



Setting up your Biceps for success in Azure

with Elkhan Yusubov



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www.cloudlunchlearn.com

In collaboration with



Microsoft

<https://cloudlunchlearn.com>

<https://theCloudMarathoner.com>





Elkhan Yusubov

Speaker | Author | Cloud Architect
Founder at #cloudmarathoner

Elkhan is a principal cloud architect and 15 times MSFT MCT with experience in cloud solutions, enterprise healthcare systems and healthcare data, and API standards (HL7 FHIR, EDI X12).

He is an active MCT, a Microsoft Tech Community Contributor, Cloud Lunch and Learn Speaker and Team Member, and Azure SME (Architecture, DevOps, Security).

He is a frequent speaker at tech meetups and has volunteered for Give Camps, Azure Data Fest, SQL Saturdays, Azure communities and Global Azure events.

<https://theCloudMarathoner.com> 

 ElkhanYusubov

 @ElYusubov

Company Snapshot: T- Rex Is...

- ▶ **An Innovative NGIT Provider:** a leading solutions provider of innovative and modernizing Next Generation IT capabilities and enabling skills to the federal government
- ▶ **A first to market in migrating large federal mission applications and data** into a citizen-facing public cloud, giving the Company the capabilities and past performance to bid and win future NGIT opportunities in adjacent federal agencies
- ▶ **A Prime Contractor on 2020 Census,** one of the largest (scale) and most complex mission critical cloud/cyber/data analytics integration projects within the federal government



- ▶ **Integrated 52 mission-critical systems comprised of 200+ applications** operating in a hybrid hyper-converged data center and Amazon Web Service ("AWS") public facing GovCloud protected by a world class active cyber defense (ACD) solution. Also includes a VDI-based Office 365 solution supporting 40k+ users and MS Azure AD managing 350k+ mobile users

Achievements & Partnerships



Silver Datacenter
Silver Data Analytics
Silver Data Platform
Silver App Dev
Silver App Integration

