



# GET STARTED FAST WITH CLOUDCHECKR

Microsoft Azure Reference Guide

GET STARTED FAST WITH CLOUDCHECKR

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GET STARTED FAST WITH CLOUDCHECKR

# Initial Setup

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## Step 1: Log-On to Your CloudCheckr Account

CloudCheckr has a platform deployed in three regions. Direct your web browser to one of the following links and log-on using your existing CloudCheckr credentials:

[app.cloudcheckr.com](https://app.cloudcheckr.com) | [eu.cloudcheckr.com](https://eu.cloudcheckr.com) | [au.cloudcheckr.com](https://au.cloudcheckr.com)

To sign up for a CloudCheckr account, [get started here with a free trial.](#)

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## Step 2: Prepare Azure Accounts

Before CloudCheckr can begin to monitor your Azure account, you must complete a series of actions in Azure to ensure your account is prepared.

For CloudCheckr to fully monitor your Azure deployment, you will need to add two account types to the platform. The first is either your **Enterprise Agreement or Cloud Solution Provider account**, which will provide cost data.

The second account will be your **Subscription account(s)**; the subscription account is an individual account that collects resources if you have Azure Active Directory setup, and will provide you with best practices, inventory, security, and utilization modules in CloudCheckr.

## Step 2: Prepare Azure Accounts , cnt'd

To enable CloudCheckr to report on cost data from your Azure Enterprise Agreement (EA) account, you need to obtain an enrollment number and access token from Azure. CloudCheckr uses these values to retrieve the billing data, which is required to populate your cost reports.

For detailed information on how to perform these steps, see [Microsoft Azure Configuration - Enterprise Agreement \(EA\) Cost Data](#).

For CloudCheckr to import data from the Microsoft Partner Center/Cloud Solution Provider (CSP) portal, you must authorize consent for our application to access your Azure CSP billing and invoice data through a Control Panel Vendor (CPV) application.

For detailed information on how to perform these steps, see [Microsoft Azure Configuration - Partner Center \(CSP\) Cost Data](#)

In order to collect resource information for an Azure Subscription, you must configure the appropriate settings in the Azure portal and then provide the Directory ID, Application ID, Subscription ID, and Secret Key in the Account Configuration menu in CloudCheckr.

For detailed information on how to perform these steps, see [Microsoft Azure Configuration - Subscriptions](#).

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## Step 3: Configure CloudCheckr Account

When you log-in to CloudCheckr for the first time your accounts page will be pre-populated with a sample account. You can use this to look through the various CloudCheckr reports and functionality. You will want to add your own Azure accounts to get a full analysis of your environment.

**Step A:** click 'New Account'

**Step B:** create a unique account name

**Step C:** add Azure account credentials

**Step D:** set-up notifications

Read the “Configuring Your CloudCheckr Account” guide:

[CloudCheckr Success Center: Creating an Account in CloudCheckr](#)

Depending on the size of your Azure deployment, the initial reports update could take anywhere from a few minutes to a few hours. As soon as your initial report update finishes CloudCheckr will send you an Inventory Summary and Best Practices Report email (if you entered an email address when configuring your account). Once your initial report update finishes, you can begin reviewing the data within your account. For more in-app information about CloudCheckr updates and other Account Notifications, navigate to the green “Notifications” icon in the upper right hand corner of the screen.



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## Step 4: Accounts and Multi-Account Views

The accounts page is the landing page each time you log-in to CloudCheckr. The list of accounts will provide links to each individual account as well any Multi-Account Views (MAVs) that have been set up, let you know the last time a report update occurred, provide easily accessible, and customized dashboards.

## Accounts and Multi-Account Views, cnt'd

To configure a Multi-Account View, click 'New Multi-Account View' on the accounts page. Enter the name and cloud provider for the MAV in question.

After creating the MAV, you will be prompted to add the accounts that should be included in the view. You have the option to add all accounts, or to create an account-level tag, which allows you to specifically manage which accounts are tracked in a MAV.

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## Step 5: User Provisioning

CloudCheckr customers have full control over provisioning and managing user access within their account(s). User access can be configured with specific permissions, rights, and visibility based on the needs and role of the user.

**Step A:** Setting up users & permissions and their associated policies:

[CloudCheckr Success Center: User Management](#)

CloudCheckr user provisioning can also be managed using the AdminLevelAPI. For more information, please see: [CloudCheckr Success Center: Admin API Reference Guide](#).

