



BONUS MODULE: MAKING IT FAST FOR SRI LANKAN USERS

LESSON 14: Image Optimization

Learning Objective

By the end of this lesson, you will optimize images for fast loading on Sri Lankan mobile networks.

14.1 Using Next.js Image Component

Replace all `` tags with Next.js Image:

javascript

1. `import Image from 'next/image';`

```
2.
3. // Before
4. <div style={{
5.   width: '100%',
6.   height: '200px',
7.   backgroundColor: '#f1f5f9'
8. }}>
9.  Product
10. </div>
11.
12. // After
13. <Image
14.   src="/products/tea.jpg"
15.   alt="Ceylon Tea"
16.   width={300}
17.   height={200}
18.   style={{
19.     width: '100%',
20.     height: 'auto',
21.     borderRadius: '4px'
22.   }}
23. />
```

Benefits:

- Automatic WebP conversion
 - Lazy loading
 - Responsive images
 - Prevents layout shift
-

14.2 Image Optimization Checklist

Provide width and height:

```
javascript
```

1. *// Bad - causes layout shift*
2. `<Image src="/tea.jpg" alt="Tea" />`
3. *// Good*
4. `<Image src="/tea.jpg" alt="Tea" width={400} height={300} />`

✓ Use priority for above-fold images:

```
javascript
```

1. *// Hero image should load immediately*
2. `<Image src="/hero.jpg" alt="Hero" priority />`

✓ Use appropriate sizes:

```
javascript
```

1. `<Image`
 2. `src="/product.jpg"`
 3. `alt="Product"`
 4. `sizes="(max-width: 768px) 100vw, (max-width: 1200px) 50vw, 33vw"`
 5. `>`
-

14.3 Converting Images to WebP

WebP is 25-35% smaller than JPEG/PNG.

Online converter: squoosh.app

Command line:

```
bash
```

```
# Install sharp
```

```
npm install -g sharp-cli
```

```
# Convert all images
```

```
sharp -i input.jpg -o output.webp
```

14.4 Lazy Loading Implementation

Next.js automatically lazy loads images. But you can control it:

```
javascript
```

```
1. // Load when near viewport
2. <Image
3.   src="/large-image.jpg"
4.   alt="Large"
5.   loading="lazy"
6. />
7.
8. // Load immediately
9. <Image
10.  src="/hero.jpg"
11.  alt="Hero"
12.  loading="eager"
13.  Priority
14. />
```

Lesson 14 Summary

- Next.js Image component optimizes automatically

- Always provide width and height
- Use priority for important images
- Convert to WebP for smaller size
- Lazy load below-fold images