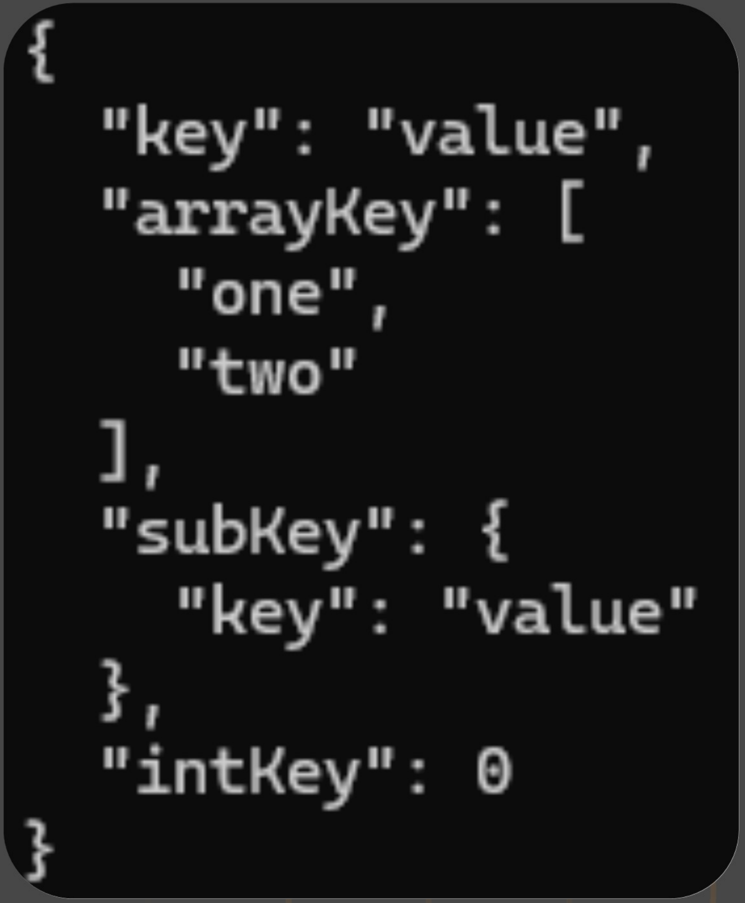
DSC V1/2

- PowerShell focused
- Requires PowerShell
- Config Data stored in psd1/mof
- Local Configuration Manager
- Closed to the Community

DSC V3

- Language/Shell Agnostic
- No PowerShell required
- Config Data stored in yaml/json
- Your Configuration Manager
- Open Source

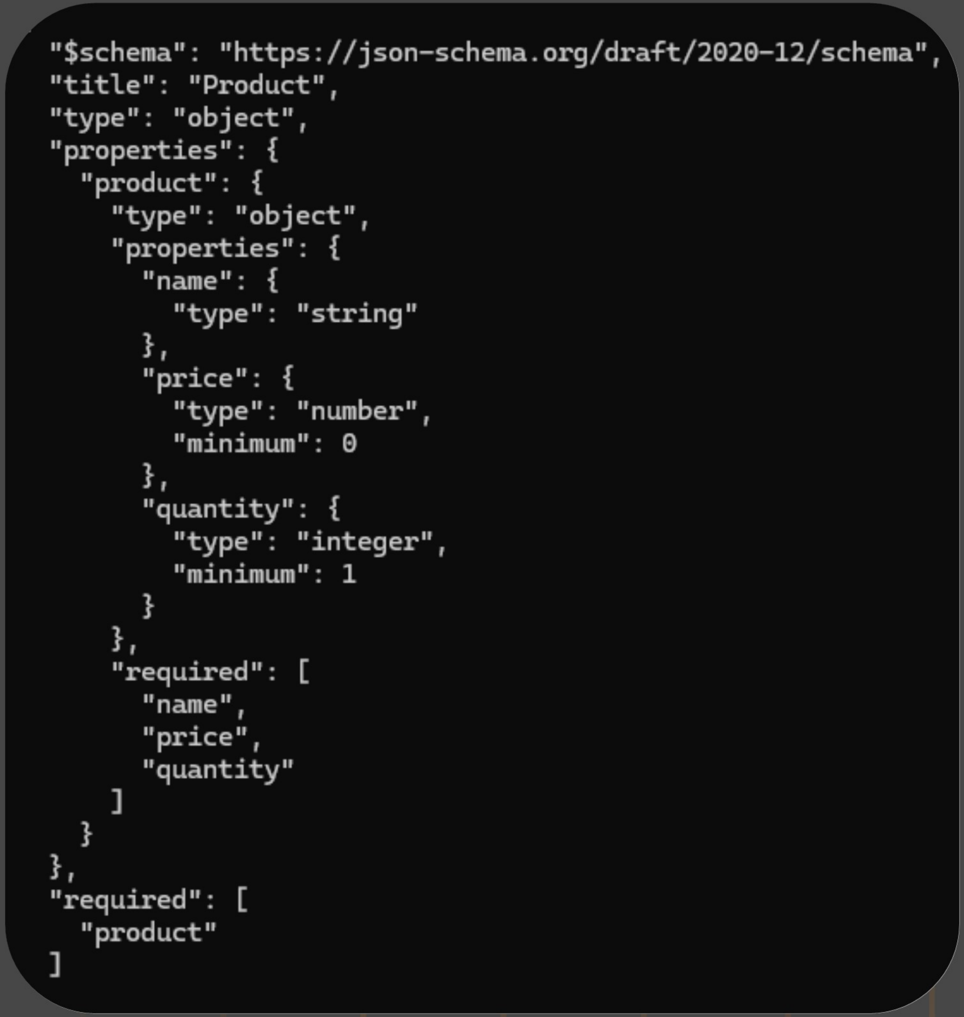
JSON



```
{
  "key": "value",
  "arrayKey": [
    "one",
    "two"
  ],
  "subKey": {
    "key": "value"
  },
  "intKey": 0
}
```