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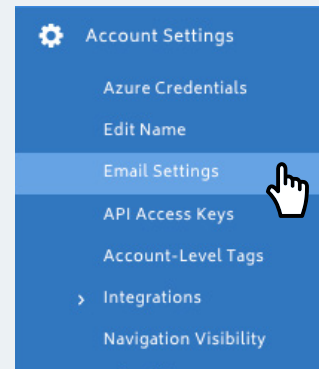
## Step 6: Customize Your CloudCheckr Experience

After the initial report update is completed, your account will be populated with detailed information about your deployment, organized into many pre-built (and any custom created) reports. Each time a report update completes, CloudCheckr will create new reports that reflect the most recent state of your accounts. Since CloudCheckr retains a history of your deployment with SnapBack, you can drill into historical information up to seven years back in time.

## Customize Your CloudCheckr Experience, ctn'd

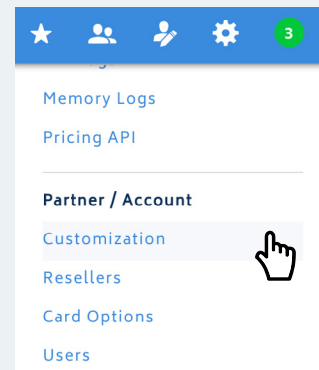
### Step A:

Start by configuring CloudCheckr email notifications by navigating to **Account Settings > Email Settings**. There are a number of pre-built options for daily, weekly, and monthly emails, including Daily Bill Fluctuation Alerts, Best Practice Check summaries, Change Monitoring reports and Automation task information.



### Step B:

Second, navigate to the upper right of the UI and select the gear symbol drop down, and then to **Partner / Account > Customization** to access the CloudCheckr basic whitelabeling options. Users can add their own logo and page icon, change the colors of the navigation menus, and change the support site link to an internal site, if desired.



## Step 7: Get a Platform Deep Dive from a CloudCheckr Technical Expert

To help you get up and running quickly, CloudCheckr can advise on how you can make the most of the recommendations in your initial report update. The goal of this deep dive is to have one of our subject matter experts provide you some initial suggestions on what features to leverage based on your use case(s), help get any specific questions answered and ensure you have a primary point of contact here at CloudCheckr.

# GET STARTED FAST WITH CLOUDCHECKR

# Security

## Fix Security BPCs

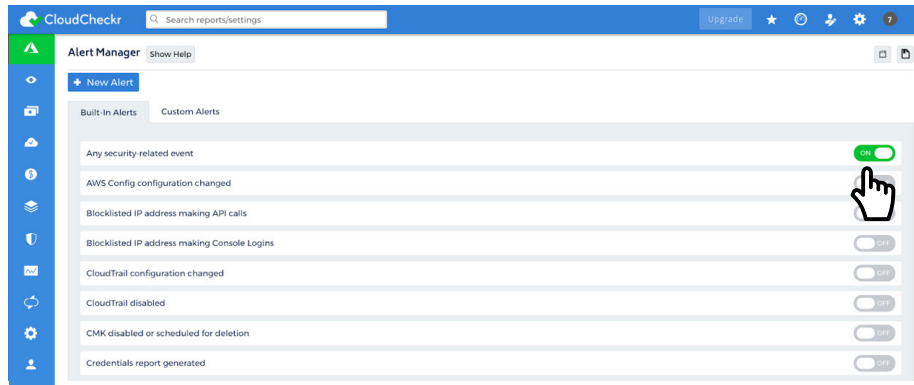
CloudCheckr has over 550 Best Practice Checks (BPCs), and most of those are focused on security. Because CloudCheckr Best Practice Checks run at least once a day, by Day 2, you should be able to begin analyzing configuration vulnerabilities. Each check will be marked in Red, Orange, Yellow, or Green, based on severity, and Blue, if the check is informational in nature. Many times, thanks to Automated Self-Healing, our Fix Now and Always Fix buttons can fix the underlying issue, even if you're not actively using the platform! CloudCheckr automation capabilities provide self-healing governance at scale.