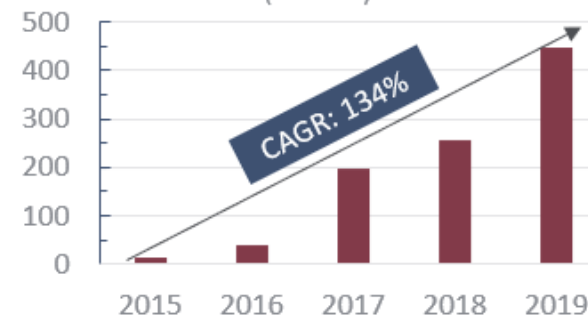


Company Info

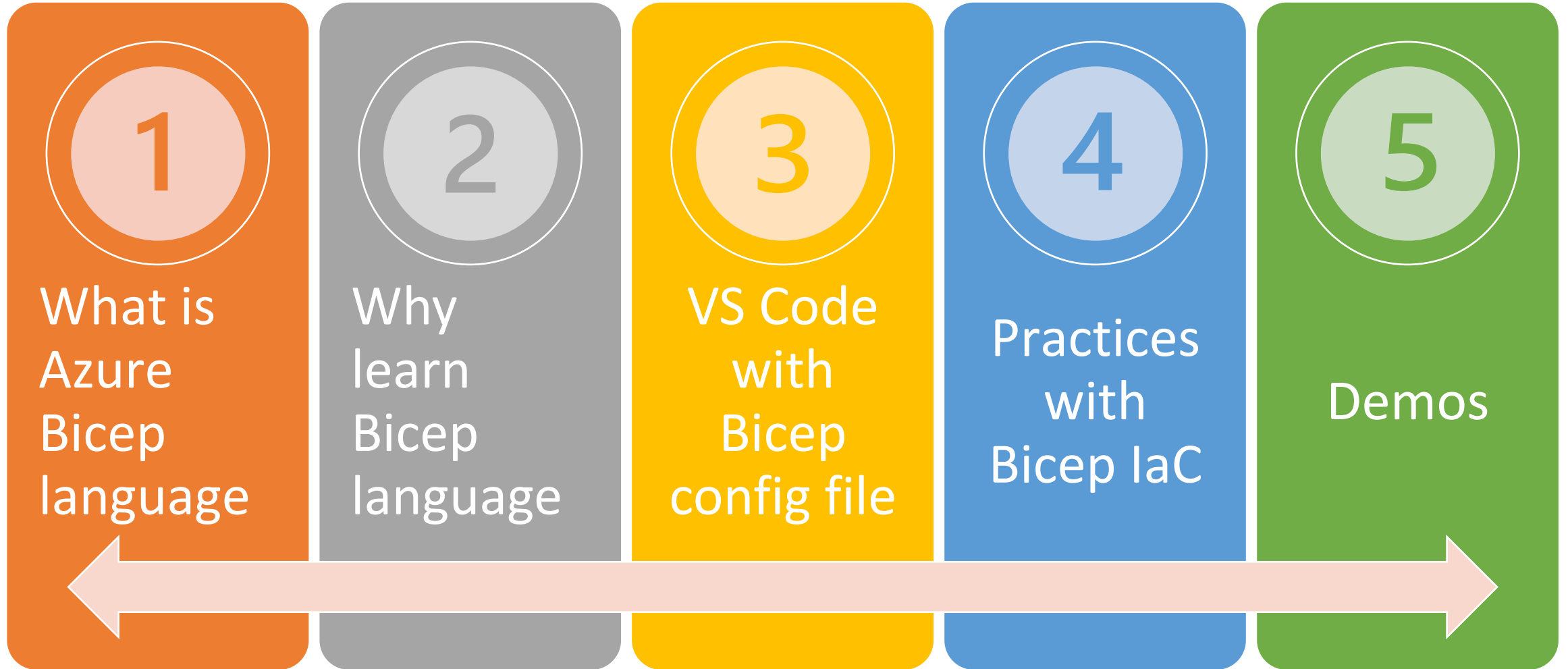
- **Established:** 1999
 - **Legal Structure:** LLC
 - **Headquarters:** Greenbelt, MD
 - **8(a)/HUBZone & SDVOSB Joint Ventures:** Ability to deliver services as a small business concern
 - **Prime/Sub (07/21):** 95.5% Prime
 - **Backlog (07/21):** \$242.6M
- Prime Vehicles/BPAs:**
- GSA MAS:
 - Cloud SIN
 - Professional Svcs SIN
 - Highly Adaptive Cyber SIN
 - CIO-SP3 Small Business
 - COBRA Other Transaction Authority (OTA)
 - Dept of Commerce ESF

Financial Summary

T-Rex Annual Revenue (USD M)