- JavaScript Object Notation
- Data-interchange language
- An Object with Key/Values
- Convert*-Json

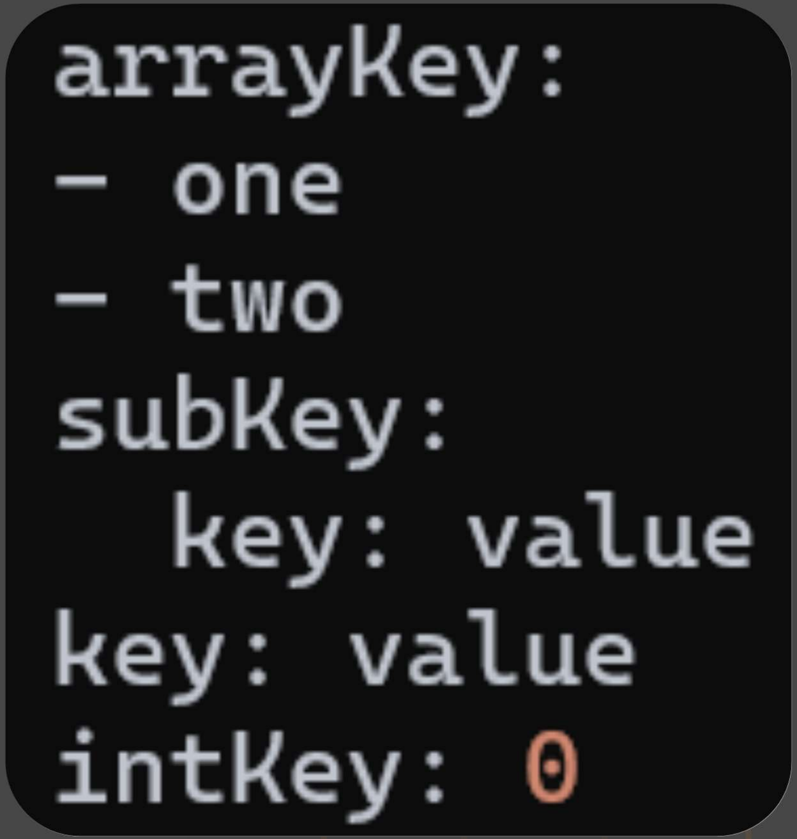
JSON Schema



```
"$schema": "https://json-schema.org/draft/2020-12/schema",
"title": "Product",
"type": "object",
"properties": {
  "product": {
    "type": "object",
    "properties": {
      "name": {
        "type": "string"
      },
      "price": {
        "type": "number",
        "minimum": 0
      },
      "quantity": {
        "type": "integer",
        "minimum": 1
      }
    },
    "required": [
      "name",
      "price",
      "quantity"
    ]
  }
},
"required": [
  "product"
]
```

- Defines
  - Structure
  - Content
  - Semantics
- Used in Azure Resource Manager (ARM) templates

YAML



```yaml
arrayKey:
- one
- two
subKey:
  key: value
key: value
intKey: 0
```

