

ASP.NET MVC 5 Cheat Sheet

MVC 5.3.x · Web API 2.2 · Web Pages 3 · OWIN/Identity 2 · .NET Framework 4.8.1 · not ASP.NET Core MVC

Global.asax + App_Start

```
protected void Application_Start() {
    AreaRegistration.RegisterAllAreas();
    FilterConfig.RegisterGlobalFilters(
        GlobalFilters.Filters);

    RouteConfig.RegisterRoutes(RouteTable.Routes);

    BundleConfig.RegisterBundles(BundleTable.Bundles);
}

// App_Start: RouteConfig, BundleConfig,
// FilterConfig, WebApiConfig, IdentityConfig,
// Startup.Auth.cs (OWIN)
```

Controller + action results

```
public class ProductController : Controller {
    [HttpGet]
    public ActionResult Index() => View(list);

    [HttpPost, ValidateAntiForgeryToken]
    public ActionResult Create(Product p) {
        if (!ModelState.IsValid) return View(p);
        db.Save(p);
        return RedirectToAction("Index");
    }

    public JsonResult Json() => Json(data,
        JsonRequestBehavior.AllowGet);
}
```

ViewResult PartialViewResult JsonResult
RedirectResult RedirectToRouteResult
ContentResult FileResult HttpStatusCodeResult
HttpNotFoundResult

Routing

```
routes.MapRoute("Default",
    "{controller}/{action}/{id}",
    new { controller = "Home", action = "Index",
        id = UrlParameter.Optional });
```

```
// Attribute routing
(RouteConfig.MapMvcAttributeRoutes)
[RoutePrefix("products")]
public class ProductController : Controller {
    [Route("{id:int}")]
    public ActionResult Details(int id) { ... }
}
```

Razor syntax

```
@model Product
@{ ViewBag.Title = "Details"; }
<h1>@Model.Name</h1>
@foreach (var i in Model.Items) {
    <li>@i.Name</li>
}
@Html.Raw(Model.RawHtml)    @* skip encoding *@
```

Auto-encodes by default. `_ViewStart.cshtml` sets the layout for every view.

Layout / section / partial

```
@* _Layout.cshtml *@
@RenderBody()
@RenderSection("Scripts", required: false)

@* child view *@
@section Scripts { <script>...</script> }
@Html.Partial("_Item", model)
@Html.Action("Menu", "Nav")    @* re-invokes a controller *@
```

Strongly typed HTML helpers

```
@using (Html.BeginForm()) {
    @Html.LabelFor(m => m.Name)
    @Html.TextBoxFor(m => m.Name)
    @Html.DropDownListFor(m => m.CategoryId,
        (SelectList)ViewBag.Categories)
    @Html.ValidationMessageFor(m => m.Name)
    @Html.AntiForgeryToken()
    <input type="submit" />
}
@Html.ValidationSummary()
```

Model binding + validation

```
public class ProductVm {
    [Required, StringLength(100)]
    public string Name { get; set; }
    [Range(0, 9999)]
    public decimal Price { get; set; }
}

public ActionResult Create(
    [Bind(Exclude = "Id")] ProductVm vm) { ... }
```

Avoid over-posting: bind view models, never entities, directly.

Filters (4 kinds, in order)

```
[Authorize]                // authorization
[MyActionFilter]           // action
[HandleError]              // exception
public class HomeController : Controller {
    [OutputCache(Duration=60)] // result
    public ActionResult Index() { ... }
}
```

Order: Authorization → Action → Result/Exception; scope global → controller → action.

BundleConfig

```
bundles.Add(new
    ScriptBundle("~/bundles/jquery")
        .Include("~/Scripts/jquery-{version}.js"));
bundles.Add(new StyleBundle("~/Content/css")
    .Include("~/Content/bootstrap.css"));
// _Layout.cshtml
@Scripts.Render("~/bundles/jquery")
@Styles.Render("~/Content/css")
```

EF6 migration

```
Enable-Migrations
Add-Migration InitialCreate
Update-Database
```

Web API 2 ApiController

```
public class ProductsController : ApiController
{
    public IHttpActionResult Get(int id) {
        var p = repo.Find(id);
        return p == null ? NotFound() : Ok(p);
    }
}

// WebApiConfig.cs
config.MapHttpAttributeRoutes();
config.Routes.MapHttpRoute("DefaultApi",
    "api/{controller}/{id}",
    new { id = RouteParameter.Optional });
```

OWIN Startup + Identity 2

```
[assembly: OwinStartup(typeof(App.Startup))]
public class Startup {
    public void Configuration(IApplicationBuilder app) {
        app.CreatePerOwinContext(
            ApplicationDbContext.Create);
        app.UseCookieAuthentication(
            new CookieAuthenticationOptions {
                AuthenticationType =
                    DefaultAuthenticationTypes
                        .ApplicationCookie });
    }
}
```

```
var user = new ApplicationUser { UserName = e
};
var result = await UserManager
    .CreateAsync(user, password);
await SignInManager.SignInAsync(user,
    isPersistent: false, rememberBrowser: false);
```

CSRF / anti-forgery

```
@Html.AntiForgeryToken()    @* in the form *@

[HttpPost, ValidateAntiForgeryToken]
public ActionResult Save(...) { ... }
```

SignalR 2 hub

```
public class ChatHub : Hub {
    public void Send(string msg) =>
        Clients.All.receive(msg);
}

// Startup.cs
app.MapSignalR();
```

Migrating to ASP.NET Core

Global.asax → Program.cs · HTML helpers → Tag
Helpers · OWIN → built-in middleware ·
web.config → appsettings.json ·
ApiController → [ApiController]