What we will cover

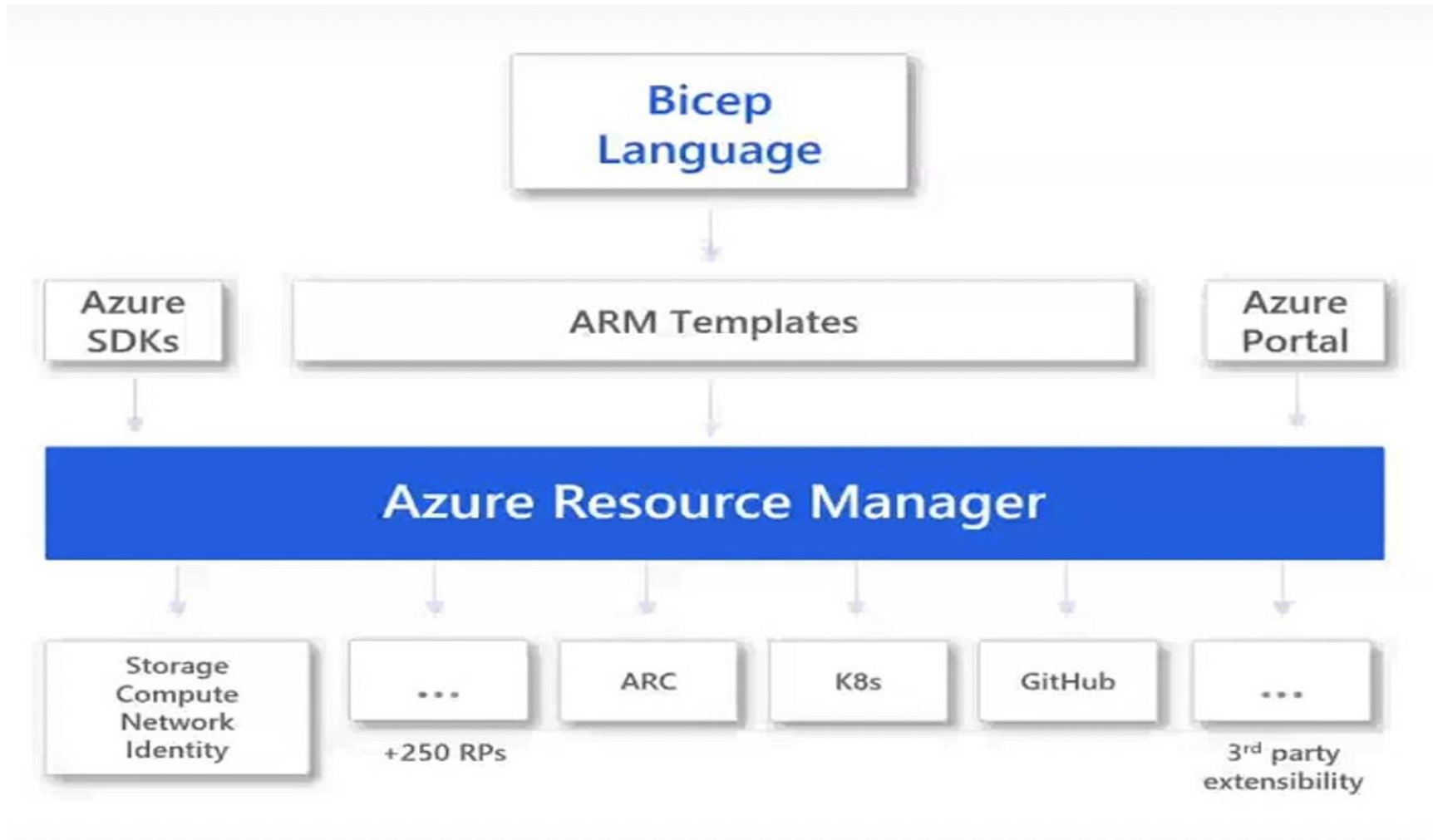


What is Azure Bicep?

- DSL for deploying Azure resources
- Transparent abstraction over ARM and ARM templates
- Simple way to author Azure resources
- Transpiled to standard ARM Template JSON files

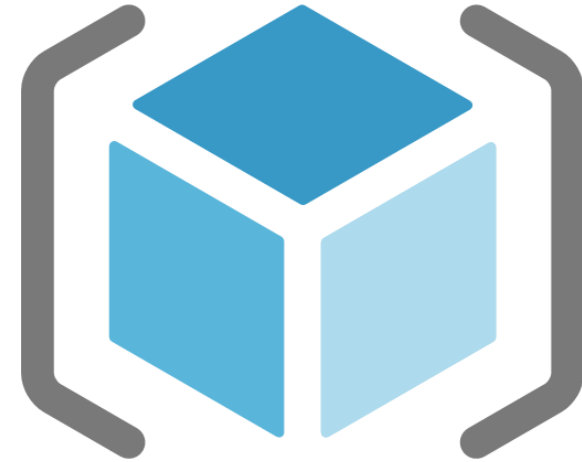


Relationship between Bicep and ARM templates



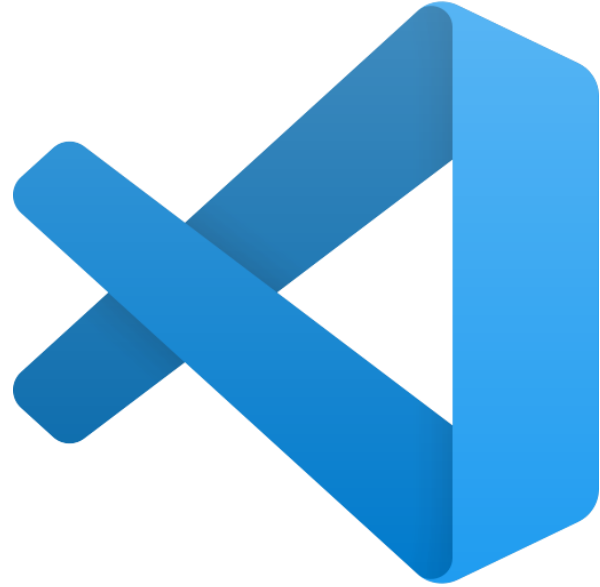
Why Bicep language?

- Easy to understand and maintain
- Day Zero support
- Transparent abstraction
- Awesome tooling in VS Code
- Clean code syntax
- Code re-use and modularity
- Deep integration with Azure
- Preflight validation
- No state management
- Production support



VS Code & Bicep configuration file

- What is config file ?
- Why you need it ?
- How to add one ?
- What are the default configurations ?