The screenshot displays the CloudCheckr console interface. At the top, there are two red status bars: '9 Virtual Machines in Subnets Without Forced Tunneling' and '2 Virtual Machines Not Protected by a Security Group'. Below these, a section titled 'Checks to see if any Virtual Machines are protected by a Network Security Group' lists two VMs. A 30-day trend bar chart shows a count of 3 items from Dec 31 to Jan 27. A 'Confirm Action' dialog box is open, detailing the permissions needed for a fix: 's3:GetBucketAcl, s3:PutBucketAcl, s3:DeleteBucketPolicy, s3:PutBucketPolicy'. It includes instructions on how to get current ACL and ACP, and asks for confirmation to perform the action. The 'Yes Always' button is highlighted with a hand cursor.

## Setup Security Alerts

Leveraging CloudCheckr's Security Best Practice Checks will help to get your accounts configuration in order, but that doesn't guarantee that another account administrator won't erroneously make changes.





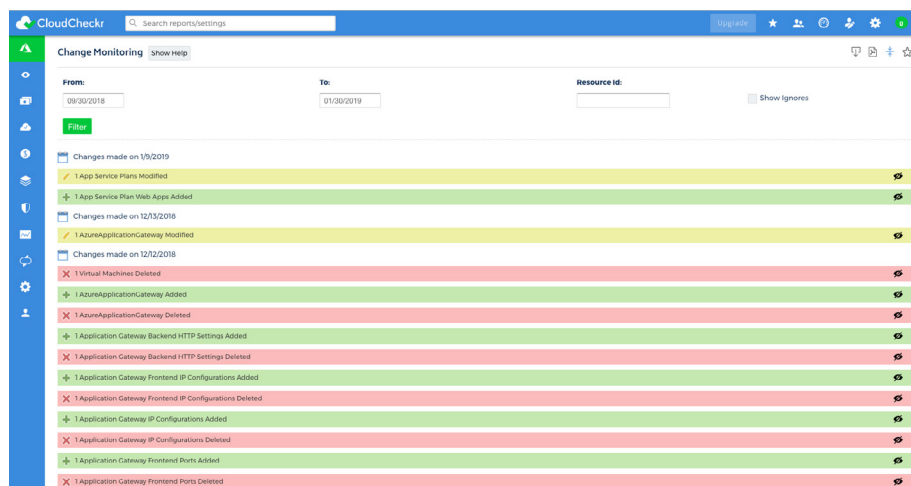
## Setup Security Alerts , cnt'd

CloudCheckr gives users the ability to create custom alerts based off of network security group changes and resource-level modifications with advanced filtration capabilities.

CloudCheckr has notification integrations to maximize our customers' ability to integrate systems, and can push alerts via email, SNS, Syslog, PagerDuty, Slack, and ServiceNow.

## Monitoring Changes

CloudCheckr's Change Monitoring report allows you to track the day-to-day configuration and resource changes that occur in your Azure account. CloudCheckr takes a daily snapshot of your Azure deployment and compares it against the previous day; if anything has been added, deleted, or modified, users will be notified – and able to drill into event detail, as shown below – using this report.



The Change Monitoring report can also be delivered as a daily email, so you'll always know when changes are made to your virtual machine, app services plans, load balances, storage, SQL servers, security groups, application gateways, virtual networks, and more!

# GET STARTED FAST WITH CLOUDCHECKR

# Cost

## Cleanup Idle, Unused, Misprovisioned, & Previous Generation Resources

CloudCheckr can immediately help users to identify resources for which they are incurring cost, without seeing the value of that investment. Start by looking through our Cost Best Practice Checks, and identify the BPCs that include the words “unused,” “idle,” under-utilized,” “unattached,” and “stopped” among others.

In addition, we have savings tools to analyze whether you could save money by upgrading to a newer generation resource, and the ability to scan for many common service provisioning issues. Users can reference either our ‘Savings’ page or the Cost BPCs for all cost optimization opportunities.