- YAML Ain’t Markup Language
- Data serialization language
- Focus on Human Friendly

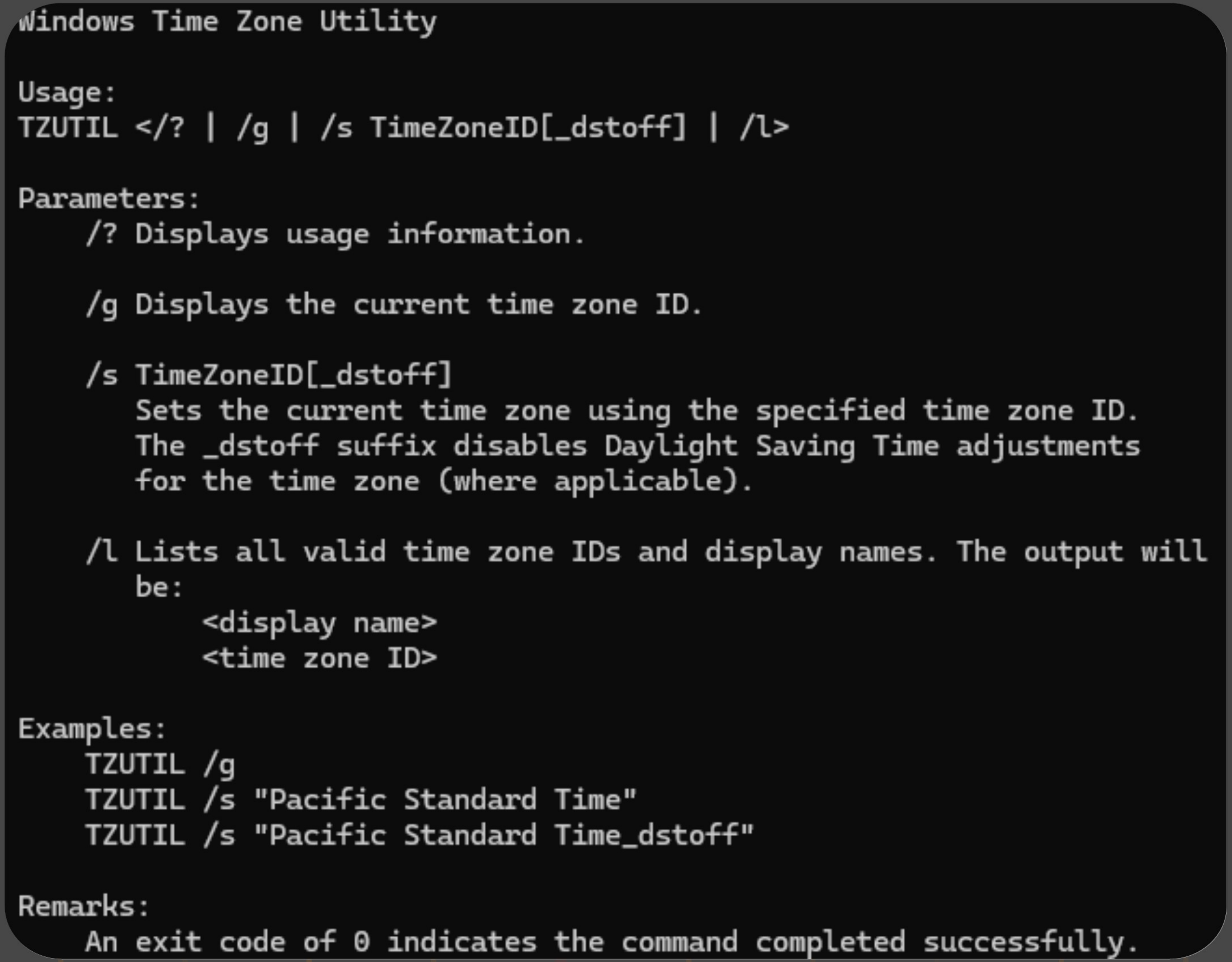
Demo

Lifecycle

- Design
  - What problem are we solving?
  - Why are we fixing it?
- Develop
  - How are we solving the problem?
- Build
  - Will it compile? 🤣
- Test
  - Where is it breaking?
- Deploy
  - Is it still working?