Azure Bicep IaC best practices



Demos

```
2-deploy-param-storage.bicep 1, M  {} bicepconfig.json X
{} bicepconfig.json > {} analyzers > {} core > {} rules > {} secure-parameter-default
You, 3 weeks ago | 1 author (You)
1  {
2    "analyzers": {
3      "core": {
4        "enabled": true,
5        "verbose": true,
6        "rules": {
7          "no-hardcoded-env-urls": {
8            "level": "warning"
9          },
10         "no-unused-params": {
11           "level": "warning"
12         },
13         "no-unused-vars": {
14           "level": "error"
15         },
16         "prefer-interpolation": {
17           "level": "warning"
18         },
19         "secure-parameter-default": {
20           "level": "error"
21         },
22         "simplify-interpolation": {
23           "level": "warning"
24         }
25       }
26     }
27   }
```

```
9  @description('Azure region to deploy all resources')
10 @allowed([
11   'eastus'
12   'eastus2'
13   'westus'
14   'westus2'
15 ])
16 param environment: string
17 param environment string
18 resource myResourceGroup 'Microsoft.Resources/resourceGroups@2021-04-01'
19
20
```

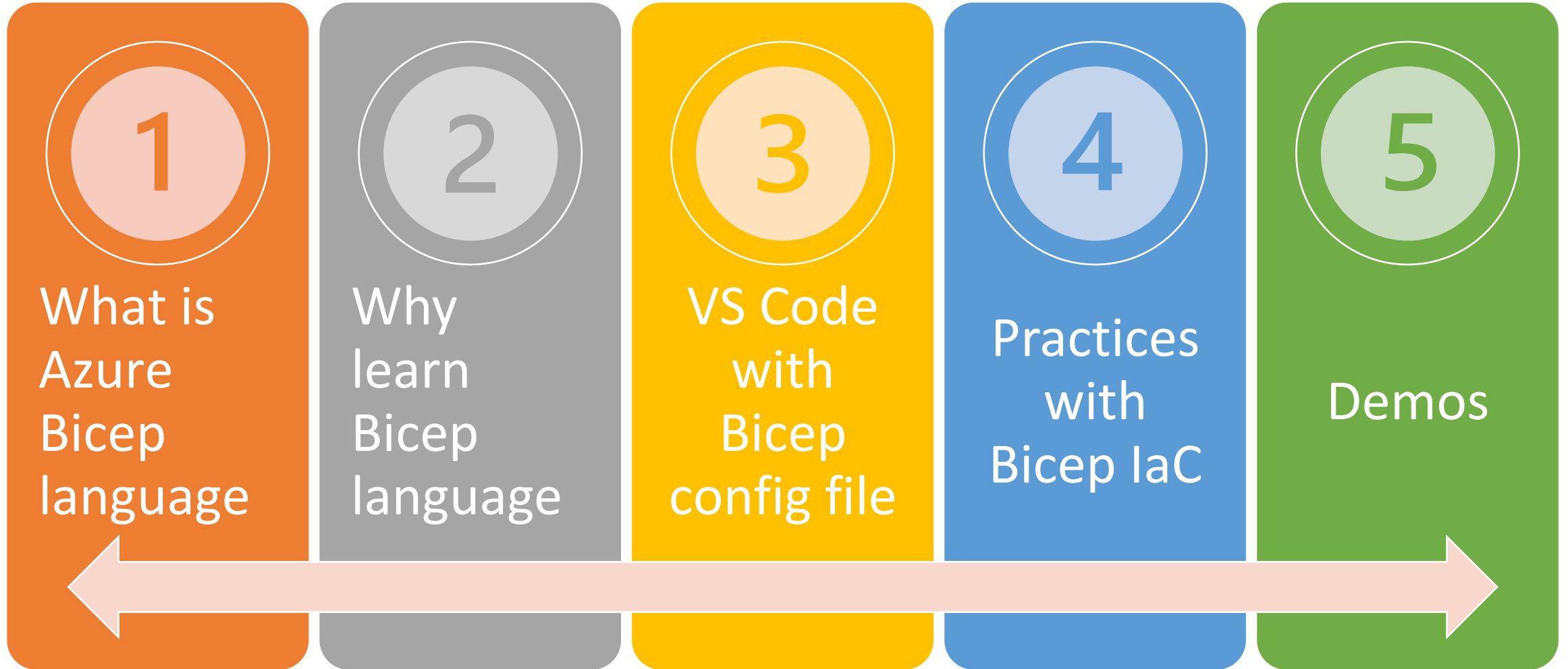
Parameter "environment" is declared but never used. bicep core(

View Problem No quick fixes available

You, a minute ago • Uncommitted changes



What we covered



What is next?

Learn Bicep – GitHub



Azure Bicep – First Look 🧠



Connect on LinkedIn 👍



Bicep Project - GitHub



AWESOME Azure Bicep 📖 - GitHub



Thank you !



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