The screenshot displays the CloudCheckr interface. At the top, there's a search bar and navigation icons. The main content area is titled 'Cost Savings' and shows a summary of potential savings:

- Possible Monthly Savings: \$53,508.83
- Potential Spot Savings: \$28,451.56

Below this, there are four categories of resources with their respective costs:

- Idle Resources: \$116.24
- Unused Resources: \$32.40
- Mis-Provisioned Resources: \$0.00
- Previous Generation Resources: \$0.00
- Reserved Purchase Recommendations: \$53,360.19
- Other: \$0.00

The interface also lists various resource categories on the left, such as 'Idle Resources', 'Unused Resources', and 'Reserved Purchase Recommendations'. A detailed list of optimization opportunities is shown on the right, including:

- Idle SQL Database Instances
- Redis Cache Idle
- 3 Stopped or Deallocated Virtual Machines with Disks Attached
- 2 Load Balancers with No Rules
- SQL Server with No Databases
- 3 Unattached Managed Disks
- 4 Virtual Machines Idle
- 4 Unused Virtual Machine Images
- App Service Plans with no Apps
- Application Gateways with No Rules
- Stopped Virtual Machines
- Virtual Machines Can Be Upgraded To Newer Version of Same Size
- Virtual Machines Running as Dedicated

## Setup Cost Alerts

CloudCheckr allows users to configure budget alerts based off of both absolute budget thresholds and relative cost spikes. You can add multiple thresholds at which to trigger an alert (as shown below), and alerts can be filtered by subscription, resource group, consumed service, meter category, region meter name, and tag. Like our Security Alerts, CloudCheckr has notification integrations via email, SNS, Syslog, PagerDuty, Slack, and ServiceNow.

**Create New Amazon Web Services Cost Alert**

**Alert Type**: Amazon Web Services Costs  
**Alert Name**: My Cost Alert

**Notifications**

My budget for each billing period is: 10000

Alert me if costs exceed the following thresholds:

- 10 % of my budget. Send every 1 day(s)  Only send once
- 50 % of my budget. Send every 1 day(s)  Only send once
- 90 % of my budget. Send every 1 day(s)  Only send once

Budget is the monthly AWS Bill  Daily Budget  
 Budget cycle

## Setup Billing & Invoicing

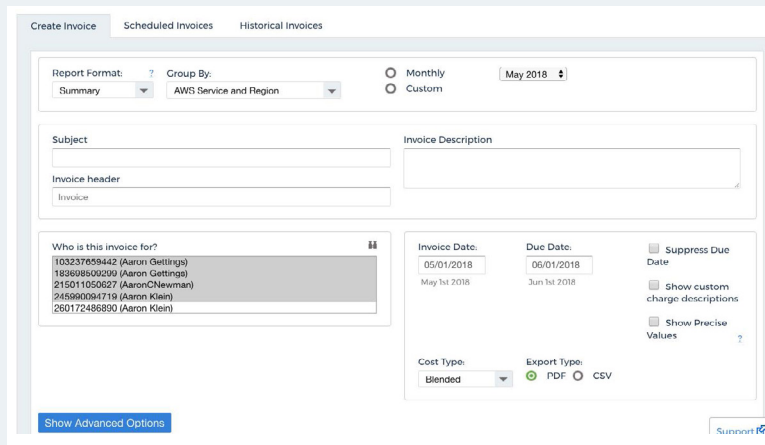
CloudCheckr can manage the entirety of the invoicing process from ingestion of the Azure billing reports, to sending invoices to customers through our invoice generator, to ad hoc profit reporting. We offer both pre-built and custom invoice formats and can generate customers' bills on a scheduled day each month or with the click of a button.

Our invoicing features help Partners dramatically reduce time and expenses of the billing process. CloudCheckr users can create invoices, in PDF or CSV format, grouped by subscription, resource group, consumed service, meter category, region meter name, and tag for one or more accounts.

## Setup Billing & Invoicing, cnt'd

Beyond invoice itemization and filtering, there are many options to experiment with. For example, invoices can display multiple cost types, known as **Blended**, **Unblended**, or **List Cost** rates. **List Cost** is a CloudCheckr custom cost layer that gives users full power over the allocation of reserved purchase-related and volume-based discounting across the CSP/EA account.

Invoice period is also editable. Users can choose a calendar month or a specific date range as the billing period, show precise values well beyond 2 decimal places, and perform currency conversion.



## Manage Custom Charges and Credits

In addition to saving money, CloudCheckr enables Managed Services Providers and Enterprises with an IT profit center to charge more for Azure consumption and build margin. You can create charges that are a percentage uplift, or a flat dollar amount, each with multiple tiering capabilities and advanced filters. Administrators can also reconfigure the consumption rate for any service in the Azure catalog. Similarly, you can share cloud provider credits across accounts, if desired, and pass the savings on to your clients.

