📘 Terraform Resource Re-Creation: taint vs replace

1. Overview

Sometimes, you need Terraform to **recreate** a resource without changing its configuration. This might happen when:

- The resource is corrupted.
- Manual changes outside Terraform broke it.
- You want to reset it for testing.

Terraform offers two main ways to do this:

- **terraform taint** – marks a resource as "tainted" so it will be recreated in the next terraform apply.
- **terraform apply -replace** – directly replaces a resource without marking it tainted first.

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2. terraform taint (Legacy but still available)

📌 Purpose

Marks a resource for recreation.

📜 Syntax

bash

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```
terraform taint <resource_address>
```

Example:

bash

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```
terraform taint aws_instance.my_ec2
```

After tainting:

bash

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```
terraform apply
```

Terraform will destroy and recreate the resource.

✅ **Advantages**

- Explicitly marks a resource for replacement.
- Easy to understand and use.

⚠️ **Limitations**

- Requires two commands (taint then apply).
- Will be **deprecated in future versions** — -replace is preferred.

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3. terraform apply -replace

📌 **Purpose**

Directly tells Terraform to recreate a resource in one command.

📜 **Syntax**

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```
terraform apply -replace=<resource_address>
```

Example:

bash

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```
terraform apply -replace=aws_instance.my_ec2
```

Terraform will:

1. Destroy the resource.
2. Create a new one **in a single apply run**.

✅ **Advantages**

- Single step process.
- Preferred in modern Terraform workflows.
- No separate taint step.

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4. When to Use

Scenario	**Recommended Method**
Testing resource recreation	-replace
Resource is corrupted	-replace
Legacy scripts/workflows still using taint	taint (temporary)
Debugging drift issues	-replace

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5. Example

Terraform Code (main.tf)

hcl

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```
provider "aws" {
  region = "ap-south-1"
}

resource "aws_instance" "my_ec2" {
  ami           = "ami-0e306788ff2473ccb"
  instance_type = "t2.micro"
}
```

Recreate the Instance

bash

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```
terraform apply -replace=aws_instance.my_ec2
```

Output:

vbnet

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```
Plan: 1 to add, 0 to change, 1 to destroy.
```

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6. Best Practices

- Always run terraform plan before replacing resources.
- Be cautious with **stateful** resources (databases, S3 buckets).
- Use -replace in CI/CD pipelines instead of taint.
- For multiple replacements:

bash

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```
terraform apply -replace=aws_instance.my_ec2 -replace=aws_s3_bucket.my_bucket
```

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7. Summary Table

Feature	**terraform taint**	**terraform apply -replace**
Steps Needed	2 (taint + apply)	1 (apply -replace)
Modern Usage	❌ Legacy	✅ Preferred
Automation Friendly	Less	More
Explicit Marking	Yes	No (direct replace)