tzutil

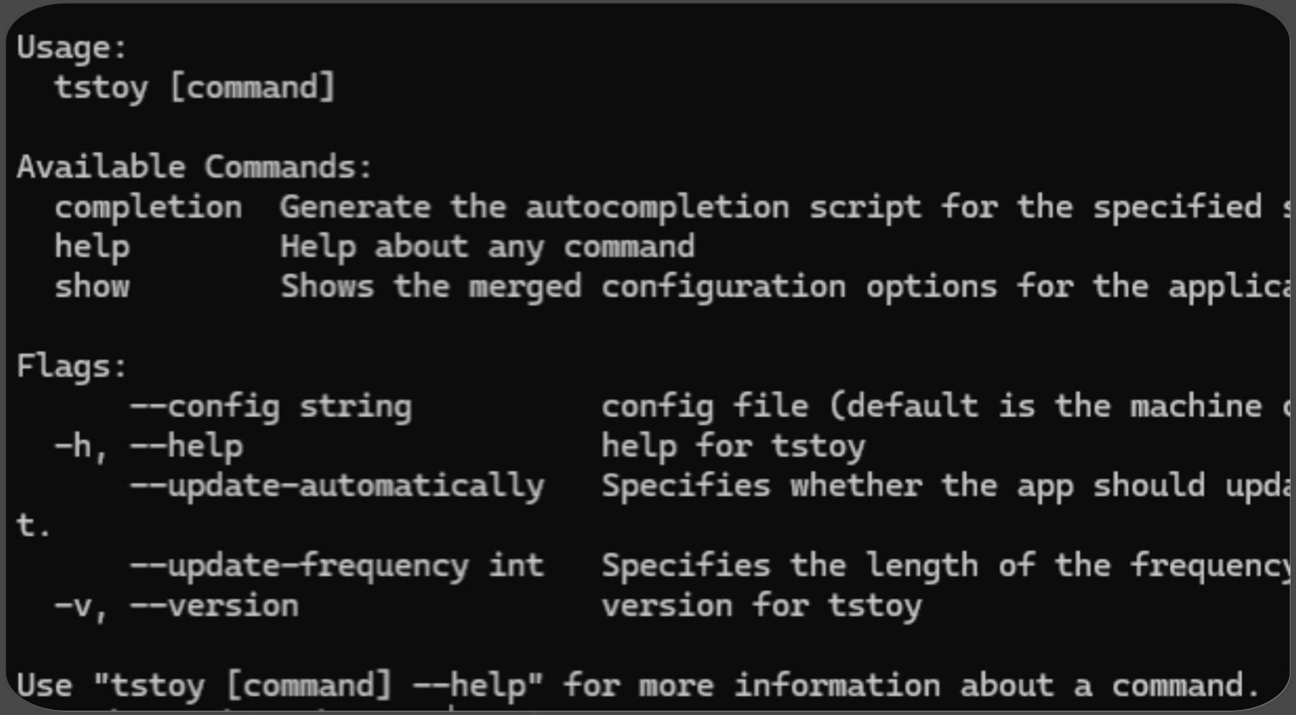
- Native Binary
- Imperative by Design
- Doesn’t Understand JSON
- Doesn’t Output JSON



```
Windows Time Zone Utility

Usage:
TZUTIL </? | /g | /s TimeZoneID[_dstoff] | /l>

Parameters:
    /? Displays usage information.

    /g Displays the current time zone ID.

    /s TimeZoneID[_dstoff]
       Sets the current time zone using the specified time zone ID.
       The _dstoff suffix disables Daylight Saving Time adjustments
       for the time zone (where applicable).

    /l Lists all valid time zone IDs and display names. The output will
       be:
           <display name>
           <time zone ID>

Examples:
    TZUTIL /g
    TZUTIL /s "Pacific Standard Time"
    TZUTIL /s "Pacific Standard Time_dstoff"

Remarks:
    An exit code of 0 indicates the command completed successfully.
```

tstoy

- Native Binary
- Imperative by Design
- Uses JSON as config
- From the DSC-Samples repo



```
Usage:
  tstoy [command]

Available Commands:
  completion  Generate the autocompletion script for the specified s
  help        Help about any command
  show        Shows the merged configuration options for the applica

Flags:
      --config string            config file (default is the machine c
  -h, --help                     help for tstoy
      --update-automatically     Specifies whether the app should upda
t.
      --update-frequency int     Specifies the length of the frequency
  -v, --version                  version for tstoy

Use "tstoy [command] --help" for more information about a command.
```

Summary

- Need to be able to read JSON
- Command Line Parsing is key
- Everything is JSON to DSC
- Your target application doesn't need to know JSON

Questions?

THANK YOU

Please review this session

Session Review

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