Custom Billing Charges [Show Help](#)

[+ New Custom Charge](#) [Update Stack Order](#) [Reload Billing Data ?](#)

Actions	Start Date	End Date	Type	Charge Value	AWS Account ID(s)	Description	Region	Resource ID	Stack	Stack Order
	08/09/2017	...	Premium for all charges	15.00%	All Accounts	Managed Provider - Uplift	All Regions	...	N/A	N/A
	08/09/2017	...	Premium for all charges	20.00%	All Accounts	Billing Partner Uplift	All Regions	...	N/A	N/A
	08/01/2017	...	Fixed Single Charge	\$200.00	All Accounts	Service Provider Monthly Fee	All Regions	...	N/A	N/A
	08/01/2017	...	Fixed Single Charge	\$50.00	All Accounts	Billing Partner Monthly Fee	All Regions	...	N/A	N/A

## Review Right Sizing Recommendations

The Right Sizing report helps you optimize the sizing of your resource fleets by providing recommendations both within and across virtual machine families, and for supporting services such as SQL, Redis Cache, and app services.

Users should wait until the later part of their evaluation to review Right Sizing report, to ensure that CloudCheckr has a solid couple of weeks' worth of history to be able to make accurate recommendations; typically, we advise waiting to effectuate recommendations until the platform has the ability to use 30 day average CPU history. In many cases, right sizing is one of the places that CloudCheckr customers achieve the greatest cost savings.

**Virtual Machine Right Sizing Report** Show Help

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**Filters:** No Filters Applied

Match All Filters

**Columns:**

- Resource Group x
- Current Hourly Cost x
- Projected Hourly Cost x
- Possible Hourly Savings x
- Estimated Monthly Savings x
- Platform x
- Current Size x
- Recommended Size x
- CPU 30-Day Average x
- Memory 30-Day Average x
- CPU 30-Day Peak x
- Memory 30-Day Peak x
- Score x
- Machine Status x

**Results to Show:**

1

**Sort By:**

Name

Ascending

---

**Filter**
Reset

**ⓘ Please enable Memory Metrics for your Virtual Machines in order to get a more accurate right sizing report.**  
This can be found under the Performance Counter tab in the Diagnostics Settings window for a given Virtual Machine. [Learn More](#)

Virtual Machines	Current Hourly Cost	Projected Hourly Cost	Possible Hourly Savings	Estimated Monthly Savings	CPU 30-Day Average	Memory 30-Day Average	Average Utilization Score
4	\$0.28	\$0.08	\$0.20	\$144.54	0.76%	---	0.076

Show: 10 25 50

Name	Resource Group	Current Hourly Cost	Projected Hourly Cost	Possible Hourly Savings	Estimated Monthly Savings	Platform	Current Size	Recommended Size	CPU 30-Day Average	Memory 30-Day Average	CPU 30-Day Peak	Memory 30-Day Peak	Score	Machine Status
christest_0	CloudCheckr_Reporting	\$0.13	\$0.06	\$0.07	\$51.10	Windows	Standard_DS1_v2	Standard_DS1	0.76%	---	15.42%	---	0	Unknown
christest_1	Api-Default-Central-US	\$0.13	\$0.02	\$0.11	\$77.38	Windows	Standard_D1_v2	Standard_A0	0.58%	---	2.09%	---	0	Unknown
under9cha_0	Api-Default-Central-US	\$0.02	\$0.00	\$0.01	\$8.03	Linux	Standard_D1_v2	Standard_A0	0.74%	---	1.38%	---	0	Unknown
under9cha_1	Api-Default-Central-US	\$0.02	\$0.00	\$0.01	\$8.03	Linux	Standard_D1_v2	Standard_A0	0.95%	---	1.70%	---	0	Unknown

## Review Virtual Machine Reservation Purchase Recommendations

By the end of the evaluation period, users should have enough data to assess CloudCheckr's recommendations for purchasing virtual machines reservations. These come with a discount, which is higher with a longer reservation term. CloudCheckr will display the recommended configuration, and give you the cost breakdown for different purchasing scenarios. CloudCheckr can look back at usage over the prior 30, 60, 90, or 180 days to make these recommendations, and users can view the recommended purchases with a number of filterable criteria.

Virtual Machine Reservation (RI) Recommendations [Show Help](#) SnapBack: 01/30/2019 03:59 AM [📄](#) [🔍](#) [🌟](#)

Recommendation Range: Past 30 Days [Save](#)

Filters: Match All Filters Columns: [Location](#) [Operating System](#) [Outcome](#) [Ranking](#) [Savings \(1 Year Term\)](#) [Savings \(3 Year Term\)](#) Results to Show:  Sort By: [Ranking](#) [Ascending](#) Build Summary Chart For: [Select One](#)

[Filter](#) [Reset](#) Show: [10](#) [25](#) [50](#)

Size	Location	Operating System	Outcome	Ranking	Savings (1 Year Term)	Savings (3 Year Term)
Standard D1 V2	Central US	Linux	Purchase recommended	1	\$630.96	\$2,562.88
Standard D1 V2	Central US	Microsoft Windows	Purchase recommended	2	\$499.44	\$1,833.32
Standard D51 V2	Central US	Microsoft Windows	Purchase recommended	3	\$499.44	\$1,833.32
Standard B1s	East US	Microsoft Windows	Not enough on-demand usage	4	---	---
Standard D511 V2	East US	Microsoft Windows	Not enough on-demand usage	5	---	---

## GET STARTED FAST WITH CLOUDCHECKR

# Availability and Usage

### BEST PRACTICE CHECKS

## Fix Availability

CloudCheckr has dozens of Best Practice Checks (BPCs) focused on High Availability. Use these to make sure that you have backups and snapshots, that you are using multiple zones and load balancers, and that your resources have passed various health checks.

2 Application Gateways with Fewer than 2 Healthy Machines	⏏	🔍	⚙️
5 Load Balancers with Fewer Than Two Healthy Machines	⏏	🔍	⚙️
10 Managed Disk without Backup Protection	⏏	🔍	⚙️
Redis Cache Using Basic-Tier Pricing	⏏	🔍	⚙️
SQL Server Database With Less Than 10% of Free Storage	⏏	🔍	⚙️
4 Application Gateways with Empty Backend Address Pools	⏏	🔍	⚙️
3 Load Balancers with All Backend Address Pools Containing No Network Interfaces	⏏	🔍	⚙️
2 App Service Plans with Apps with an Unknown Health Status	⏏	🔍	⚙️
3 Virtual Machines with Unknown Health Status	⏏	🔍	⚙️
App Service Plan Is Unavailable	⏏	🔍	⚙️
Unhealthy Virtual Machines	⏏	🔍	⚙️
Unhealthy Virtual Machines Attached to Load Balancers	⏏	🔍	⚙️

### BEST PRACTICE CHECKS

## Fix Usage

Similar to our Security, Cost and Availability Best Practice Checks, click on the Usage tab and look for under and over-utilized resources. Parameters to determine what constitute adequate utilization are fully editable by the individual user by clicking the **gear symbol**, as shown below.

2 App Service without AutoHeal Enabled	⏏	🔍	⚙️
16 Storage Accounts without Secondary Location	⏏	🔍	⚙️
2 Under-Utilized App Service Plan CPU	⏏	🔍	⚙️
2 Under-Utilized App Service Plan Memory	⏏	🔍	⚙️
5 Under-Utilized Virtual Machine CPU	⏏	🔍	⚙️
14 Unused Network Interfaces	⏏	🔍	⚙️
App Service Has Exceeded Usage Quota	⏏	🔍	⚙️
App Service without Backup Scheduling Enabled	⏏	🔍	⚙️
Over-Utilized App Service Plan CPU	⏏	🔍	⚙️
Over-Utilized App Service Plan Memory	⏏	🔍	⚙️

**Configure Check**

Change configuration for Under-Utilized App Service Plan CPU.

Days:

AvgCpuUtilizationCutOff:

## GET STARTED FAST WITH CLOUDCHECKR

# Checklist

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### Security

- Fix Security BPCs
- Setup Security Alerts
- Monitoring Changes

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### Cost

- Cleanup Idle, Unused, Misprovisioned, & Previous Generation Resources
- Setup Cost Alerts
- Setup Billing & Invoicing
- Manage Custom Charges and Credits
- Review Right Sizing Recommendations
- Review Virtual Machine Reservation Recommendations

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### Availability & Usage

- Fix Availability BPCs
- Fix Usage BPCs